b147 949 98

U.V.S. • U.O.F.S.
BLOEMFONTEIN
BIBLIOTEEK • LIBRARY

HIERDIE EKSEMPLAAR MAG ONDER
GEEN OMSTANDIGHEDE UIT DIE
BIBLIOTEEK VERWYDER WORD NIE

University Free State
34300002279663
Universiteit Vrystaat

DEVELOPING A MODEL FOR GROUP WORK IN PHASE I AND II OF THE M.B.,Ch.B.-LEARNING PROGRAMME AT THE UNIVERSITY OF THE FREE STATE

by

DALEEN RAUBENHEIMER

Thesis submitted in fulfilment of the requirements for the degree

Philosophiae Doctor in Health Professions Education
(Ph.D. HPE)

in the
DIVISION OF EDUCATIONAL DEVELOPMENT
FACULTY OF HEALTH SCIENCES
UNIVERSITY OF THE FREE STATE
BLOEMFONTEIN

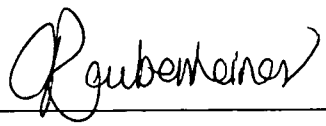
DECEMBER 2003

SUPERVISOR Prof. Dr M.M. Nel
CO-SUPERVISOR Prof. Dr S.A. Petersen

Universiteit van die
Oranje-Vrystaat
BLOEMFONTEIN
6 - JUL 2004
UOVS SASOL BIBLIOTEEK

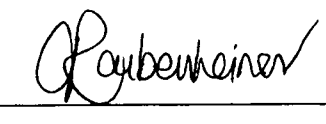
DECLARATION

I hereby declare that the work submitted here is the result of my own independent investigation. Where help was sought, it was acknowledged. I further declare that this work is submitted for the first time at this university/faculty towards a Ph.D. degree in Health Professions Education and that it has never been submitted to any other university/faculty for the purpose of obtaining a degree.



D. RAUBENHEIMER

I hereby cede copyright of this product in favour of the University of the Free State.



D. RAUBENHEIMER

Dedicated to Jacques

Together we make a great team

"Two are better than one,
because they have a
good return for their work"

Ecclesiastes 4:9

ACKNOWLEDGEMENTS

The researcher wishes to gratefully acknowledge the contributions of the following persons who made the completion of this research study possible:

- My supervisor, Prof. Dr M.M. Nel (Head: Division of Educational Development, Faculty of Health Sciences, University of the Free State) for her assistance during the completion of this study.
- My co-supervisor, Prof. Dr S.A. Petersen (Head: Medical Education, School of Medicine, University of Leicester, U.K.) for his valuable advice and comments on the thesis.
- The students and staff involved with the M.B.,Ch.B.-learning programme who participated in the pilot study and opinion survey, for their responses.
- The persons who participated in the Delphi study, for their commendable input which added value to this study.
- The Research Committee and the Division of Educational Development of the Faculty of Health Sciences, University of the Free State, for the financial support to conduct this study.
- The Department of Biostatistics, Faculty of Health Sciences, University of the Free State, for the assistance with analysing the results.
- Prof. Gina Joubert (Department of Biostatistics, Faculty of Health Sciences, University of the Free State) for her excellent advice and remarks on the investigation.
- Ms. Hannemarie Bezuidenhout (Division of Educational Development, Faculty of Health Sciences, University of the Free State), for providing necessary resources and for her useful input to the study.

- Ms. E. Grimsley (Information Service on Higher Education, University of the Free State), Ms. R. du Plessis and Ms. E. van der Merwe (Library and Information Services, University of the Free State) for their assistance with the literature search.
- Mr. Nico Baird (Division of Educational Development, Faculty of Health Sciences, University of the Free State), for his assistance with the electronic design of the group-work model.
- My colleagues, friends and family for their support, prayers and encouragement.
- My son, Matthew, although not yet able to understand, for meekly allowing me to work on the thesis and not spending time with him when he actually needed it.
- My husband, Jacques, for allowing me the time to complete the study, for encouraging me not to give up, for his love and support, for advising and guiding me, for being willing to edit the thesis, and for being a strong pillar in my life. My acknowledgement seems minute in the light of what you have done for me.
- My Heavenly Father, who mercifully gave me the strength and determination to complete this thesis.

Table of contents

CHAPTER 1 INTRODUCTION **1**

1.1 RATIONALE 1
1.2 PROBLEM STATEMENT 4
1.3 RESEARCH QUESTIONS TO BE ANSWERED 7
1.4 GOAL AND OBJECTIVES 7
1.5 METHODS AND PROCEDURE 8
1.6 VALUE AND SIGNIFICANCE 9
1.7 SCOPE 10
1.8 ETHICAL CONSIDERATIONS 10
1.9 DEFINITIONS OF WORDS OFTEN USED 11
1.10 ARRANGEMENT OF THIS THESIS 12
1.11 CONCLUDING REMARKS 14

CHAPTER 2 THE ROLE OF GROUP WORK IN HIGHER EDUCATION **15**

2.1 DEFINITION OF GROUP WORK 15
2.2 HISTORY AND PREVIOUS RESEARCH ON GROUP WORK 19
2.3 RATIONALE FOR GROUP WORK IN HIGHER EDUCATION 21
2.3.1 Why use group work in higher education? *21*
2.3.1.1 Group work as a skill 23
2.3.1.2 Group work as part of co-operative learning 25
2.3.1.2.1 Definition of collaborative and co-operative learning 25
2.3.1.2.2 Research on co-operative learning 27
2.3.1.2.3 The benefits of co-operative learning 29
2.3.1.2.4 Arguments against co-operative learning 30
2.3.1.2.5 Effective co-operative learning 31
2.3.1.3 Learning within a group 32
2.3.2 Why not use group work in higher education? *34*
2.3.3 The implications of group-based learning for curriculum planning *36*
2.4 OBJECTIVES/PURPOSE OF GROUP WORK 36
2.5 ADVANTAGES OF GROUP WORK 38
2.6 DISADVANTAGES AND LIMITATIONS OF GROUP WORK 41
2.7 PRINCIPLES OF GROUP WORK 44
2.8 TYPES OF GROUP WORK 45
2.9 METHODS OR TECHNIQUES FOR GROUP WORK 47
2.9.1 Buzz groups *49*
2.9.2 Cross-over groups *49*
2.9.3 Dyads *50*
2.9.4 Five minutes each way *50*
2.9.5 Snowballing/Pyramids *50*
2.9.6 Horseshoe groups *51*
2.9.7 Rounds *51*
2.9.8 Circular interviewing *51*
2.9.9 Fishbowls *51*
2.9.10 Line-ups *52*
2.9.11 Nominal group technique *52*
2.9.12 Peer tutoring/co-tutoring *52*
2.9.13 Brainstorming *53*
2.9.14 Case studies *54*
2.9.15 Video supported group work *54*
2.9.16 Problem-based learning *55*
2.9.17 Syndicate groups *55*
2.9.18 Projects *56*
2.9.19 Role-play *56*
2.9.20 Poster tours *57*
2.9.21 Debates *57*
2.9.22 Tutorials *58*
2.9.23 Seminars *58*
2.9.24 Free/associate discussion groups *59*

2.9.25 Socratic dialogue/method *59*
2.9.26 Games and simulations *60*
2.9.27 Clinical teaching *60*
2.9.28 Training groups and sensitivity groups *61*
2.9.29 Synectics *61*
2.9.30 Computer-mediated discussion *61*
2.10 EXISTING APPROACHES TO GROUP WORK 62
2.10.1 Problem-based learning *63*
2.10.1.1 Definition of problem-based learning 63
2.10.1.2 Rationale for using problem-based learning 64
2.10.1.3 Features of problem-based learning 65
2.10.1.4 Principles of problem-based learning 66
2.10.1.5 Models of problem-based learning 67
2.10.1.6 Advantages of problem-based learning 70
2.10.1.7 Disadvantages of problem-based learning 72
2.10.1.8 Factors that influence the success of problem-based learning 72
2.10.1.9 Arguments that question the effectiveness of problem-based learning 74
2.10.1.10 The continuum of problem-based learning 75
2.10.1.11 The problem and its presentation in PBL 79
2.10.2 A hybrid approach *80*
2.10.3 Existing models for group work *81*
2.10.3.1 The six mirrors of the classroom-model 81
2.10.3.2 A model for task group effectiveness 81
2.10.3.3 A model for team learning 82
2.10.3.4 The group-effectiveness model 82
2.11 CONCLUDING REMARKS 82

CHAPTER 3 THE ROLE OF GROUP WORK IN MEDICAL EDUCATION 85

3.1 RATIONALE FOR GROUP WORK IN MEDICAL EDUCATION 85
3.2 GROUP WORK AT INTERNATIONAL MEDICAL SCHOOLS 88
3.2.1 Group work at medical schools in the United Kingdom *89*
3.2.2 Group work at medical schools in Europe *90*
3.2.3 Group work at medical schools in Australia and New Zealand *90*
3.2.4 Group work at medical schools in Canada and the USA *92*
3.2.5 Group work at other medical schools *94*
3.3 GROUP WORK AT SOUTH AFRICAN MEDICAL SCHOOLS 96
3.4 GROUP WORK AT THE MEDICAL SCHOOL OF THE UNVERSITY OF THE FREE STATE 98
3.5 CONCLUDING REMARKS 104

CHAPTER 4 FACTORS INFLUENCING THE STRUCTURE OF A GROUP-WORK MODEL 105

4.1 THE GROUP STRUCTURE 105
4.1.1 The size of groups *106*
4.1.2 The composition of groups *110*
4.1.2.1 Random selection of group members 111
4.1.2.2 Alphabetical groupings 111
4.1.2.3 Academic achievement of students 111
4.1.2.4 Sociometry 112
4.1.2.5 Personality types of students 113
4.1.2.6 Cognitive styles of students 113
4.1.2.7 Learning styles of students 114
4.1.2.8 Students choosing their own groups (friendship groups) 116
4.1.2.9 Students' needs 117
4.1.2.10 Roles that students prefer to play 117
4.1.2.11 Other methods 117
4.1.2.12 A heterogeneous mix 118
4.1.3 The lifetime of groups *120*
4.1.4 Co-operation between groups of different year groups *121*
4.1.5 Co-operation between groups of different courses *121*
4.1.6 Roles of group members *127*
4.1.6.1 Group leader 129
4.1.6.2 Recorder or scribe 130
4.1.6.3 Time monitor 131
4.1.6.4 Process monitor 131
4.1.6.5 Participation monitor 131
4.1.6.6 Summariser 131
4.1.6.7 Presenter 132

4.1.7 Responsibilities of group members ... *132*
4.1.7.1 The role of ice-breaker sessions ... 133
4.2 THE GROUP PROCESS ... 134
4.2.1 Elements of the group process ... *136*
4.2.2 Stages in group development ... *138*
4.2.3 Ground rules and contracts in a group ... *141*
4.2.3.1 Ground rules ... 141
4.2.3.2 Contracts ... 143
4.2.4 The effectiveness of a group ... *143*
4.2.4.1 Characteristics of effective groups ... 144
4.2.4.2 Characteristics of ineffective groups ... 147
4.2.4.3 Strategies to increase the effectiveness of a group ... 149
4.2.4.3.1 Before group-work sessions ... 149
4.2.4.3.2 During group-work sessions ... 152
4.2.4.3.3 After group-work sessions ... 154
4.2.5 Communication within a group ... *155*
4.2.6 Interaction within a group ... *156*
4.2.7 Handling problems within a group ... *160*
4.2.7.1.1 Handling conflict ... 162
4.2.7.1.2 Handling multi-cultural issues in a group ... 163
4.2.8 Maintaining the group process ... *164*
4.3 THE GROUP TASK ... 165
4.3.1 The role of lecturers ... *165*
4.3.1.1 Planning of group-work sessions ... 165
4.3.1.2 The physical environment for group-work sessions ... 168
4.3.1.3 Resources necessary for group work ... 169
4.3.1.4 The time needed for a group-work session ... 170
4.3.1.5 The goals, aims and objectives of a group-work session ... 171
4.3.1.6 Choosing a method for group work ... 173
4.3.1.7 The contents of group work during a session ... 174
4.3.1.8 Designing tasks for a group-work session ... 175
4.3.2 The role of facilitators ... *178*
4.3.2.1 Facilitation of group work ... 178
4.3.2.1.1 Definition of a facilitator ... 178
4.3.2.1.2 The roles and responsibilities of a facilitator ... 178
4.3.2.1.3 Styles of facilitation ... 182
4.3.2.1.4 Skills to facilitate ... 182
4.3.2.1.5 Principles of facilitation ... 184
4.3.2.1.6 Planning the facilitation of group-work sessions ... 185
4.3.2.2 Intervening as a facilitator ... 188
4.3.3 The role of students ... *191*
4.3.3.1 Preparing for group-work sessions ... 191
4.3.3.2 Planning and conducting a group-work session ... 192
4.3.3.3 The process of solving problems ... 193
4.3.4 Other aspects related to group-work sessions ... *194*
4.3.4.1 The skills necessary for effective group work ... 194
4.3.4.2 Providing feedback on group-work sessions ... 197
4.3.4.3 Rewards for effective group work ... 199
4.3.4.4 Handling problems related to group-work sessions ... 201
4.3.4.4.1 Insufficient coverage of the syllabus ... 201
4.3.4.4.2 Unclear goals and structure ... 202
4.3.4.4.3 Lack of preparation for group-work sessions ... 202
4.3.4.4.4 Poor participation of group members ... 202
4.3.4.4.5 Different levels of abilities amongst group members ... 203
4.3.4.4.6 Struggles with the completion of the group task ... 203
4.3.4.4.7 Inappropriate facilitation style ... 204
4.3.4.4.8 Difficulties with facilitator intervention ... 204
4.3.4.5 Monitoring group-work sessions ... 205
4.4 TRAINING OF STUDENTS AND STAFF WITH REGARD TO GROUP WORK ... 206
4.4.1 The rationale for training regarding group work ... *206*
4.4.2 The provider of the training ... *207*
4.4.3 The trainees ... *207*
4.4.4 The timing of the training ... *208*
4.4.5 The format of the training ... *209*
4.4.6 The contents of the training ... *211*
4.4.6.1 The rationale of group work ... 211
4.4.6.2 The skills for group work ... 212

4.4.6.3 The importance of a positive attitude towards group work ... 212
4.4.6.4 The group structure ... 213
4.4.6.5 Learning styles of students ... 213
4.4.6.6 The group process ... 214
4.4.6.6.1 Group dynamics ... 214
4.4.6.6.2 The importance of maintaining the group process ... 215
4.4.6.6.3 How to increase participation and discussion within a group ... 215
4.4.6.6.4 How to identify and handle problems within a group ... 215
4.4.6.6.5 How to handle conflict ... 216
4.4.6.6.6 How to handle multi-cultural issues in a group ... 216
4.4.6.6.7 The process of communication ... 216
4.4.6.7 The group task ... 217
4.4.6.7.1 How to plan and conduct a group-work session ... 217
4.4.6.7.2 The importance of regular evaluation of the group task ... 218
4.4.6.8 Approach to effective group work. ... 218
4.4.6.9 Additional aspects to address during the training of lecturers and facilitators ... 218
4.5 SUPPORT OF STUDENTS AND STAFF INVOLVED WITH GROUP WORK ... 219
4.5.1 The reason for support ... *220*
4.5.2 The responsibility to provide support ... *220*
4.5.3 The types of support needed ... *221*
4.5.4 The means of providing support ... *222*
4.6 EVALUATION AND ASSESSMENT OF GROUP WORK ... 224
4.6.1 Definitions regarding evaluation and assessment ... *224*
4.6.2 The purpose of evaluation and assessment ... *225*
4.6.3 The persons involved with evaluation and assessment ... *226*
4.6.4 The aspects of group work which need to be evaluated and assessed ... *229*
4.6.4.1 Evaluation/assessment of knowledge, skills and attitudes ... 229
4.6.4.2 Evaluation/assessment of the group process ... 231
4.6.4.3 Evaluation/assessment of the group task ... 236
4.6.4.4 Evaluation of group-work sessions ... 238
4.6.5 The process of evaluation and assessment ... *238*
4.6.6 The timing of evaluation and assessment ... *240*
4.6.7 Assigning marks for the assessment of group work ... *240*
4.6.8 Problems and difficulties with the assessment of group work ... *245*
4.7 QUALITY ASSURANCE OF GROUP WORK ... 247
4.8 CONCLUDING REMARKS ... 252

CHAPTER 5 THE DELPHI METHOD ... 255

5.1 DEFINITION ... 255
5.2 ORIGIN ... 256
5.3 RATIONALE FOR USE IN RESEARCH ... 256
5.4 CHARACTERISTICS ... 258
5.4.1 Anonymity ... *258*
5.4.2 Expert input ... *259*
5.4.3 Physical separation ... *259*
5.4.4 Iteration ... *259*
5.4.5 Statistical analysis of responses ... *259*
5.4.6 Controlled feedback ... *260*
5.5 TYPES OF DELPHI STUDIES ... 260
5.6 APPLICATIONS ... 261
5.7 ADVANTAGES ... 262
5.8 LIMITATIONS ... 263
5.9 DESIGN AND PROCEDURES ... 266
5.9.1 Panel selection ... *266*
5.9.2 Panel size ... *269*
5.9.3 Questionnaires used in Delphi studies ... *270*
5.9.4 Rounds of a Delphi study ... *271*
5.9.5 Analysis of responses ... *272*
5.9.6 Feedback on responses ... *274*
5.9.7 Ending the Delphi study ... *275*
5.9.7.1 Consensus ... 276
5.9.7.2 Stability ... 277
5.9.8 Reliability and validity of the Delphi technique ... *279*
5.10 CONCLUDING REMARKS ... 280

CHAPTER 6 RESEARCH DESIGN, METHODS AND TECHNIQUES 281

6.1 RESEARCH DESIGN 281
6.2 THE LITERATURE STUDY 284
6.3 THE OPINION SURVEY: STUDENTS AND STAFF AT THE UFS 285
6.3.1 Sample 286
6.3.2 Measuring instrument 287
6.3.2.1 Format of the questionnaire 287
6.3.2.2 Reliability and validity of the questionnaires 288
6.3.3 Responses 290
6.3.4 Analysis of responses 290
6.4 THE DELPHI STUDY 292
6.4.1 Sample 294
6.4.2 First round of the Delphi study 297
6.4.2.1 Measuring instrument 297
6.4.2.2 Analysis of responses 298
6.4.3 Second round of the Delphi study 299
6.4.3.1 Sample 299
6.4.3.2 Measuring instrument 300
6.4.3.3 Analysis of responses 301
6.4.4 Third round of the Delphi study 301
6.4.4.1 Measuring instrument 302
6.4.4.2 Analysis of responses 302
6.4.5 Fourth round of the Delphi study 302
6.4.5.1 Measuring instrument 303
6.4.5.2 Analysis of responses 303
6.4.6 Fifth round of the Delphi study 303
6.5 A MODEL FOR GROUP WORK 305
6.6 CONCLUDING REMARKS 305

CHAPTER 7 RESULTS AND FINDINGS 307

7.1 THE OPINION SURVEY AMONGST THE STUDENTS AND STAFF AT THE UFS 307
7.1.1 Demographic information 307
7.1.1.1 Demographic information of the staff members 307
7.1.1.2 Demographic information of the students 308
7.1.2 Results of the questionnaires 312
7.1.2.1 Composition of groups 313
7.1.2.2 Training on group work 327
7.1.2.3 Group-work sessions 351
7.1.2.4 Support for students and lecturers/facilitators 365
7.1.2.5 Assessment of group work 370
7.1.2.6 Guidelines for the implementation of group work 383
7.1.3 Summary of the results from the opinion survey 387
7.2 RESULTS OF THE DELPHI STUDY 388
7.2.1 Items regarding the composition of groups 389
7.2.2 Items regarding the training of students and staff on group work 398
7.2.3 Items regarding the planning and design of group-work sessions 406
7.2.4 Items regarding the support of students and staff for group work 416
7.2.5 Items regarding the assessment of group work 420
7.2.6 Items regarding the quality assurance of group work 426
7.2.7 Summary of the results from the Delphi study 428
7.3 CONCLUDING REMARKS 432

CHAPTER 8 DISCUSSION OF THE RESULTS WITH THE AIM OF DESIGNING A GROUP-WORK MODEL 435

8.1 COMPOSITION OF GROUPS 436
8.1.1 Group size 438
8.1.2 Factors to consider when forming groups 439
8.1.3 Methods of forming groups 442
8.1.4 The lifetime of groups 444
8.1.5 The responsibilities of the group members 445
8.1.6 Prerequisites for group functioning 447
8.1.7 Cooperation between different groups 448
8.1.8 Differences and similarities between Phases I and II regarding the composition of groups 450
8.2 TRAINING FOR GROUP WORK 451

8.2.1 The provision of training *453*
8.2.2 Approaches to training *454*
8.2.3 The content of training *457*
8.2.4 Differences and similarities between Phases I and II regarding training of students *462*
8.3 GROUP-WORK SESSIONS 463
8.3.1 Physical resources for group work *464*
8.3.2 The outcomes for a group-work session *466*
8.3.3 The preparation of students for a group-work session *466*
8.3.4 The types and methods of group work *467*
8.3.5 The tasks for group work *469*
8.3.6 Conducting a group-work session *470*
8.3.7 Facilitators for group-work sessions *474*
8.3.8 Co-operative learning in groups *476*
8.3.9 Differences and similarities between Phases I and II regarding group-work sessions *477*
8.4 SUPPORT FOR GROUP WORK 477
8.4.1 The provision of support for group work *478*
8.4.2 The types of support which are necessary *479*
8.4.3 Differences and similarities between Phases I and II regarding the support for group work *483*
8.5 EVALUATION/ASSESSMENT OF GROUP WORK 483
8.5.1 Criteria for assessment *485*
8.5.2 Assessing the group task *486*
8.5.3 Assessing the group process *490*
8.5.4 The evaluation/assessment of individuals *493*
8.5.5 General aspects of the assessment of group work *496*
8.5.6 Differences and similarities between Phases I and II regarding the assessment of group work *497*
8.6 QUALITY ASSURANCE 498
8.6.1 Assuring the quality of group work *499*
8.6.2 Functions of the group-work committee *500*
8.7 CONCLUDING REMARKS 501

CHAPTER 9 A MODEL FOR GROUP WORK: DISCUSSION AND RECOMMENDATIONS 503

9.1 A MODEL FOR GROUP WORK 504
9.1.1 The group *506*
9.1.2 The group structure/composition *506*
9.1.3 The group process *508*
9.1.4 The group task *509*
9.1.5 Lecturers and facilitators *510*
9.1.6 Group-work sessions *511*
9.1.7 Training for group work *515*
9.1.8 Resources for group work *517*
9.1.9 Support for group work *518*
9.1.10 Evaluation of group work *519*
9.1.11 Assuring the quality of group work *522*
9.1.12 The outcome of group work *524*
9.1.13 The organisation *524*
9.2 FURTHER NOTES AND RECOMMENDATIONS REGARDING THE MODEL 525
9.3 CONCLUDING REMARKS 529

CHAPTER 10 CONCLUSION 531

10.1 LIMITATIONS OF THE STUDY 532
10.2 VALUE OF THIS STUDY 534
10.3 FURTHER RECOMMENDATIONS 535
10.4 FINAL REMARKS 536

List of Tables

Table 6.1 Questionnaire completion amongst the students 290
Table 6.2 Questionnaire completion amongst the staff 290
Table 7.3 The importance of a specific size for groups (item 1) 313
Table 7.4 The preferred number of members in a group (item 1b) 313
Table 7.5 The importance of even or odd numbered groups (item 2) 313
Table 7.6 The preference for even or odd numbered groups (item 2b) 313
Table 7.7 The importance of language of instruction for the composition of groups (item 3.1) 314
Table 7.8 The preference for group composition regarding language of instruction (item 3a) 314
Table 7.9 The preferences of the Afrikaans and English classes for group composition according to language 314
Table 7.10 The importance of gender for the composition of groups (item 3.2) 315
Table 7.11 The preference for group composition regarding gender (item 3b) 315
Table 7.12 The preferences of the male and female students for group composition according to gender 315
Table 7.13 The importance of population group/culture for the composition of groups (item 3.3) 315
Table 7.14 The preference for group composition regarding population group/culture (item 3c) 316
Table 7.15 The preferences of the different population groups of students for group composition according to population group 316
Table 7.16 The importance of age for the composition of groups (item 3.4) 317
Table 7.17 The preference for group composition regarding age (item 3d) 317
Table 7.18 The preferences of the different age groups of students for group composition according age 317
Table 7.19 The importance of using a specific method to divide students into groups (item 4) 318
Table 7.20 The preferred method of dividing students into groups (item 4b) 318
Table 7.21 The importance of taking students' needs into consideration when forming groups (item 5) 318
Table 7.22 The importance of allowing groups to choose a name for their group (item 6) 318
Table 7.23 The importance of a specific lifetime for groups (item 7) 319
Table 7.24 The preferred lifetime for groups (item 7b) 319
Table 7.25 The importance of appropriate venues for group work (item 8) 319
Table 7.26 Respondents' satisfaction with the current venues/set-up for group work (item 8b) 320
Table 7.27 The importance of furniture arrangement for group work (item 9) 320
Table 7.28 The importance of sufficient resources for group work (item 10) 320
Table 7.29 The sufficiency of resources for group work at the UFS (item 10b) 320
Table 7.30 The resources which are not sufficient for group work (item 10c) 321
Table 7.31 The importance of providing opportunities for groups to work with students from other year groups of the same course (item 11) 321
Table 7.32 The importance of providing opportunities for groups to work with students from other courses (e.g. nursing students) (item 12) 322
Table 7.33 The importance of group leaders for groups (item 13) 322
Table 7.34 The preferred way to appoint group leaders (item 13b) 322
Table 7.35 The preferred period of time for persons to act as group leaders (item 13c) 322
Table 7.36 The importance of ice-breakers for group work (item 14) 323
Table 7.37 The importance of appointing roles to group members (item 15) 323
Table 7.38 The importance of appointing specific tasks to group members (item 16) 324
Table 7.39 The importance of ground rules for the functioning of groups (item 17) 324
Table 7.40 Students' preference for determining ground rules themselves (item 17b) 324
Table 7.41 The importance of a contract between group members (item 18) 324
Table 7.42 Additional comments on the composition of groups (item 19) 325
Table 7.43 Differences between Phases I and II regarding group composition (item 20) 326
Table 7.44 Reasons for preferring differences between Phase I and II regarding group composition (item 20b) 327
Table 7.45 The importance of student orientation for group work (item 21) 327
Table 7.46 The importance of training for lecturers and facilitators for group work (item 22) 328
Table 7.47 The importance of training for students and staff which is in line with each other (item 23) 328
Table 7.48 The importance of training mentors regarding the group process (item 24) 328
Table 7.49 The importance of having a complete guide on group work available (item 25) 328
Table 7.50 The importance of repeating certain aspects in the training of students (item 26) 329
Table 7.51 The preferred time to repeat aspects in the training of students (item 26b) 329
Table 7.52 The importance of training in the significance and advantages of group work (item 27) 330
Table 7.53 The importance of training in the objectives of group work (item 28) 330
Table 7.54 The importance of training in the principles and conditions for successful group work (item 29) 331

Table 7.55 The importance of training in group dynamics (item 30) 331
Table 7.56 The importance of training in effective communication and social skills (item 31) 332
Table 7.57 The importance of training in the ways to analyse interaction within a group (item 32) 332
Table 7.58 The importance of training in the ways to identify and handle problems in a group (item 33) 333
Table 7.59 The importance of training in the value of maintaining the group process (item 34) 333
Table 7.60 The importance of training in the role and tasks of the group leader (item 35) 334
Table 7.61 The importance of training in the different roles which group members may play (item 36) 334
Table 7.62 Students' knowledge about their roles as group members (item 36b) 335
Table 7.63 Students' preference for determining their roles as group members (item 36c) 335
Table 7.64 The importance of training in the characteristics of effective and ineffective group members (item 37) 335
Table 7.65 The importance of training in strategies to improve the effectiveness of a group (item 38) 336
Table 7.66 The importance of training in the ways to plan and conduct a group-work session (item 39) 336
Table 7.67 The importance of training in ways to plan and conduct a group task (item 40) 337
Table 7.68 The importance of training in the reasons why a variety of group-work methods should be used (item 41) 337
Table 7.69 The importance of training in the different methods which could be used for group work (item 42) 338
Table 7.70 The importance of training in the necessity of regular assessment of the group task (item 43) 338
Table 7.71 The importance of training in the necessity of regular assessment of the group process (item 44) 339
Table 7.72 The importance of training in the different learning styles that students might possess (item 45) 339
Table 7.73 The importance training in the skills that students develop through doing group work (item 46) 340
Table 7.74 The importance of training in the advantages and conditions of co-operative learning (item 47) 340
Table 7.75 The importance of training in ways in which participation and discussion of members within a group could be improved (item 48) 341
Table 7.76 The importance of training in the need for a positive attitude during training (item 49) 341
Table 7.77 The attitudes of the students and staff towards group work (item 49b) 342
Table 7.78 A summary of the attitudes of the students and staff towards group work 343
Table 7.79 The importance of training in the choice of a group-work method for a group-work session (item 50) 344
Table 7.80 The importance of training in the compilation and formulation of group tasks for group-work sessions (item 51) 344
Table 7.81 The competency of the staff to compile group tasks without any further training (item 51b) 344
Table 7.82 The importance of training in the necessity of regular feedback to students on group work (item 52) 345
Table 7.83 The provision of feedback to students by the staff (item 52b) 345
Table 7.84 The importance of training in appropriate assessment techniques (item 53) 345
Table 7.85 The importance of training in the role of a group-work facilitator (item 54) 346
Table 7.86 The importance of training in the skills necessary to facilitate groups effectively (item 55) 346
Table 7.87 The importance of training in ways to assist students with self-assessment of the group process and task (item 56) 346
Table 7.88 Additional comments on the training of students and staff on group work (item 57) 347
Table 7.89 The sufficiency of the training of students and staff on group work (item 57b) 348
Table 7.90 Suggested aspects to repeat in the training of students on group work (item 58) 349
Table 7.91 Differences between Phases I and II regarding training for group work (item 59) 350
Table 7.92 Reasons for preferring differences between Phase I and II regarding training for group work (item 59b) 350
Table 7.93 The importance of mechanisms to encourage students to prepare for group work (item 60) 351
Table 7.94 The importance of lecturers knowing the types of assignments for group work, suitable for the different kinds of knowledge that students should acquire (item 61) 351
Table 7.95 The importance of suitable assignments for the purpose of a group-work session (item 62) 351
Table 7.96 The importance of clear assignments and outcomes for group work (item 63) 352
Table 7.97 The importance of tasks that enhance co-operation and discussion amongst group members (item 64) 352
Table 7.98 The knowledge of the staff regarding tasks that enhance co-operation amongst group members (item 64b) 352
Table 7.99 The knowledge of staff about how tasks that enhance co-operation amongst group members should be compiled (item 64c) 353
Table 7.100 The importance of realistic outcomes for group tasks (item 65) 353
Table 7.101 The importance of a group-work method which supports the purpose of a group-work session (item 66) 353
Table 7.102 The importance of using a variety of group-work methods for group work (item 67) 354

Table 7.103 The importance of doing group work in small as well as large groups (item 68) 354
Table 7.104 The importance of equal emphasis on the group goal and individual accountability (item 69)..... 354
Table 7.105 The common goal of the group vs. the individual accountability of group members (item 69b)..... 355
Table 7.106 The importance of using a specific number of facilitators during group-work sessions (item 70)... 355
Table 7.107 The sufficiency of the facilitators available for group work at the UFS (item 70b)..... 355
Table 7.108 The acceptability of facilitators moving around between groups to facilitate group work (item 70c) 356
Table 7.109 The preferred number of facilitators for a group-work session (item 70d)..... 356
Table 7.110 The importance of facilitators being experts in the subject field in which group work is done (item 71)..... 356
Table 7.111 The importance of using the same facilitators for continuity (item 72)..... 357
Table 7.112 The importance of using senior students as facilitators (item 73)..... 357
Table 7.113 The importance of using the group task to determine the time spent on group work (item 74) 357
Table 7.114 The scheduling of group work for constant times (item 74b) 358
Table 7.115 The sufficiency of the time available for group work (item 74c) 358
Table 7.116 The importance of providing feedback on a group-work session (item 75) 358
Table 7.117 The persons who should provide feedback on a group-work session (item 75b)..... 359
Table 7.118 Scheduling feedback sessions on the class timetable (item 75c) 359
Table 7.119 The ideal time for providing feedback on a group-work session (item 75d)..... 359
Table 7.120 The importance of rewards for effective group work (item 76)..... 360
Table 7.121 Preferred types of rewards for group work (item 76b)..... 360
Table 7.122 The importance of inter-group competition to enhance group cohesion (item 77) 361
Table 7.123 The importance of dividing students into learning groups to study during self-study times (item 78) 361
Table 7.124 The preferences of students for studying alone (item 78b) 361
Table 7.125 Ways in which learning groups should be formed (item 78c) 362
Table 7.126 Additional comments on the compilation and completion of a task for group work (item 79) 362
Table 7.127 Additional comments on group-work sessions (item 80)..... 363
Table 7.128 Differences between Phases I and II regarding group-work sessions (item 81)..... 363
Table 7.129 Reasons for preferring differences between Phase I and II regarding group-work sessions (item 81b) 364
Table 7.130 The importance of a support system for groups and group members (item 82)..... 365
Table 7.131 The importance of support for lecturers and facilitators regarding group work (item 83)..... 365
Table 7.132 The types of support necessary for lecturers and facilitators (item 83b) 365
Table 7.133 The importance of the lecturer providing academic support to groups on the contents of group work (item 84)..... 366
Table 7.134 The importance of providing academic support in a group context (item 85)..... 366
Table 7.135 The importance of a mentor to support groups with the group process (item 86)..... 366
Table 7.136 The preferences of students for the choice of a mentor (item 86b)..... 367
Table 7.137 The availability of staff to act as mentors (item 86c) 367
Table 7.138 The importance of senior students acting as mentors for groups (item 87) 367
Table 7.139 The importance of after-hours social meetings to enhance inter-relations amongst group members (item 88)..... 367
Table 7.140 The importance of students being able to contact their fellow group members after-hours if necessary (item 89)..... 368
Table 7.141 Additional comments on the support for group work (item 90)..... 368
Table 7.142 The sufficiency of the support for group work at the UFS (item 90b)..... 369
Table 7.143 Differences between Phases I and II regarding support for group work (item 91)..... 369
Table 7.144 Reasons for preferring differences between Phase I and II regarding support for group work (item 91b)..... 370
Table 7.145 The importance of assessing both the group task and process (item 92) 370
Table 7.146 The importance of availability of the assessment criteria and methods for students (item 93)..... 371
Table 7.147 The importance of guidelines for determining assessment criteria for the assessment of group work (item 94)..... 371
Table 7.148 The importance of including the assessment of the group tasks in the semester mark of a module (item 95)..... 371
Table 7.149 The importance of including the assessment of the group process in the semester mark of a module (item 96)..... 372
Table 7.150 The importance of proving assessment of the group process as a prerequisite to obtain a semester mark for a module (item 97) 372
Table 7.151 The importance of clear guidelines for the awarding of marks for the group task (item 98)..... 372
Table 7.152 Preferences for awarding marks to members for the group task (items 98b) 373

Table 7.153 The importance of clear guidelines for the awarding of marks for the group process (item 99) 373
Table 7.154 Preferences for awarding marks to members for the group process (item 99b) 373
Table 7.155 The importance of self-evaluation amongst group members regarding their contributions to group work (item 100) 374
Table 7.156 The importance of all group members assessing the group with regard to group work (item 101) ..374
Table 7.157 The importance of peer assessment of individual contributions of students (item 102) 374
Table 7.158 The preferences of students for confidential peer assessment (item 102b) 375
Table 7.159 The importance of evaluating the group leader of a group (item 103) 375
Table 7.160 The importance of ground rules for peer assessment (item 104) 375
Table 7.161 The importance of the lecturer having final control over the awarding of marks for peer assessment (item 105) 376
Table 7.162 The importance of regular assessment of the group task (item 106) 376
Table 7.163 The preferred frequency of assessment of the group task (item 106b) 376
Table 7.164 The importance of regular assessment of the group process (item 107) 377
Table 7.165 The preferred frequency of assessment of the group process (item 107b) 377
Table 7.166 The importance of support for groups who experience problems with the assessment of group work (item 108) 377
Table 7.167 The importance of assessing a variety of group tasks (item 109) 377
Table 7.168 The importance of assessing the knowledge, skills and attitudes that students develop through group work (item 110) 378
Table 7.169 The importance of assessment instruments for assessing the group process (item 111) 378
Table 7.170 The importance of reporting the outcome of group tasks in various ways (item 112) 379
Table 7.171 Preferences for reporting the outcome of group tasks (item 112b) 379
Table 7.172 The importance of feedback to groups and group members on the assessment of group work (item 113) 379
Table 7.173 The importance of planning strategies to improve the group process according to the outcome of group process assessment (item 114) 380
Table 7.174 The importance of covering the outcomes of group tasks in exams and tests (item 115) 380
Table 7.175 The importance of evaluating the way in which assessment took place in a specific module (item 116) 380
Table 7.176 The importance of evaluating the involvement of lecturers in group-work sessions (item 117) 381
Table 7.177 The importance of evaluating the involvement of facilitators in group work (item 118) 381
Table 7.178 Additional comments on the assessment of group work (item 119) 381
Table 7.179 Differences between Phases I and II regarding the assessment of group work (item 120) 382
Table 7.180 Reasons for preferring differences between Phase I and II regarding the assessment of group work (item 120b) 383
Table 7.181 The importance of clear guidelines for the implementation of group work (item 121) 383
Table 7.182 The importance of having a group-work committee for the implementation of group work (item 122) 383
Table 7.183 The importance of regular evaluation of the implementation of group work (item 123) 384
Table 7.184 The importance of strategies to improve group work in Phases I and II (item 124) 384
Table 7.185 The importance of ensuring that the objectives of group work are reached (item 125) 384
Table 7.186 The importance of ensuring proper orientation of students for group work (item 126) 385
Table 7.187 The importance of ensuring proper training of lecturers, facilitators and mentors regarding group (item 127) 385
Table 7.188 The importance of providing a support system to students and staff with regard to group work (item 128) 385
Table 7.189 The importance of providing guidelines for the assessment of group work (item 129) 385
Table 7.190 The importance of providing assessment instruments for the assessment of group work (item 130)386
Table 7.191 Additional comments on the functions of the group-work committee (item 131) 386
Table 7.192 Additional comments on the planning and implementation of group work (item 132) 386
Table 7.193 Additional comments on the monitoring of group work (item 133) 387
Table 7.194 The experts' responses to the items concerning the size of groups 389
Table 7.195 The preferences of the experts for the size of groups 390
Table 7.196 The preferences of the experts for even or odd numbered groups 390
Table 7.197 The experts' responses to the items concerning factors to consider when forming groups 390
Table 7.198 The preferences of experts for factors to consider when forming groups 391
Table 7.199 The experts' responses to the item concerning the method to form groups 392
Table 7.200 The preferences of experts for the method of dividing students into groups 392
Table 7.201 The experts' responses to the item on students' needs and the composition of groups 392
Table 7.202 The experts' responses to the item on choosing names for groups 393
Table 7.203 The experts' responses to the item concerning the lifetime of groups 393

Table 7.204 The preferences of experts for the lifetime of groups 394
Table 7.205 The experts' responses to the items concerning co-operation with other groups 394
Table 7.206 The experts' responses to the item concerning leaders for groups 394
Table 7.207 The preferences of experts for the way to appoint group leaders 395
Table 7.208 The preferences of experts for the period a person should act as group leader 395
Table 7.209 The experts' responses to the item concerning ice-breaker sessions 395
Table 7.210 The experts' responses to the items concerning the responsibilities of group members 396
Table 7.211 The experts' responses to the items concerning the conditions for successful group functioning 396
Table 7.212 The experts' responses to the items concerning students' personal situations and the composition of groups 397
Table 7.213 Responses of the Delphi experts to the open-ended questions on the composition of groups 397
Table 7.214 The experts' responses to the items concerning the general aspects of training for group work 398
Table 7.215 The opinions of the experts regarding aspects in the training of students that need to be repeated 399
Table 7.216 The preferences of experts regarding the appropriate time for repeating aspects in the training of students 399
Table 7.217 The experts' responses to the items concerning training for students, lecturers and facilitators on group work 400
Table 7.218 The experts' responses to the items concerning the additional contents of training on group work for lecturers and facilitators 404
Table 7.219 Responses of the experts to the open-ended questions on training for group work 405
Table 7.220 The experts' responses to the items concerning the physical resources for group work 406
Table 7.221 The experts' responses to the item concerning the outcomes of group work 406
Table 7.222 The experts' responses to the item concerning students preparing for group work 407
Table 7.223 The experts' suggestions of mechanisms for encouraging students to prepare for group-work sessions 407
Table 7.224 The experts' responses to the items concerning the outcomes and assignments for group work 408
Table 7.225 The experts' suggestions for types of tasks to encourage co-operation 408
Table 7.226 The experts' suggestions for modules of which the content is not suitable for group work 408
Table 7.227 The experts' responses to the item on realistic outcomes for a group task 409
Table 7.228 The experts' responses to the items concerning the types of, and methods for, group work 409
Table 7.229 The experts' responses to the item concerning the common goal of the group vs. individual accountability of individual members 410
Table 7.230 The experts' opinions about the common goal of the group vs. individual accountability of individual members 410
Table 7.231 The experts' responses to the item concerning the number of facilitators for group work 410
Table 7.232 The experts' opinions regarding the ideal number of facilitators for a group-work session 411
Table 7.233 The experts' opinions regarding facilitators moving around between groups to facilitate 411
Table 7.234 The experts' responses to the items concerning the expertise and continuity of facilitators 412
Table 7.235 The experts' responses to the item concerning the use of senior students as facilitators 413
Table 7.236 The experts' responses to the item concerning the time spent on group work 413
Table 7.237 The experts' opinions regarding the structure of the group-work sessions at the UFS 413
Table 7.238 The experts' responses to the item concerning feedback on group work 414
Table 7.239 The experts' opinions on the persons and time to provide feedback 414
Table 7.240 The experts' responses to the item concerning the role of rewards in group work 414
Table 7.241 The experts' responses to the item concerning the role of inter-group competition in the functioning of a group 415
Table 7.242 The experts' responses to the item concerning the role of learning groups 415
Table 7.243 Experts' opinions regarding the composition of learning groups 415
Table 7.244 The experts' responses to the open-ended questions on group-work sessions 416
Table 7.245 The experts' responses to the items concerning the provision of support for group work 416
Table 7.246 The experts' opinions concerning the support needed by lecturers and facilitators 417
Table 7.247 The experts' responses to the items concerning the provision of academic support to students 417
Table 7.248 The experts' responses to the items concerning the use of mentors to support groups 418
Table 7.249 The experts' responses to the items concerning peer support 419
Table 7.250 The experts' responses to the open-ended questions on the support for group work 419
Table 7.251 The experts' responses to the items concerning the assessment of the group task and group process 420
Table 7.252 The experts' opinions concerning the frequency of assessing the group task 421
Table 7.253 The experts' opinions concerning the frequency of assessing the group process 421
Table 7.254 The experts' responses to the items concerning the criteria and awarding of marks for the assessment of group work 422
Table 7.255 The experts' opinions concerning the allocation of marks for the group task 423

Table 7.256 The experts' opinions concerning the allocation of marks for the group process 423
Table 7.257 The experts' responses to the items concerning the assessment or evaluation of individual group members 424
Table 7.258 The experts' responses to items concerning different aspects of the assessment of group work..... 425
Table 7.259 The experts' responses to the open-ended questions on the assessment of group work 426
Table 7.260 The experts' responses to the items concerning general aspects of the quality assurance of group work 426
Table 7.261 The experts' responses to the items concerning the possible functions of a group-work committee 427
Table 7.262 The experts' responses to the open-ended questions on the quality assurance of group work 428
Table 7.263 A comparison of the items dropped from the questionnaire between the different rounds of the Delphi study..... 430

List of Figures

Figure 3.1 A schematic illustration of a typical group-work session at the UFS 102
Figure 4.1 The Diagnosis-Intervention Cycle (Schwarz 1994:68) 188
Figure 4.2 Monitoring strategy for group facilitators (Jaques 2000:161) 205
Figure 7.1 Roles of the staff in group work in the M.B.,Ch.B.-learning programme 308
Figure 7.2 Ages of first and second year students 309
Figure 7.3 Home language of first and second year students 310
Figure 7.4 Population group of first and second year students 311
Figure 7.5 Outcomes of the responses for each section of the questionnaire (Opinion survey) 388
Figure 7.6 Outcomes of the responses for each section of the questionnaire (Delphi study) 429
Figure 7.7 Consensus vs. stability items in the Delphi study 430
Figure 7.8 Items dropped from the questionnaire after each round of the Delphi study 432
Figure 9.1 A model for group work 504

List of Appendices

Appendix A	The M.B.,Ch.B.-learning programme of the Faculty of Health Sciences, University of the Free State
Appendix B	Assessment instruments currently used for assessing group work in the MEA 112 module
Appendix C	Questionnaire to students
Appendix D	Questionnaire to staff
Appendix E	Request to participate in the Delphi study
Appendix F	Delphi- Background information
Appendix G	Delphi First Questionnaire
Appendix H	Delphi Second Questionnaire
Appendix I	Delphi Third Questionnaire
Appendix J	Delphi Fourth Questionnaire
Appendix K	Delphi Fifth Questionnaire
Appendix L	Final report on the Delphi study

CHAPTER 1
INTRODUCTION

> *[T]he only true voyage would be not to travel through a hundred different lands with the same pair of eyes but to see the same land through a hundred different pairs of eyes. Small group work is about learning through different pairs of eyes.*
>
> (Rudduck 1978:59) (paraphrase of Proust)

Group work is valuable in an academic set-up for the acquisition of knowledge and the development of higher-order skills (e.g., problem solving and understanding). However, it is also important specifically in the medical profession, as medical practitioners need to act as members of health care teams and collaborate with allied health professionals in the solving of problems related to the diagnosis and treatment of diseases.

Group work in medical education is thus essential, since medical education involves not only an academic learning environment, but also the instruction of future medical practitioners. Group work provides medical students with the opportunity to increase their knowledge and develop the skills necessary to be regarded and respected as competent health care workers in the community.

1.1 RATIONALE

Medical education is currently characterised by drastic changes which are manifested in the design and delivery of learning programmes for undergraduate medical students. One aspect which is receiving much more emphasis than ever before is learning to work in teams. Although functioning in a multi-disciplinary team has always been a central part of medical practice, this essential skill has never received the attention it deserves in undergraduate medical education. Not only is multi-professional collaboration essential, but interdisciplinary collaboration between primary health care doctors and specialists is also becoming increasingly important due to the knowledge explosion and increased specialisation in the field of medicine

(Prystowsky, DaRosa & Thompson 2001:148). It is only since the implementation of outcomes-based higher education (Olivier 1998:20) that the goal of fully competent learners (in terms of the knowledge, skills, values and attitudes necessary to be professional, competent general practitioners), has become an objective of medical education and training. The purpose of outcomes-based education is to link the objectives with the results of learning, and therefore, to close the gap between formal education and work-place competence (Van Rooyen & Lategan 1998:1). "A growing service orientation in economies throughout the world... has led to a situation where personal, transferable skills are now recognised as essential elements of higher education" (Beylefeld & Jama 2002:113).

The ability of doctors to work in health teams, to communicate effectively and to solve problems successfully has been emphasised repeatedly at conferences of the World Federation for Medical Education (WFME), the non-governmental organisation concerned with formulating objectives and determining guidelines for changing medical education (cf. World Federation for Medical Education 1998). One of their recommendations on the aims and content of medical education, is that "future doctors should be trained in teamwork" (:551). They also assert that changes in medical education are essential to prepare doctors for the expectations and the needs of society (:550). Therefore, the "acceptance of uniform standards for medical education world-wide... is essential for achieving continual improvement in global health" (Cohen 2000:601). However, the "[t]raditional teacher-led forms of education do not encourage the development of these skills or provide stimulation and motivation for learning" (Parsell & Bligh 1998:526). Also, "as we change the way we provide health care, we need to change the way we teach medical students to be future health care providers" (Prystowsky et al 2001:148).

The Professional Medical Boards of several countries, e.g., those of the United Kingdom and the Netherlands, have subsequently included important teaching strategies in their guidelines for training professional, competent doctors(General Medical Council 1993; Metz et al 1994). These strategies include small-group learning, e.g., problem-based learning. Small-group learning has therefore become a prominent part of undergraduate medical instruction, since this is one important way of obtaining these skills. The WFME has suggested it as an essential learning process in medical education (World Federation for Medical Education 1998:551).

However, apart from the importance of small-group learning for developing teamwork skills, interactive and co-operative learning also appears to have many educational advantages: It is an effective method of learning which enhances active and deep learning and motivates students to take responsibility for their own learning (Crosby 1997:2). Co-operative learning also improves students' problem-solving and social skills and enables better retention of what they learn (Kimber 1996:6). There are thus many reasons for implementing small-group learning as part of the instruction of medical students.

South Africa is also currently undergoing changes in medical education towards a problem-oriented, learner-centred and community-oriented approach. Amongst others, the ability to work effectively in health teams (especially basic primary health care teams) is a very important objective (Republic of South Africa (Department of Health) 1997:38). However, "[n]o reform in medical education of national scope takes place without governmental approval and support" (Walton 1993:397). The South African Qualifications Authority (SAQA), the statutory body responsible for the development and implementation of the National Qualifications Framework (NQF), has determined critical, cross-field outcomes (for the development of generic skills) which have to be embedded in all learning programmes. These critical outcomes include, amongst others, effective communication skills and the ability to work effectively as a member of a team (SAQA Act No. 58 of 1995) (Republic of South Africa 1998:8). The Health Professions Council of South Africa (HPCSA) has included these outcomes in its objectives for medical education and training in South Africa, based on the principles of the Edinburgh, Yaounde and Cape Town Declarations (which resulted from the WFME conferences) (cf. Health Professions Council of South Africa 1999).

The University of the Free State (UFS) in South Africa implemented a transformed medical learning programme for undergraduate medical students in 2000. This is a five-year curriculum, based on the guidelines and requirements of the HPCSA and SAQA (Bezuidenhout, Nel & Vosloo 2000). The goal of this new M.B.,Ch.B.-learning programme is to ensure that medical students acquire the knowledge, skills, behaviour and attitudes which are necessary to practise as competent, professional general practitioners. There are several premises that underlie this programme, including the objective that students develop into lifelong learners with the ability to work effectively in health care teams.

This medical learning programme consists of three Phases: Phase I (one year) is a preparatory year and serves as an introduction to natural and human sciences, with the purpose of skills development (mainly the critical cross-field outcomes required by SAQA). Phase II (two years) is a thematic, system-based course that focuses on a core curriculum and the development of clinical skills. Phase III (two years) comprises clinical training and the reinforcing of basic knowledge and has a discipline-based approach. In Phases I and II, formal lectures, group work and directed self-study all form elements of teaching and learning, which implies that a learner-centred, resource-based and integrated approach towards undergraduate medical education and training is now being emphasised at the UFS (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:26) (see detailed discussion of the programme in 3.4).

Group work has therefore been implemented as part of the instructional methods in the undergraduate medical learning programme at the UFS. The aim is to assist students in the development of interpersonal, leadership, communication and teamwork skills.

1.2 PROBLEM STATEMENT

McGregor (in Gerlach 1994:11) argues that "while collaborative learning communities are worthwhile, it is not unusual to encounter difficulties with group work.... [S]tudents have been conditioned since high school to function in classrooms where the teacher transmits the information, students do their own work, and questions have only one right answer. Thus as students move into collaborative learning environments, they must make major shifts in their beliefs about classroom learning behavior." The same also applies for lecturers: "[T]here has traditionally been a tendency to view small-group work as an added extra, a means of improving students' understanding of lecture material for instance, rather than as a coherent mode of learning in its own right" (Jaques 2000:189).

Group work is now an essential, although not the only, element of instruction in the new M.B.,Ch.B.-learning programme at the Faculty of Health Sciences of the UFS (hereafter, "the Faculty") – especially in the early years of the course. Although it was implemented as part of the new medical curriculum in 2000, no clear guidelines to lecturers, facilitators and students regarding group work exist at the moment and it is clear that it does not serve the purposes it

was intended for, viz., to be part of instruction and of student learning, and to teach students how to work effectively in teams. Indeed, the literature refers to educators who fail to see "difficulties that can arise when a group of people of diverse personalities, backgrounds, and ages mix in an intense learning situation; it was taken for granted that students and tutors would be considerate of each other's learning needs and altruistic enough to help each other find approaches and solutions to the topics under discussion" (Spaulding cited in Neville 1999:394). From a report on the evaluation of the implementation of the new M.B.,Ch.B.-learning programme (a research project which commenced in 2000 and will be repeated in each year of the new curriculum), it is clear that both students and staff do not find group work a useful instructional and learning tool, due to the current uncertainties and the inappropriate way in which it is used (cf. Bezuidenhout 2002). Group work has received relatively negative feedback in the responses of the students to questionnaires which are used as part of this evaluation of the learning programme. Although each module is evaluated separately, a standard format of evaluation is used for the different modules. These questionnaires include the following questions regarding group work:

- How well facilitators handled the group work;
- How group work helped the students to achieve the outcomes of the module;
- Whether the students' ability to solve problems increased; and
- Whether the outcomes for the session guided the structure of each session (group work included).

From the responses to the questionnaires, it is clear that, although there was a slight improvement in the students' perceptions of group work over the years, an average of 29.3% first years and 26.6% second years felt completely negative about group work between 2000 and 2002. Also, an average of 19.8% first years did not think that the facilitator handled the group work well during the same period of time (Bezuidenhout 2002). In these evaluations, the students made many comments on group work in response to open-ended questions in the questionnaire, but most of these comments reflected a negative attitude towards group work amongst the students.

Lecturers' opinions were also asked in 2000 on their experiences of the new learning programme, and some comments made by them also reflect a concern that group work is not

functioning optimally. A few examples of these comments include the following (Bezuidenhout 2002):

- The practical functioning of group work is a concern;
- Students do not attend group-work sessions;
- Group members do not work well together;
- Students do not appreciate the importance of group work;
- Guidelines for the evaluation of group work are unclear; and
- Not enough facilitators are available for group-work sessions.

"Students' reactions and perceptions form valuable material that could help improve group functioning, but this material lies dormant unless a structure is provided to bring it into focus" (Tipping, Freeman & Rachlis 1995:1052). Due to the lack of clear guidelines to staff and students and timely staff development sessions, and also due to the relative inexperience of both staff and students with regard to group work, it is very clear that a definite model for group work, with clear guidelines for the implementation and practice of group work, is essential for successful group work in Phases I and II of this learning programme. Rudduck (1976:7) correctly argues that "[s]mall group work is not easy to implement – and it may not be easy to introduce... as a major learning form within an institution." If group work is not successful, students will not develop the crucial skills they need to become competent medical practitioners (mentioned in 1.1).

Not many models exist for group work: "There is little evidence of institutions making policy decisions about ways of helping students learn to work effectively in groups" (Rudduck 1976:10). Most models that have been described in the literature only address a specific aspect of group work and can therefore not provide sufficient guidelines for the needs of UFS. "[T]here are no definite guidelines for addressing the characteristics of effective collaborative learning assignments, especially in regard to organizing and evaluating collaborative groups" (Gerlach 1994:8).

The specific approaches towards group work which are applied by other medical schools are not appropriate for use at the UFS because most of these "models" are based on a purely problem-

based approach where small-group learning is the main (if not only) means of instruction, e.g., that of Maastricht University in the Netherlands (cf. Van Til & van der Heijden 1998). Since the UFS uses a hybrid system, the aim of this study is to design a unique model for group work so as to provide the urgently needed guidelines for group work at the UFS.

1.3 RESEARCH QUESTIONS TO BE ANSWERED

In accordance with the problem identified, the following questions were asked:

1. What should the role of group work be in higher education (and specifically in medical education)?
2. Which important aspects of group work need to be taken into consideration in designing a model for group work?
3. How do these different aspects influence the success of group work?
4. How could these aspects be incorporated into a group-work model?

This study was conducted in an attempt to answer these questions.

1.4 GOAL AND OBJECTIVES

The goal of this study is to contribute to the quality of education and training in the M.B.,Ch.B.-learning programme of the UFS. The aim of the study is therefore to design a model for group work in Phases I and II of this learning programme as a means of improving the quality of instruction of medical students.

To achieve the goal and aim of the study, the following specific objectives were determined for the study:

1. To determine indicators for a group-work model in medical education by means of a thorough literature study.

2. To conduct a survey on the opinions of the students and staff involved with Phases I and II, so as to determine the importance of indicators for a feasible group-work model at the UFS.

3. To conduct a Delphi study in order to obtain the opinions of experts in small-group learning and medical education regarding the importance of the indicators for the group-work model.

4. To design a model for group work in Phases I and II of the medical curriculum at the UFS according to the findings of the Delphi study, opinion survey and literature study.

1.5 METHODS AND PROCEDURE

This study is mainly a descriptive study with the focus on qualitative investigation, although a minor quantitative component exists in the results of the questionnaires used in the study. A case study approach was followed and the study consists of four stages: A literature study, an opinion survey amongst the students and staff of the UFS, a Delphi study and the final design of a group-work model.

The literature study was done to identify indicators for a group-work model and the study focused mainly on different aspects of group work. However, the rationale for group work as a generic skill for medical students compelled this researcher to investigate group work in general higher education and also the guidelines for medical education. A few other aspects related to group work were also investigated e.g., co-operative learning and problem-based learning, since important principles for group work arise from these studies.

The opinion survey amongst the students and staff of the Faculty, included all the medical students and the staff involved with Phase I and the first year of Phase II in 2001 (the second year of Phase II was not yet in operation at that time). These respondents were requested to rate the importance of possible indicators for a group-work model, derived from the literature study, on a 5-point Likert scale.

The third stage of the study entailed a Delphi study through which the opinions of experts in medical education and group work were garnered on the importance of the indicators for a group-work model. Both national and international experts were invited to participate in the study and five rounds were required to reach consensus on the importance of the indicators for the group-work model.

During the fourth and final stage of the study, a model was designed for group work at the UFS.

1.6 VALUE AND SIGNIFICANCE

In keeping with the guidelines of the HPCSA for medical education and training, as well as the requirements of SAQA and the Health Department of South Africa, group work was implemented as part of undergraduate medical instruction at the UFS. However, it is clear that the objectives for group work in this learning programme are not being reached at the moment, and that both the lecturers and the students appear to be uncertain about the principles and practice of group work as an instructional method.

An urgent need therefore exists at the Faculty for a group-work model for Phases I and II of the new medical learning programme. This model needs to provide the necessary guidelines for effective group work. No approach to group work used by other medical schools is appropriate for use in the Faculty because the undergraduate medical learning programme at the UFS is not purely problem-based with small-group learning as the main means of instruction. It is rather a hybrid of lectures, group work and directed independent study. Furthermore, since no definite group-work model exists for hybrid tuition systems, a unique model for group work is necessary to provide the essential, urgently needed guidelines for group work to both students and staff at the Faculty.

This study could therefore contribute to the quality of medical education and training at the UFS by providing the necessary guidelines for the implementation and practice of group work. If group work is conducted properly, students will develop the required communication, interpersonal and problem-solving skills, and may therefore mature into competent doctors who are able to function effectively as members of a health team.

1.7 SCOPE

This study was conducted in the field of Health Professions Education, and therefore the main focus point is that of medical education. Although many principles discussed are also applicable to higher education in general, and even to education in the allied health professions, the entire aim of the study has been to develop a model for group work in the undergraduate medical learning programme of the UFS. This study is therefore based on the principles of the WFME, as well as the guidelines of the HPCSA in particular. The group-work model which has been designed, is based on the findings in the literature and the opinions of experts in medical education and group work. However, not much literature on group work in medical education exists, and it was therefore necessary to include a study of group work in higher education in general.

Phase III of the medical learning programme has not been included in this study because it only commenced in 2003 and the approach to instruction is completely different from that in Phases I and II. Although group work also features in the skills unit (where students acquire clinical skills during Phase II), the purpose and methods of group work (including the size of the groups) in this unit are different from the group work done in the core modules of Phases I and II. For these reasons, group work in the skills unit was also not included in this study.

1.8 ETHICAL CONSIDERATIONS

During the opinion survey at the UFS, the respondents (staff and students of Phases I and II) were protected against possible discrimination by completing the questionnaires anonymously. This gave these respondents the opportunity to express honest opinions, without the possibility of exposure. This researcher handled the information obtained through the responses confidentially.

The participants in the Delphi study were anonymous to one another, which provided them the opportunity to reconsider and change their opinions between the different rounds of the Delphi study, without the possibility of public exposure. The feedback on the rounds was also

anonymous so as to protect the identity of the participants. This researcher also handled all information obtained through the Delphi questionnaires confidentially.

The protocol for study was submitted to, and approved by, the Ethics Committee of the Faculty (ETOVS number: 60/01).

1.9 DEFINITIONS OF WORDS OFTEN USED

Since the entire study is focused on group work and many different words or expressions are used in the literature for group work, this word is defined properly at the beginning of the literature study (cf. Chapter 2). However, a few other concepts, often referred to in this study, are described and mentioned in the literature in many different ways. For the purpose of this study, and in the context of the UFS specifically, the following words will therefore be used when referring to these concepts:

Assessment: Summative evaluation (evaluation which counts marks). It implies "deliberate and planned procedures of measurement" (Broadfoot 1996:6).

Assessment instrument: A standard test/questionnaire that can be used for assessment or evaluation of either the group task or the group process.

Evaluation: Formative evaluation (evaluation which does not count marks and serves as feedback to the students) – in other words, "the more general process of judgment and feedback" (Broadfoot 1996:6).

Facilitator: The tutor or person (lecturer or senior student) who assists students with problems encountered with the group task, as well as the group process, during group-work sessions. At the UFS the facilitator is usually a lecturer.

Group process: The way in which a group functions to complete a specific assignment. This includes group dynamics, roles that different members play in the group, communication, co-operation, etc. (i.e., everything involved with the way in which groups function). "A group process refers to the flow of behaviors in a group – how things are happening rather than what is happening" (Napier & Gershenfeld 1983:14).

Group task: The assignment that a group has to complete during a group-work session. This includes the task that groups receive to complete during group-work time, as well as the product of the group work of the particular session (e.g., a presentation of the task completed by the group).

Group-work method: The specific format of (technique used for) a group-work session, e.g., buzz groups, brainstorming and cross-over groups.

Group-work type: The different ways in which group work can be done, e.g., task-based group work and problem-oriented group work.

Indicator: A guideline for a specific aspect of group work that may appear in the group-work model.

Lecturer: The person responsible for the planning of a particular session of a module. This includes presenting the lecture, but also compiling the workbook and deciding upon the method and type of group work to be used during the session. Lecturers are therefore actively involved with group work, although their role is different to that of the facilitators. However, the lecturer is almost always one of the facilitators for the particular session and is very often also a facilitator for other group-work sessions (planned by other lecturers). Although, according to the literature, the facilitator is often the person who decides on the method for group work, this is not the case at the UFS.

Mentor: A person who may act as an advisor for groups outside group-work time. This may include lecturers or senior students.

1.10 ARRANGEMENT OF THIS THESIS

This chapter, ***Chapter 1***, serves as background and introduction to the study. It explains the rationale for conducting the study, and states the problem under investigation as well as the research questions asked before conducting the study. It also includes a brief overview of the design and procedures, the significance and the scope of the study.

Chapter 2: The role of group work in higher education. This chapter reports on the findings in literature to illustrate why group work is essential in higher education. The different aspects of

group work, including the definition of group work, the rationale for using group work, and the advantages and limitations of group work, are discussed.

Chapter 3: The role of group work in medical education. This chapter describes a rationale for group work in medical education in particular by referring to important international guidelines for medical education. Group work at international and South African medical schools and the way in which group work is implemented at several of these medical schools are also summarised. The M.B.,Ch.B.-learning programme of the University of the Free State is outlined by referring to the rationale behind this medical learning programme and discussing the structure of the programme, including how group work features in the programme.

Chapter 4: Factors influencing the structure of a group-work model. This chapter is a summary of the factors which could influence the design of a group-work model. These factors represent possible indicators for such a model.

Chapter 5: The Delphi method. This chapter describes the Delphi method as a research technique to provide a background for its use in the research approach in this study.

Chapter 6: Research design, methods and techniques. This chapter explains the research design and the different methods used for investigation during this study. The methods used in the different stages of the study are described separately. Stage one entailed the literature study, stage two an opinion survey at the UFS and stage three a Delphi study amongst experts in medical education and group work. Stage four was the final design of the model for group work, according to the findings of the literature, opinion survey and the Delphi study.

Chapter 7: Results and findings. The results of the opinion survey amongst students and staff at the UFS, as well as the Delphi study are discussed in this chapter. Attempts are made to explain the different responses where appropriate.

Chapter 8: Discussion of the results with the aim of designing a group-work model. In this chapter, the results from the opinion survey and Delphi study are discussed and compared with the literature, and important findings, which could influence the design of a group-work model,

are highlighted. Guidelines for group work in Phases I and II of the M.B.,Ch.B.-learning programme are also suggested and discussed.

Chapter 9: A model for group work: Discussion and recommendations. A group-work model for Phases I and II of the M.B.,Ch.B.-learning programme at the UFS is presented and discussed in this chapter. The guidelines suggested for group work in Phases I and II are summarised and recommendations are made for the implementation of the group-work model.

Chapter 10: Conclusion. In this chapter, the impact of this research study is discussed, as well as the possible value and limitations of the study. Recommendations are also made about possible areas for further study.

1.11 CONCLUDING REMARKS

Due to many changes in the approach to higher education, involved institutions have been compelled to redesign their learning programmes and ensure that students develop into independent, lifelong learners. Because teamwork is such a prominent aspect of many professions, especially the medical profession, group work has become an important part of undergraduate medical education and training. The ability to work effectively in a team is therefore an important outcome, and the opportunity to develop this skill should be provided for in medical learning programmes through group work. However, clear guidelines are necessary for the implementation and practice of group work. This study, which has been introduced briefly in this chapter, is aimed at providing such necessary guidelines for group work at the UFS, through the design of a model for group work.

CHAPTER 2
THE ROLE OF GROUP WORK IN HIGHER EDUCATION

Despite the fact that we all have been existing in a variety of groups since earliest childhood, it would be wrong to assume that we all automatically possess the necessary skills to function effectively [in groups].

(Thorley & Gregory 1994:35)

Higher education institutions do not necessarily automatically impart the skill to function effectively in a group (especially groups formed in the field of study), and thus, opportunities to do so should be embedded in learning programmes of different fields of learning. Because of this, group work has received an increasing amount of attention in higher education during the past few years. In order to develop a model to provide guidelines for the implementation and practice of group work, it is thus necessary to define what exactly is meant when referring to group work, but also to understand the general principles of group work. This does not only include the rationale behind using group work, but also the benefits and limitations associated with this instructional approach. Furthermore, it is also appropriate to investigate the different methods and approaches towards group work in higher education. This chapter, therefore, serves as an introduction to group work and its role in higher education, some of its benefits and some of its shortcomings, and also various approaches to group work.

2.1 DEFINITION OF GROUP WORK

Before explaining what is meant by the concept "group work," a definition of a group is in order: The Oxford Advanced Learner's dictionary defines a group as a "number of people or things gathered, placed or acting together" (Hornby 1989:551). However, in the educational context, the word "group" implies interaction between a number of students for the purpose of learning. Abercrombie (1977:1) defines the term "group" as "a number of people who are in

face-to-face contact, so that each of them can interact with all the others." The teacher therefore withdraws deliberately to encourage interaction between the specific group of students. Jaques (2000:1) argues that a group may be more than a pure collection of people when the following qualities are present within the group:

- Membership (two or more people interacting for longer than a few minutes);
- Collective perception (the group members are conscious of their existence as a group);
- Needs (members join the group because they believe some of their needs will be satisfied by the group);
- Shared aims (a common aim is one of the factors which binds the members together as a group);
- Interdependence (members respond to, and are affected by, events that affect any of the members);
- Social organisation (the group can be regarded as a social unit with norms, power, roles and emotional relationships);
- Interaction (members respond to, and influence, each other through communication); and
- Cohesiveness (members contribute to the well-being and goal of the group, and want to remain within the group).

Ledingham and Crosby (2001:74) support the fact that interaction and participation are two necessary elements of group work. They also regard working on a group task and reflection on the work as two important elements of group work. However, as far as group work is concerned, Benjamin, Bessant and Watts (1997:14) emphasise that "there are no neat, simple, uncomplicated definitions of 'group work' or of 'working with groups'". A universal meaning for group work, according to them, might be a group of people getting together to perform a specific task, or to solve a particular problem. Thus a common purpose exists for the specific group, although it may imply a vast number of activities done for several different reasons. They define group work as "a generic term for all kinds of professional work with groups. It is used to describe an array of approaches from education, recreation, social work, psychology, and related helping professions" (:65). Rudduck (1978:1) indicates that the term "small-group work" may have several meanings, e.g., groups that meet to learn, make decisions or take action. The usage of the term therefore depends on the specific context. For the purpose of this

study, the focus will be on the educational context, i.e., a small group of students who meet together to learn and achieve the objectives of a particular learning programme. Rudduck (1978:1) refers to groups in this set-up as "the academic learning group." Effective group interaction implies that each individual is regarded as a person of worth and that individuals are free to explore ideas or contribute to the group (Boschee 1989:17).

Joubert and Steyn (1972:17) emphasise that at least two persons have to be present to form a group in order to ensure interaction. Jaques (2000:2) agrees with this fact, although some authors regard three members as the minimum requirement for meaningful interaction. A group should, however, be small enough to ensure meaningful interaction (cf. 4.1.1). Rudduck (1976:3) argues that small-group work refers to groups of 5-20 members where discussion, rather than instruction is the main mode of learning. The term "small group" is thus appropriate for this study. Crosby (1997:2) refers to the term "small-group learning" and states that it does not refer to a specific number of members, although meaningful interaction usually occurs more readily with fewer people in the group. She indicates that the following three characteristics are more important to a group than the specific size of the group:

- Active participation: This implies that all members of the group participate and respond to one another, although the levels of participation may differ.
- A specific task on which the group can focus.
- Reflection: The group members learn from their experiences and modify their behaviour accordingly.

Brown and Atkins (1988:50) use to the term "small-group teaching" when referring to the different methods used for group work, e.g., tutorials, seminars, etc. This term refers to the teacher's perspective of group work since it is usually the teacher who decides upon the specific method for a group-work session. However, they regard the group size as more important for group work than the specific teaching method. "Peer group teaching," on the other hand, implies that groups do not have official facilitators and this may increase student participation and students' responsibility for their own learning (Brown & Atkins 1988:52).

Coelho (1994:39) makes an interesting differentiation between group work and group learning: She regards group work as students working together in a group on a specific task, whereas

group learning implies that, although students sit together, they work independently or wait for someone else to do the work.

A few authors use the term "team" in the same context as the word "group." Larson and LaFasto (1989:19) offer the following definition: "A team has two or more people; it has a specific performance objective or recognizable goal to be attained; and coordination among the members of the team is required for the attainment of the team goal or objective." Heron (1993:107) defines the word "teamwork" as "a team with a leader engaged upon its task." He asserts that a team can be defined in terms of persons and tools, goals and a plan, roles and rules, as well as power and control (:108). The Oxford Advanced Learner's dictionary defines a "team" as a "group of people working together" (Hornby 1989:1318). A few authors, however, use the terms "group" and "team" interchangeably: Dimock (1987:23), for example, defines a group as "[a] group or team is more than the sum of its parts – it is a social system with its own structure and culture."

The term "team" however, is more commonly used when referred to a multi-disciplinary group of people working together, rather than a group of students learning together, e.g., a multi-professional health team. Therefore the term "group" is used in this study because it has a more appropriate and specific definition for the purpose of this study. Group work, in the context of this study, therefore, refers to students working together in small groups in order to learn and achieve the outcomes of the specific learning programme.

However, whilst studying group work, it is inevitable to address aspects of co-operative and collaborative learning as well. Although subtle differences exist in the meaning of these two types of learning, they imply that students share their learning opportunities. The way in which the group approaches the group task and the role of the facilitator, however, differ in these two instructional approaches (cf. 2.3.1.2 and 2.3.1.2.1). Probably the best differentiation between collaborative and co-operative learning is made by Nagata and Ronkowski (1998:1), who define collaborative learning as "the umbrella term encompassing many forms of collaborative learning from small group projects to the more specific form of group work called Cooperative Learning" (Nagata & Ronkowski 1998:1). Looking at these definitions, the term co-operative learning is more appropriate for the purpose of this study. More detailed definitions of these forms of learning will be given in 2.3.1.2.1.

2.2 *HISTORY AND PREVIOUS RESEARCH ON GROUP WORK*

For those who need information and guidelines on group work, conducting research on group work is disappointing, because the literature often focuses on the psychological functioning of groups, rather than learning within groups. Groups are also often regarded as isolated phenomena, and the fact that groups are dependent on the social and institutional set-up where they exist, is often ignored (Armstrong & Yarbrough 1996:33). Gibbs (1995a:3) notes that student groups differ from management groups because the members are all of equal status with similar knowledge and skills and they might never again work together after completing their course. He therefore asserts that "most publications on effective teamwork have little to offer students." Although he makes a good point, some basic principles of group work could apply to student groups, although care should be taken when doing so.

Small-group teaching has been in use as early as Classical Hellenism when Socrates, Plato's teacher, regarded critical thinking just as important as the development of attitudes. Accordingly, he used the strategy of subtly questioning students in groups, which is still known today as the Socrates' method. In the Middle Ages Socratic dialogue again came into vogue (Brown & Atkins 1988:51). In the 1840's, the adult education movement came into existence in England. This implied university-run activities for adult learners who studied on a part-time basis. This system included preparation of essays by the learners and small-group discussions amongst learners after the lecture (Benjamin et al 1997:47). The work done by Georg Simmel, a German theorist, on the nature of small groups during 1902-1917, seems to be one of the earliest significant studies of small groups, although his work was neglected until its "rediscovery" during the twentieth century (Benjamin et al 1997:53).

Nonetheless, small-group learning as we know it today, only emerged in the twentieth century. According to Reynolds (1994:15), the most frequently recorded origin of group work was in 1946 when the T (training) group was invented to help students work more effectively in the community. This research group, under the leadership of Kurt Lewin, developed a more scientific approach towards group work through their observations and research (:16). Amongst

others, Lewin also specifically studied the stages in the life cycle of groups (Benjamin et al 1997:54).

The study of small-group learning only became a prominent topic of research during the past ±60 years. "The major theme of research on small group teaching in the past fifty years has been the questions of when small group teaching should be used" (Brown & Atkins 1988:52): Earlier studies found that group work is more costly and only as effective as other instructional methods. However, more recent reviews, e.g., those done by Jaques and Bligh (in Brown & Atkins 1988:52), show that small-group teaching is more effective than other instructional methods as far as the development of intellectual skills (e.g., problem-solving and reasoning), is concerned, while it is only as effective as other methods as far as the transfer of information is concerned. Some authors such as Springer, Stanne, and Donovan (in Colliver, Feltovich & Verhulst 2003) argue, on the basis of their findings, that group work should be implemented more widely in curricula. Colliver et al (2003), however, re-examined the studies reviewed by Springer et al and concluded that group work does not provide for the acquisition of knowledge better than traditional instructional methods. Group work thus, at the most, enhances the acquisition of higher-order skills better than traditional methods do. Other positive outcomes of group work include better motivation of students, better understanding, the ability to remember better, and changes in the behaviour of students (Boschee 1989:11).

Brown and Atkins (1988:51) note that most studies on small group learning have been conducted as comparisons with other studies and that relatively few studies examine small-group learning *per se* (i.e., the specific goals and strategies of group work). Strang (in Flannery 1994:16), on the other hand, found that most research on small-group activities was focused on group leadership and membership, academic performance and the effect of group work on success later in life. However, research of this kind is still relatively rare and despite the growing research on small group learning, many questions remain unanswered at the moment. Several studies on group work in medical education have been conducted, although most of these studies are focused on group work in problem-based learning (PBL) (cf. Das et al 1998; Eagle, Harasym & Mandin 1992; Kaufman & Holmes 1998; Magill et al 1988; Schmidt & Moust 1995; Wetzel 1996; Wilkerson 1995).

In spite of the different findings on small group learning in the literature, there has been increasingly more pressure on higher education institutions during the past 25 years to integrate group work into their learning programmes as part of instruction and student learning. The University Grants Committee of the United Kingdom regards group-work skills as being of ultimate importance: "A higher education system which provides its students with these skills is serving society well" (University Grants Committee cited in Tribe 1994:27).

Therefore, although much research has been done on groups and group work in general, huge gaps still exist in the knowledge about different aspects of group work in medical education.

2.3 RATIONALE FOR GROUP WORK IN HIGHER EDUCATION

2.3.1 Why use group work in higher education?

Saroyan (2000:90) asserts that the traditional lecture method of instruction does not promote any of the seven principles of good practice, i.e., promoting contact between students and the faculty, co-operation amongst students, active learning, providing immediate feedback, emphasising the time spent on a task, respecting diversity, and communicating high expectations. Lectures also do not develop higher-order thinking skills and conceptual understanding amongst students. On the other hand, interactive and co-operative instructional methods such as group work do succeed in achieving these aspects, as explained in the following paragraphs.

Graduate students are no longer employable only the grounds of their knowledge in a certain subject field, but employers increasingly expect them to have "core" skills, which include group-work skills (O'Sullivan et al 1996:57). Students also need to learn to work and live in a participative environment and must therefore learn to function effectively in a democratic environment (Reynolds 1994:24). Group work provides an opportunity for students to develop these important skills necessary for employment (Tribe 1994:25).

Kolb's experiential cycle of learning emphasises that students learn through experience and doing (i.e., the educational reason for group work) (Reynolds 1994:24). Flannery (1994:17) argues that, although the acquisition of knowledge is a cognitive process, the process can only become significant to the learner once he or she experiences the learning process through collaborative learning. Boschee (1989:7) also supports the argument that students should be actively involved in their learning in order to remember better. When students are actively involved in their own learning, deep processing of the learning content takes place and students are better able to understand and solve problems regarding the learning content (Tribe 1994:26). Tribe (1994:26) investigated many studies conducted in the field of group-based learning and came to the following conclusion: "The findings demonstrate that, generally, the achievements of students who work in co-operative settings are superior to those students working in competitive and individualistic settings. However, research also indicates that where students simply *observe* the working activities of others, or listen to other students' explanations, this will prove insufficient for the learning of material. Students must be actively involved in the group process for learning to occur."

Boschee (1989:9) also argues that "[a] well established and proven principle of social psychology is that people working together toward common and established goals can achieve more than people working by themselves." A study conducted by Harvey (Boschee 1989:9) proposed that students' levels of academic achievement would be raised through group work as part of their learning. Students also remember the learning material better when they work in groups, rather than alone (Bligh 2000:8).

Bligh (2000:5) asserts that educational research on discussion methods of instruction (such as group work) have shown that these methods and presentation methods (e.g., lectures), are equally effective in the transmission of knowledge to students. However, if other educational objectives also have to be achieved (e.g., interpersonal skills), discussion methods are more efficient. These methods do not only promote thought better than the traditional methods, but they also promote problem-solving skills amongst students (:13). A few other skills that are also developed through group work, include time management and communication skills, learning to prioritise tasks, leadership, negotiation and presentation skills (Gibbs 1992b:18). Tiberius (2000:109) adds to the list of skills which could be developed through group work, viz., sensitivity and tolerance for other's views, building a cohesive group, resolving conflict

within a group, building the self-confidence of students due to active involvement and responsibility for learning, as well as promoting students' thinking processes.

Davis (1993:147) emphasises, by referring to numerous studies done on co-operative learning, that students working in groups do not only learn more and retain better what they have learnt, but that they are generally more satisfied with this way of learning. Students also tend to learn better when they enjoy what they do (e.g., games or role-play) (Reynolds 1994:24). As far as the development of attitudes, values and motivation amongst students are concerned, group work and other discussion methods are very effective in providing opportunities for students to develop these skills, although research has found that it is probably more effective when used in combination with active methods such as role-play (Bligh 2000:27). Bruffee (1987:45) argues that students' level of social maturity (exercised in their intellectual lives) is raised through co-operative learning. Group work also provides an important alternative to the teaching approaches of an institution, which could meet the needs of many students (Tribe 1994:25). Furthermore, lecturers could also benefit from this method, since they would receive useful feedback from students to improve their instructional approaches (Tiberius & Tipping 2000:109).

There are therefore numerous arguments for the use of group work at higher education institutions and, according to the literature, many advantages exist for students' learning processes when engaging in group work (cf. 2.5).

2.3.1.1 Group work as a skill

Because assessment of the competence of learners should be based on the knowledge, skills and attitudes or values of a learner, it is important to define the word "skill": It refers to a generalised, performed capability of any domain of human learning and endeavour, and since it must be performed, it has to be evident, and therefore the word should not be used to refer to potential or latent abilities in this context (Bellis 1997:4).

The professional bodies of many learning areas have recently begun to require the incorporation of group-based activities into undergraduate training and education. "These bodies are only too well aware that the competitive individualistic graduate who finds it difficult to work

cooperatively with their [sic] work colleagues is not therefore a desirable entrant to a profession" (Tribe 1994:30).

A world-wide paradigm shift has thus taken place in higher education from a content-based, teacher-centred approach to an outcomes-based, learner-centred approach. Outcomes-based learning programmes relate to real-life work situations and therefore the skills that students acquire can be applied in new situations, including group-work skills (Olivier 1998:20; Van Rooyen & Lategan 1998:1). The concept of competency is also receiving increasingly more attention in higher education and implies competence in terms of knowledge, skills, values and attitudes (Bellis 1997).

The South African Qualifications Authority (SAQA) has determined critical, cross-field outcomes which should be included in all standards and qualifications registered on the National Qualifications Framework (NQF) (Republic of South Africa 1998:8). Included in these critical outcomes, are the ability to work effectively in a team and effective communication skills. Higher education institutions in South Africa are therefore compelled by the Higher Education Act to incorporate transferable skills in their learning programmes

The same applies for medical education: The medical boards of many countries reviewed their guidelines for medical education and training to ensure that students develop into competent doctors. These guidelines include the development of transferable skills such as team work (cf. Chapter 1). "The use of interdisciplinary teams for health care delivery has accelerated due to the increasingly complex and broadening definition of health care. Whereas earlier, health care was confined to the treatment of disease... [it] is now defined in terms of total human well-being, and addresses itself to the maintenance of health and the prevention of disease" (Eichhorn cited in Larson & LaFasto 1989:17).

Thus, opportunities need to be provided by higher education institutions for the development of group work skills. "Students need to have learning time allocated to the development of the skill. If you simply tell them that they should spend time on developing their teamwork skills it obviously isn't going to happen" (Gibbs 1995a:30).

2.3.1.2 Group work as part of co-operative learning

Much research has been done on co-operative and collaborative learning. Although some authors do not distinguish clearly between these two types of learning, others do (see below). Both these concepts will be discussed briefly, since a great deal of the rationale behind group work is based on these aspects of learning. Collaborative and co-operative learning stand in sharp contrast with the individualistic and competitive approach which has been followed until recently, and is even still being followed by some schools and universities. "In marked contrast, collaboration involves co-operation and compromise, flexibility in roles, trust and respect for others, questions as well as criticism, and group problem solving" (Bosworth 1994:26). Some authors distinguish co-operative learning from group learning in that groups in co-operative learning are heterogeneous in terms of membership and members have equal opportunities for success (Putnam 1997:18).

2.3.1.2.1 Definition of collaborative and co-operative learning

Many authors use the words "collaborative" and "co-operative" interchangeably, and some disagreements exist on the exact definition of and differences between these two types of learning. Dillenbourg, Baker, Blaye and O'Malley (1993:190) regard co-operative learning as a group of students who divide the task amongst them so that each member has a portion of the responsibility to complete it, whereas collaborative learning implies that the entire group shares the responsibility and effort to complete the task. The two concepts therefore differ in the way in which the task is divided.

Flannery (1994:17) clearly distinguishes between collaborative learning and co-operative learning by asserting that "[o]ne can ...define *cooperative learning* (as opposed to collaborative learning) as the use of student learning groups to support an instructional system that maintains the traditional lines of classroom knowledge and authority." The work done by Slavin (in Flannery 1994:18), in which several different co-operative learning models were suggested, supports his argument. In each of these models the teacher retains control over the work done by the students, as well as the atmosphere in the classroom, even though the work is done by the students in groups. On the other hand, Flannery (1994:20) asserts that collaborative learning is "the hand that fits ever so snugly into the glove of social constructivism" (cf. 2.3.1.2.2).

Co-operative learning "is a structured process that requires learners to work together on a task, share information, and encourage and support each other" (Cranton 1996:26). Collaborative learning refers to "shared inquiry... [i]n other words, individuals work together to construct knowledge rather than to discover objective truths" (Cranton 1996:27). The definition of the latter is based on the assumption that knowledge is constructed or produced socially. Co-operative learning involves five elements, viz., positive interdependence and face-to-face interaction (the two basic elements), and also individual accountability, interpersonal and small-group skills and group processing (Tucker et al 2003:41). Whipple (in Kimber 1996:3) defines collaborative learning as "a pedagogical style which emphasizes co-operative efforts among students, faculty and administrators. It stresses common inquiry as the basic learning process."

Gerlach (1994:8) asserts that collaborative learning is based on the idea that learning is a social act. Smith and MacGregor (cited in Gerlach 1994:10) refer to collaborative learning as the "umbrella term that encompasses multiple educational strategies and approaches involving both the teacher and the students in a joint intellectual effort." They also argue that it is based on several premises, including the fact that it is an active, constructive process, that learning depends on rich contexts and different backgrounds as well as the experiences of the learners, and that learning is a social act which has social and affective dimensions. Collaborative learning therefore is based on the learning theories of, amongst others, Vygotsky and Piaget (cf. 2.3.1.2.2).

The role of the educator also differs with these two types of learning: The educator is still responsible for designing the group tasks and objectives for both co-operative and collaborative learning, but in co-operative learning, he/she remains the expert and is still in a position of power by controlling the evaluation. In collaborative learning, the educator becomes a "co-learner" because he/she participates in the discussion, although still being responsible for maintaining and facilitating the group process. The power and authority, however, is dispersed amongst the different group members (Cranton 1996:27).

Nagata and Ronkowski (1998:1) regard co-operative learning as a specific form of collaborative learning, which in turn is an umbrella term for different types of group learning (cf. 2.1). This study thus focuses on co-operative learning.

2.3.1.2.2 Research on co-operative learning

Much research has been done on co-operative learning and many authors found co-operative learning to be beneficial for students. "Cooperative learning is one of the most thoroughly researched of all instructional methods" (Slavin 1989:52). However, most of this research is focused on co-operative learning in schools, although these findings remain important and useful when looking at co-operative learning in higher education. The research is mainly based on two theories, viz., motivational and cognitive theories. The motivational theories are based on reward or goal structures and it was found that a co-operative goal structure enhances students' achievement more than competitive or individualistic structures. The reason for this is the fact that students want their peers to learn and therefore every student's achievement improves (Slavin 1990:13). The cognitive theories can be divided into developmental and cognitive elaboration theories. The developmental theories (e.g., those of Vygotsky and Piaget (Slavin 1990:14)) support the argument that interaction improves the mastery of critical concepts (Johnson & Johnson 1991:86-89). The cognitive elaboration theories support the fact that, if information is to be retained and related to already existing memory, it should be explained to someone else – either by writing it down or by telling it to someone. The theories of Devin-Sheehan, Feldman and Allen, Dansereau, and Wittrock are examples of cognitive elaboration theories (Slavin 1990:16; Webb 1985:155). The socio-constructivist approach (rooted in Vygotsky's theory of social construction of knowledge) is based on individual development in the context of social interaction (Bitzer 2001:99; Tiberius & Tipping 2000:122). Constructivism describes knowledge as "temporary, developmental, and socially and culturally mediated" (Smith 2000:44). Another learning theory supporting the notion of learning in groups is the "discovery learning theory" of Bruner (Albanese & Mitchell 1993:54) which suggests that learning is enhanced through active participation by the students. A comprehensive overview of learning theories is, however, a study on its own, and it is not within the scope of this study to address this issue in detail.

Slavin also argues that the areas of consensus on using co-operative learning in higher education outweigh those of disagreement (Slavin 1989:52). He reviewed 60 studies and found that "[o]verall, the effects of cooperative learning on achievement are clearly positive" (Slavin 1990:18). One important rationale behind implementing co-operative learning in higher education is for diminishing the detrimental effects of classroom competition: Firstly, competition causes the "losing" students to have fewer opportunities to succeed in the

classroom, and secondly, these students' failure make their peers look good in comparison and make it easier for them to succeed. Slavin (1990:2) argues that removing competition amongst students "is the essence of cooperative learning," because it is excluded to a great extent and students are able to work together to master the learning material.

"There is a strong theoretical basis for predicting that cooperative learning methods that use group goals and individual accountability will increase student achievement" (Slavin 1990:17). The reason for this is mainly due to the fact that students need some or other incentive for helping one another to learn and co-operative learning provides peer norms and sanctions to achieve this (Slavin 1983:442; Slavin 1990:31). Some examples of group learning methods that provide for group goals and individual accountability include STAD (student teams-achievement divisions), TGT (teams-games-tournaments), TAI (team assisted individualisation) and CIRC (co-operative integrated reading and composition) (cf. also Slavin 1990:chapter 1; Tucker et al 2003:192-195). However, Slavin (1989:53) admits that some studies have shown that the elements of group goals and individual accountability might not be a prerequisite for successful co-operative learning in higher education at all, e.g., those of Davidson and Dansereau.

Webb (1985) reviewed several articles to investigate the relationship between interaction and student achievement. Firstly, she identified three types of interaction, viz., non-specific interaction, peer tutoring and giving and receiving help. She concluded that giving and receiving explanations are both beneficial to students' achievement, that giving terminal responses (i.e., unexplained answers) is not related, and that receiving terminal responses is detrimental to student achievement. She also found that the correlation between extroversion and more active participation is not statistically significant, and that mixed-ability groups are only effective when they consist of only two levels of ability (i.e., either high and low or medium and low ability students). As far as gender is concerned, it was found that, when females are outnumbered or when they are the majority, it could be detrimental to their achievement, although the same does not apply for males in these situations. When equal amount of males and females are in a group, they experience and learn the same amount.

Gabbert, Johnson and Johnson (1986) conducted a study which showed that general group-to-individual transfer, as well as process gain, takes place in co-operative learning situations.

Group-to-individual transfer implies that the learning which takes place in a group can be transferred to individual testing situations, whereas process gain means that new ideas are generated through interaction within a group, rather than working individually. They also found through their study that high-ability students achieved higher levels of reasoning when working with middle- or low-ability students than working individually or competitively.

A review of Terenzini and Pascarella (in Kaufman, Sutow & Dunn 1997:41) of co-operative learning in higher education, also found that this method is more effective than the traditional teacher-led approach because students' different levels of preparation, learning styles and learning rates are taken into consideration.

2.3.1.2.3 The benefits of co-operative learning

Many studies suggest that co-operative learning increases students' academic performance more than individual or competitive learning do (Gerlach 1994:6; Johnson & Johnson 1991:50; Tucker et al 2003:17). Slavin (1990:13) agrees that enhanced student achievement is the most important outcome of co-operative learning. Davis (1993:154) argues that study teams, where students meet to learn together, provide students with the opportunity to do what they often cannot do on their own, e.g., explaining or commenting on the learning material.

There are many benefits associated with co-operative learning, including peer support, the fact that students become more co-operative, and that attendance improves amongst students (Coelho 1994:24). It also provides for purposeful and task-oriented communication which increases the quality of group work to a great extent (Coelho 1994:31). Inter-group relations between students from different backgrounds, as well as the acceptance of academically handicapped students, tend to improve with co-operative learning, and students also learn to respect diversity (Johnson & Johnson 1991:50). A few other positive outcomes include an increase in the ability of students to work effectively with others and an improvement in the self-esteem of students. Students feel more accepted by their classmates and learn how to accept others' perspectives. Pro-academic peer norms improve the academic performance of students, because their fellow group members want them to achieve better. Students also tend to enjoy this approach to learning, although the evidence from the literature of this outcome is not consistent (Putnam 1997:chapter 2; Slavin 1989:53; Slavin 1990:chapter 3).

Students' cognitive analysis and problem-solving skills are developed through this type of learning, as well as their verbal and social skills. Furthermore, retention of what has been learnt is increased, as well as student satisfaction and positive attitudes (Kimber 1996:6). Kaufman, Sutow and Dunn (1997:61) also add that students learn how to take responsibility for their own learning through co-operative learning and that facilitators may be better able to identify the strengths and weaknesses of students. According to Glasser (in Brandt 1988), people have a need for power and learning in groups in one way of addressing this need, because one has the opportunity to contribute ideas while other people are listening.

2.3.1.2.4 Arguments against co-operative learning

Many arguments against co-operative learning have been offered in the literature, e.g., teachers argue that it increases their already heavy work loads, they struggle to cover the contents of their courses and they often lack confidence or knowledge about the application of co-operative learning as an instructional tool (Gerlach 1994:6). Felder and Brent (1994:13) argue that it is not so much the ability to cover the contents of the course which is important, but the amount of material which is actually learnt. Co-operative learning is also much more resource-intensive and not all students are comfortable with this approach (Kaufman et al 1997:62).

High-achieving students might complain that they are being held back by weaker students, while the low-achievers might complain about being ignored by their groups. Conflict might arise when group members do not pull their weight in the group (Felder & Brent 1994:3). If it is not properly planned and constructed, co-operative learning could cause this "free rider" effect where certain students rely on their colleagues to do all the work. This "diffusion of responsibility" can be overcome in two ways according to Slavin (1990:16): Firstly, each member of the group should receive a part of the responsibility for the group task, and secondly, group members should each be held accountable for the outcome of the group task.

A few problems (with possible solutions), which could be encountered with co-operative learning, include the following (Slavin 1990:123):

- Failure to get along: Some groups might experience difficulties in working together, but time should be allowed for the members to work together or rewards could be used to encourage students to do so.

- Misbehaviour: Extra marks could be allocated to groups or members who behave well in an attempt to overcome this problem.
- Noise: Complete silence during co-operative learning sessions is unrealistic, but something should be done if the noise level is so high that students struggle to hear one another.
- Absences: Absent members pose a problem to the particular group since the group relies on all the members to complete a task. This could be overcome by making use of attendance registers or ground rules.
- Ineffective use of time: When this problem occurs, the facilitator should provide more structure to the groups to assist them with focusing on the task at hand.
- The range of performance is too wide: The low-achieving students might need extra time for support and assistance in their work.

Kimber (1996:9) adds to the list of problems associated with co-operative learning (he uses the terms "cooperative" and "collaborative" learning interchangeably), by stating that overly ambitious projects with students who are not used to this type of learning is likely to be unsuccessful, and therefore suggests a slow transition from the traditional educational set-up to that of co-operative learning. He also notes that students' perceptions of assessment play a crucial role in their approach to learning and the assessment of co-operative learning is one of the major hurdles to its acceptance in higher education.

Therefore, although co-operative learning offers many educational advantages, it contains a few pitfalls and one should carefully weigh them against the positive outcomes.

2.3.1.2.5 Effective co-operative learning

Slavin (1988) argues that co-operative learning would be ineffective without the presence of a common group goal and individual accountability of the group members. The group goal is essential in order to encourage group members to help one another learn, and individual accountability would prevent certain members from becoming "free riders" within a group. Johnson and Johnson (1989b:80) add to this list of conditions for effective co-operative learning, positive interdependence, face-to-face interaction, and social skills (especially communication skills, leadership and conflict resolution). Positive interdependence implies that "[l]earners' vested interest in one another's achievement will result in their sharing of resources,

assisting each other's efforts, providing mutual support and celebrating their joint successes" (Bitzer 2001:100). Kaufman et al (1997:39) also mention that appropriate grouping, i.e., students with various attributes in one group, influences the outcome of co-operative learning. Furthermore, co-operative groups are only effective if they continuously reflect on the success with which they achieve the group goal (Putnam 1997:17).

A few more aspects which could influence the success of co-operative learning include a need for well defined group tasks, recognition of students' needs, skilled staff who are able to manage groups and choose appropriate group-work techniques, and also using assessment techniques that are consistent with this educational approach (Kimber 1996:9). Assessment of the group process is also a necessary component of successful co-operative learning (Johnson & Johnson 1989b:80).

Bruffee (1987:47) notes that the willingness to grant and exercise authority amongst group members are key elements for successful co-operative learning, even though co-operative learning in the classroom is only semi-autonomous (due to the fact that the teacher remains responsible for forming groups and designing tasks for group work). However, one of the most important factors determining the success of co-operative learning is for student groups to become independent from the lecturer and to take responsibility for their own learning (Flannery 1994:22). It is therefore necessary for lecturers to facilitate the group work, rather than trying to control or dictate everything that happens within the group.

Bosworth (1994:26) refers to two factors, identified by Schultz, which could explain the resistance against co-operative learning, viz., inappropriate skills used by the students and the lack of appropriate skills amongst students. Lack of the appropriate co-operative skills could cause several problems, e.g., an unbalanced division of work within a group or competition amongst members for the leadership position. Training in the necessary skills to ensure effective co-operative learning is therefore essential.

2.3.1.3 Learning within a group

One of the main reasons for using group work in a higher educational set-up is learning (Hill in Abercrombie 1977:13). Groups are often taught how to work together more effectively, but

they are rarely made aware of the fact that they also need to learn together (Dechant, Marsick & Kasl 1993:12). Therefore, one of the most important purposes of group work is for students to learn the work covered during group-work sessions. Learning is a study in itself, and therefore only aspects relevant to group work are mentioned briefly.

Dechant et al (1993:3) define group learning as "the interplay of individual and group values, beliefs, norms, knowledge and behaviour with that of the collectivity in which the individual or group is embedded." They therefore acknowledge the important influence of environmental factors on the group's context and learning processes.

Many learning theories exist which support the concept of collective learning, e.g., those of Vygotsky and Piaget (cf. 2.3.1.2.2). Other theories on group learning also exist: Schön (in Dechant et al 1993:4) emphasises the interaction between thinking and action, whereas Senge (in Dechant et al 1993:4) describes generative learning and argues that dialogue is an essential component of group learning. Furthermore, Kolb's well-known experiential model (cf. 2.5) also supports the rationale behind learning in groups.

Collective thinking and action lie at the heart of group learning processes, and because thinking occurs in action, experimenting and crossing boundaries are inevitably part of group learning. Dechant et al (1993:7) explain the following four learning processes that underlie group learning:

- Framing and reframing: This implies the process of transforming a group's initial perception of an issue into a new understanding. Reframing implies that current mindsets are altered or moved to higher-order mindsets and this can only take place through dialogue in a group.
- Experimenting: A group takes action to test hypotheses or to assess the impact of a certain issue.
- Crossing boundaries: The group as a whole moves ideas between people, which could be at a physical, mental or organisational level, and which is essential as a means of learning in a group.
- Integrating perspectives: The different views of members are integrated or new ideas are constructed collectively, often through conflict resolution.

Apart from these processes, there are also learning phases in a group, viz., (Dechant et al 1993:10):

- Fragmented learning: At the beginning, individual members have their own ideas and very few boundaries are crossed in an attempt to obtain a collective viewpoint within the group.
- Pooled learning: Although a pool of knowledge is collected by clusters of individuals in the group, little attempt is made to obtain a collective viewpoint within the group.
- Synergistic learning: Mindsets are changed as a result of collective reframing through personal interaction in the group.
- Continuous learning: Members apply the different learning processes regularly so that individual viewpoints are easily integrated and diversity is valued.

Learning within a group concentrates more on the learning process than the learning product, but since students have to pass the course individually, it is therefore rather a means to an end, and yet an important component of learning. Many different factors influence students' learning during group work. These include the structure and method of the group-work session, the roles of the group members and the facilitator, the expectations of students, the relationships between group members, individual interpretations of the group work, etc. (Reynolds 1994:36). Students' individual learning styles could also have an important influence on the learning that takes place in a group (cf. 4.1.2.7).

2.3.2 Why not use group work in higher education?

Although many higher education institutions have incorporated group-work into their learning programmes in order to provide opportunities for students to acquire team work skills, considerable resistance against group work has been encountered. This is mainly due to the fear that institutions do not have the expertise to provide the necessary training for group work, but also the belief that group work does not lean itself to a high level of academic achievement (Tribe 1994:27).

Several arguments have been offered against the use of group work in higher education, of which the following are some of the most frequent: Firstly, it is argued that students are not able to cover a syllabus fully without receiving formal lectures (Tribe 1994:28). However,

Tribe (1994:28) argues that, due to the rapid increase of knowledge, the content of a subject is not important anymore, but rather the logical association and reasoning associated with the particular subject. Students' ability to think critically and solve problems in the particular field of learning, however, is increased through doing group work (Davis 1993:153). The problem of covering the syllabus could be overcome by starting with modest group-work assignments and giving students additional reading to do (Center for Teaching and Learning (Stanford University) 1999:4).

Another argument against the use of group work is that lecturers do not feel "in control" any more. However, the pressures of increasing student numbers without the necessary resources force lecturers to allow students to take more responsibility for their own learning (Tribe 1994:29). Although one finds both a teacher-centred and a student-centred approach towards group work, some studies show that the student-centred approach leads to insufficient use of time by the students, whereas the teacher-centred approach may constrain students' self-development skills and may lead to passivity (Kolars et al 1997).

There are also concerns regarding the academic achievement of students doing group work without many lectures to guide them through the syllabus. Many studies did not show a significant difference between the academic performance of students who were taught in a lecture-based or group-based set-up (Dubin and Taveggia in Brown & Atkins 1988:52; Kolars et al 1997:56). However, these findings do not account for the other benefits of group work.

Davis (1993:153) mentions some other concerns amongst students regarding group work, but also supplies ways of dealing with them:

- Class fees are paid to learn from the professor, not from fellow students. Students should be informed at the beginning of their course that group work is part of the curriculum and should be made aware of the advantages of group work.
- The group is not working out. Students should be encouraged to stay within their groups and allow time for the dynamics to get sorted out. Allowing students to change the group membership should be the last way out.
- Students do not want to work in groups. Clear objectives for group work should exist and meaningful tasks should be compiled to encourage students' motivation.

- Students do not work well in groups. Regular evaluation of the group and planning to improve groups accordingly should take place and students should also be assisted in this.

There are many other disadvantages of group work discussed in the literature which could be used as arguments against group work (cf. 2.6).

2.3.3 The implications of group-based learning for curriculum planning

Initially, quite heavy claims are made on staff time and the amount of resources needed by students for group work. However, once it is in place, time and staff effort could be saved when students become actively involved in their own learning. The development of appropriate learning materials and appropriate staff and student orientation with regard to group work are also essential for the success of group work, and students and staff need to know exactly why group work is being implemented. Two factors that contribute ultimately to the success of group work, include clear, structured exercises for the groups and an accompanying lecturers' handbook. Appropriate assessment techniques should also be developed to assess the group work of students – not only of the work being done, but also of the skills that students develop through doing group work (Tribe 1994:29-30).

2.4 OBJECTIVES/PURPOSE OF GROUP WORK

"The overall goals of small group teaching are to develop discussion skills and to get students to think" (Brown & Atkins 1988:78). Both extrinsic and intrinsic aims could exist for group work: Extrinsic aims imply the aims and objectives for a specific group-work session, while intrinsic aims include, amongst others, the ability to think critically and creatively, awareness of others' interests and needs, a social conscience and lifelong learning abilities (Jaques 1991:64). These aims obviously have a more personal interest to students and have a greater value on the long term. Brown and Atkins (1988:56) describe extrinsic aims as immediate goals (i.e., what students think and do during a group-work session) and intrinsic aims as long-term goals (i.e., personal growth and competence). Aims for group work could also be subdivided into task-oriented and socio-emotional aims. The task-oriented aims include only the development of

skills to work within groups, e.g., the ability to express oneself, to listen, to judge opinions and team work skills. Socio-emotional aims, on the other hand, include a person's attitude towards other people, e.g., tolerance and sensitivity towards others, but also personal development and an increase in self-confidence (Jaques 1991:72). The socio-emotional and intrinsic aims are most commonly neglected during group-work sessions (:70).

There is no consensus in the literature about the main objectives of group work. The following are possible specific objectives of group work in higher education (Alperstein & Olckers 2000:221; Grant 1994:129; Hays et al 1997:759; Holen 2000:485; Jaques 2000:82; Laing 1976:19; McNally 1994:113; Steinert 1996:203; Thorley & Gregory 1994:81; Tribe 1994:25):

- It is an additional means of learner support and formative evaluation because groups can generate a greater sum of knowledge than an individual; it also provides feedback to students about their learning.
- Group work focuses on student-centred learning and therefore students are actively involved in their own learning process. This creates an opportunity to develop into lifelong learners. "In order to maximize students' motivation and to encourage their ability to continue to learn after they leave higher education it is important to work towards student autonomy. Group-work offers one way of encouraging autonomy" (Thorley & Gregory 1994:81).
- Communication and interpersonal skills are necessary transferable skills which could add "value" to graduates beyond their subject of expertise, and therefore promote their employability. These skills include the ability to listen, leadership skills and the ability to tolerate ambiguities. Students also learn about the dynamics of groups through working within groups.
- Higher-order skills are developed through more complex group projects, e.g., problem solving, decision-making, conflict resolution and critical thinking. Students would also be able to question the line of an argument and to understand the work being studied better.
- Life skills such as time and resource management, responsibility, respect and self-awareness are also developed through group work.
- Multi-disciplinary teamwork skills for all students in health professions is important because of the nature of the health problems in the community and the need for multiple health care providers at primary care level. Medical students could therefore be exposed to

collaborative management of patients through working in multi-disciplinary groups during undergraduate education already.

Stenhouse (in Rudduck 1976:5) asserts that, apart from the application of skills, the objective of group work should be the application of principles and understanding. Laing (1976:19), on the other hand, argues that the main objective of group work should be to train students how to think.

Reynolds (1994:66) argues that the outcomes of a group activity might be broader than the predefined focus, and that group work is rarely straightforward in practice. Students could not only rely on past experiences to make a specific learning opportunity significant, but group work might have important implications for future relationships. The fact that group work could have unforeseen outcomes or consequences also has important implications for lecturers and facilitators, because it influences the extent of control which they could have over a specific group-work session.

It is thus clear that group work provides for many educational objectives which could vary from purely academic outcomes to the personal development of students. Group work therefore seems to be suitable for many educational needs.

2.5 ADVANTAGES OF GROUP WORK

One of the main advantages of students working in groups is that of experiential learning. Students thus learn through actual doing, reviewing, theorising and planning, as Kolb described it in his experiential learning cycle (Gregory & Thorley 1994b:181). This learning cycle includes four stages, viz., concrete experiences, observation and reflection, formation of abstract concepts and generalisations, and testing implications of concepts in new situations (Reynolds 1994:24; Saunders, O'Sullivan & Rice 1996a:B10). "Experiential learning engages the learner in what is being learnt and provides the opportunity to use experience as a 'teacher'" (Benjamin et al 1997:129). O'Sullivan et al (1996:57) argue that students develop competent learning practices because the learning process results from a concrete experience rather an abstract concept – an argument based on Kolb's model for learning.

Abercrombie (1977:7) also argues that students who learn within groups develop a changed perception of their relationship to the source of their knowledge in comparison to those who rely on the teacher as the source of knowledge, and this could assist students in becoming lifelong learners. They also realise the impact which their opinions and actions could have on other people (Walton 1997:463). Students also take responsibility for their own learning, and could self-direct, reflect on and apply their own learning (Brinton, Jarvis & Harris 1984:17; Ledingham & Crosby 2001:75).

One aspect which makes group work superior to other instructional methods, is the fact that students develop higher-order academic skills. These include critical thinking, analysis, synthesis, evaluation, creative problem-solving, approaching a point of view logically, and building on the ideas of others (Abercrombie 1977:34; Boschee 1991:90; Brown & Atkins 1988:52; Gibbs & Habeshaw 1989:70; Kimber 1996:6; Ledingham & Crosby 2001:75; Walton 1997:463).

The academic achievement of students is increased through doing group work, mainly because students develop a deep approach to learning, which implies "a search for the inner core of an argument, for personal relevance or meaning in the subject matter, and a questioning attitude to it" (Collier & Clarke 1986:613). Students also reflect on the work being learnt in a group when working with fellow students (Boschee 1991:90). Group work helps students to make the best of their learning time because more ideas are generated in this way and students can learn from one another (Reid, Forrestal & Cook 1989:11). Although group work is not more effective than traditional instructional methods for information recall, it certainly increases students' comprehension of the work being studied (Steinert 1996:204). Students also learn actively by using prior knowledge, and are able to apply what they have learnt in new situations (Abercrombie 1977:34; Brinton et al 1984:17). Students who work in groups are able to do more complex work and the outcome of their work is almost always of a better standard than those students who work individually (Gibbs 1995a:4). Students experience greater motivation and positive attitudes towards their learning when working within groups (Boschee 1991:90; Crosby 1997:4; Kimber 1996:6).

Furthermore, group work is a maturing experience for students because they seem to perform better in their later study years (Grant 1994:132). Due to the fact that students could realise

their own strengths and weaknesses, they might benefit personally from group work (Rudduck 1978:4). They also develop confidence in themselves as learners, because they tend to talk more in a small group set-up, rather than in front of the whole class, and the group values their ideas. They thus feel that they are part of a group and not merely a face in the class (Jaques 2000:39), and they will therefore participate more readily in the exploration of new information (Reid et al 1989:12). This could develop their teamwork skills, which are necessary to become professional members of a team after graduation (Crosby 1997:3). Important life skills are also developed through group work, e.g., respect and responsibility, leadership skills, the ability to delegate responsibilities and make decisions individually or in a group, and also effective time management (McHardy & Henderson 1994:143; O'Sullivan et al 1996:56; Race & Brown 1998:79; Sobral 1998:118).

Students' cross-cultural understanding improves during group work (Kimber 1996:8). Students also learn to understand one another better, to tolerate their fellow group members and develop an understanding of their own ability to work with others (Grant 1994:132). Group members are able to provide mutual support to one another and their fellow group members are often more available than lecturers or facilitators to provide help when needed (Gibbs 1995a:5). In fact, students become resources for their fellow students in their process of learning (Nicholls 1994:165). Not only do they grow as persons, but they also develop better attitudes towards their fellow human beings, and in medical students' case, this could mean better attitudes towards their patients (Abercrombie 1977:15). Communication skills also develop in several dimensions, e.g., listening and asking questions (Sobral 1998:118). Students thus learn to converse in a literate manner (Jaques 2000:39).

The employability of students is enhanced through group work since they develop important transferable skills which could be applied in new situations, and mature into lifelong learners. They are also able to function in groups and groups are able to make better and faster decisions than individuals (Brinton et al 1984:17; Crosby 1997:3; McNally 1994:114-115).

The lecturer-student relationship is also positively affected by small group learning, since the lecturer only assists students in their learning process, rather than being solely responsible for it, can develop a better understanding of what students know and understand, and has more time to make personal contact with students (Jaques 2000:39; Race 2000:23; Reid et al 1989:12).

Group work also provides opportunities for feedback to both students (on the work being done) and to staff (on how they might improve their approaches to group work) (Unsworth 1976:30). When students work together in groups, they also share resources and this could save on the amount of resources needed by students, e.g., library books, computer terminals, laboratory equipment, etc. (Gibbs 1992b:18).

Group work does not only have advantages for students but also for lecturers: It decreases the lecture load of lecturers while the marking of products from group work saves a lot of time in comparison to marking the work of individual students, and students who work in groups tend to be more independent and therefore need less supervision from the facilitator (Gibbs 1995a:5; Sobral 1998:5). Lecturers can also make group-work sessions more interesting than lectures (Race 2000:23). Group work could thus motivate lecturers to be better teachers (Rudduck 1978:6).

"It thus appears that groups are demonstrably valuable for many of the more sophisticated aims of higher education to do with critical thinking, making diagnoses or decisions, solving problems, and changing or maintaining attitudes to the subject under study" (Jaques 2000:37). Group work offers the opportunity for students to develop personally in terms of self-worth, motivation and inter-personal relations, but also academically in terms of higher-order skills and deep learning. Students working in groups also acquire skills and attitudes essential to becoming competent, professional employees after graduation.

2.6 DISADVANTAGES AND LIMITATIONS OF GROUP WORK

Rae (in Crosby 1997:6) indicates five barriers that exist to self-learning by students, which could cause them not to like group work, viz., perceptual, cultural, emotional-motivational, intellectual and environmental factors. Crosby (1997:8) suggests that faculties should act upon feedback from students on group work to overcome this barrier. Students should also be trained properly with regard to the use of group work as an instructional tool.

Another problem with group work is the fact that students often feel that they do not learn anything through doing group work. This could be overcome by defining the goals for sessions clearly and by providing feedback on what students have learnt during a particular session (Crosby 1997:8). When students work individually, it is easier to pace their own learning and to apply their own personal level of commitment, without being influenced by the rest of the group. Students working within groups may also lose their individual choice due to the fact that the majority decision within a group is usually made and followed. When students learn individually, they learn every aspect of a certain topic from all the different angles, whereas students learning within groups usually learn only the parts that they were responsible for during group work (Gibbs 1995a:6). There is often not sufficient time during group work to cover the entire syllabus (McNally 1994:115).

Furthermore, some good students may be dragged down by poor students and then end up doing a lot of extra work to compensate for their weaker colleagues (Gibbs 1995a:6). Students might also experience difficulties with other group members who are not committed to the group, or who might have a negative attitude, or who dominate the group (Grant 1994:130). Students could also have difficulties in defining goals, managing time and ensuring an equal and fair workload amongst the students (:132). A few more problems which could be encountered during group work include one or two people dominating the discussion, a group that wanders off the point during their discussion, and sub-groups that form in a silent non-responsive group (Jaques 2000:40). Gibbs and Habeshaw (1989:81) suggest that the specific technique used for a group-work sessions could solve many of these problems. Other factors which could lead to problems being experienced within groups include unclear or unrealistic goals, a lack of interaction, conflict within the group, and poor motivation amongst the group members (Steinert 1996:206). Wrong attitudes toward group work and personal needs might also prevent students from doing group work effectively and successfully (Napier & Gershenfeld 1983:4).

Students may experience difficulties in making a contribution towards group work, especially in finding the balance between talking and listening (Rudduck 1978:12). They often do not contribute due to a lack of knowledge, which results from failing to prepare for group-work sessions, and it is then often expected from the lecturer to provide the solutions or answers to the assignments (McNally 1994:115; Rudduck 1978:12; Wilkinson 1994:158). The question

about the extent to which the freedom of an individual could be allowed to interfere with the rights and liberties of the group, remains unanswered (Nicholls 1994:164).

The skills of the lecturer and facilitator involved with group work influence the success of group work to a great extent: Since most staff members are used to traditional instructional methods, the skills needed to design effective group-work sessions and to facilitate these sessions, often need to be developed through training sessions (Ledingham & Crosby 2001:76). For example, facilitators often face a dilemma as to how far they should intervene to manage the group activity in order to maximise the advantages of group work and to protect individual students from shortcomings of their fellow group members (Nicholls 1994:164). The potential success of group work could also be seriously affected by the amount that facilitators talk during group-work sessions, and this could possibly be overcome by using problem-solving methods (Brown & Atkins 1988:53). However, facilitators do not like having to keep quiet and often find it difficult to keep a discussion going (Jaques 2000:40).

Gibbs (1995a:6) stresses that not all work to be learnt by students is suitable for group work, and it might be necessary to use alternative instructional methods for certain aspects of the syllabus. Group work could also be misused and subsequently become inappropriate (Steinert 1996:203). Poor design and structure, as well as poor management by the facilitator may also contribute to it being ineffective. Students may be intimidated by having to work with other students. Lecturers are also seldom expected to work in a co-operative fashion with their colleagues and therefore they themselves might not have these important skills which they expect students to develop (Gregory & Thorley 1994b:180; McNally 1994:115). Crosby (1997:7) argues that staff members lack the skills to teach in small groups due to insufficient staff development sessions. Due to the fact that students take more responsibility for their learning, staff might also feel less in control of the students' learning (McNally 1994:115).

Another very common problem encountered with group work is the accuracy of the assessments of the group versus the individual members. Gibbs (1995a:3) argues that some of the most frequently encountered problems with group work are the fact that students are still being assessed individually and that few rewards exist for good team work skills. A few other difficulties with the assessment of group work include the fact that students' performance is often affected (inhibited) by assessment, the difficulty to find fair grading systems for group

work and the fact that talkative students usually receive better grades than the other members of a group (Nias 1993:155) (cf. 4.6.8).

Logistical problems associated with group work include complicated timetables, limited staff contact hours and problematic room allocations (Ledingham & Crosby 2001:76; McHardy & Henderson 1994:146). The costs of group work in terms of the time needed for preparation and assessment of group work could affect it negatively. Gregory and Thorley (1994b:180) warn against group work being used solely to save staff time. They note further that lecturers have to be careful not to overload students during group work, since the time spent on assignments within groups can be easily underestimated. There are also more costs involved with group work due to the higher teacher-student ratio in comparison with traditional teaching techniques (Steinert 1996:203). These costs include a tremendous amount of resources which is necessary for successful group work, including the number of teachers necessary and the availability of appropriate venues for group work (Crosby 1997:7). Tutorless groups could be used when not enough staff is available to act as facilitators for group work (Gibbs 1995b:29). However, Neville (1999:400) argues that not many studies have been conducted to compare the outcome of group work with or without facilitators. Careful timetabling to provide for several groups to do group work simultaneously and the use of group-work methods which foster independence amongst the students could also help to overcome this problem. On the other hand, although there are considerable starting costs involved with group work, (e.g., providing extra resources), it might be cost-effective on the long term (Gregory & Thorley 1994b:180).

2.7 PRINCIPLES OF GROUP WORK

The development of group-work skills does not come spontaneously and therefore a particular plan of action needs to be designed to provide opportunities for this. Fischer (in Cuthbert 1994b:90) described five steps to accomplish this, viz.:

- Establishing a supportive learning climate;
- Setting goals and assessing learning needs;
- Planning, action and implementation;
- Monitoring the progress; and

- Evaluate and reassess the original goals.

According to Jaques (2000:288), the following principles should underlie any group work activity:

- The whole person should be emphasised in terms of thinking, feeling and behaviour.
- Behaviour and skills should be practised and developed through constructive feedback and guided experience.
- A 'here and now' approach should be followed because students are assisted in their learning and the monitoring of their skills.
- The fact that each person has unique styles, needs and perceptions of the world, should be accepted.
- More emphasis should be placed on the "social self," rather than the "inner world" of students who participate in group work.
- A mixture of challenge and support is best for personal change and growth.
- Although the primary objective should be that of developing skills, it should be seen against the background of attitudes and values of students.

The role of the mentor or facilitator is of the utmost importance for the success of these aspects. These principles should therefore be incorporated into the objectives and outcomes of group work.

2.8 TYPES OF GROUP WORK

When groups exist for a long period of time with the purpose of co-operative learning, they are called "base groups" or "home groups" (Coelho 1994:68-78; Tucker et al 2003:175). Task-based group work implies that the group meets to complete a specific task, e.g., a project, laboratory experiment or a report. The final product of the group work is therefore as important as the learning that takes place within the group (Cuthbert 1994b:89). Several terms are used in the literature to refer to groups working together to complete a task, e.g., action learning sets, task groups, project teams, formal learning groups and co-operative learning groups (Boschee

1989; Cranton 1996:26; Cuthbert 1994b:89; Davis 1993:147; Gibbs 1995a:7; Tucker et al 2003:53).

Some groups are formed with the explicit aim of developing students' skills for, and knowledge about, group dynamics. These groups are often called self-development groups, learning teams, learning groups, or collaborative learning groups, and are often formed during the first study year (Cranton 1996:26; Cuthbert 1994b:89; Gibbs 1995a:7; Jaques 2000:253). Lecturers could also form groups to learn how to observe and reflect on the group process, which are then called training groups or T-groups (Jaques 2000:10).

Groups could sometimes meet for a short period of time, purely to discuss a certain topic, rather than doing a task. They are then called informal learning groups, telling groups, sharing groups, or transformative learning groups (Boschee 1989; Cranton 1996:13; Davis 1993:147; Reid et al 1989:13; Tucker et al 2003:53). The latter term implies that opportunities are provided for individuals to explore new ways of seeing the world through participation in the group (Cranton 1996:26). This type of group work encourages students to take responsibility for their own learning, and could assist students with the development of higher-order thinking skills and therefore the assignments should be structured so as to shift students' thinking from convergent to divergent thinking (Boschee 1989). Problem-oriented group work is an approach where problems are used as a stimulus for group work so as to assist students with developing problem-solving skills (Gibbs 1995a:27).

Groups often meet without a facilitator being present all the time, especially due to insufficient staff numbers. These groups are called leaderless groups, peer group teaching, or peer-tutoring teams (Brown & Atkins 1988:52; Gibbs 1995a:7; Rudduck 1978:98). A few advantages of this type of group work are mentioned in the literature, including the fact that students have more confidence to participate, feel less threatened to acknowledge their ignorance without the presence of a facilitator, and take more responsibility for their own learning (Brown & Atkins 1988:52; Tiberius 1999:101). Facilitators also tend to talk too much when they are present all the time during group meetings (Rudduck 1978:98). Some disadvantages include the fact that students often do not explore a topic thoroughly without a facilitator or they are uncertain about whether they are correct in their discussions. Students often do not attend these sessions or waste their time when they have not prepared for the particular session (Tiberius 1999:102).

Students could also provide valuable support to one another through group work, especially when meeting after-hours. Several terms refer to these groups, e.g., learning teams or study teams (Bochner, Gibbs & Wisker 1995:19; Davis 1993:147).

It is thus clear that different types of group work can be used for different purposes, including the following: For the development of students' team working skills and to learn about the group process, to support students and meet their needs – often without a facilitator, to assist students in their learning through providing opportunities for the development of higher-order thinking skills (e.g., problem solving), and finally, for students to complete a specific task or assignment. Groups often exist for more than one purpose at a time and most often, learning, support and developing teamwork skills are all part of the motivation for using group work in an educational set-up. As far as learning through group work is concerned, group work is often divided into task-based and problem-oriented group work. For these purposes, groups often exist for relatively long periods of time, although groups could be formed for a shorter time and then for a specific purpose, e.g., to complete a laboratory experiment or to discuss a certain issue in the form of buzz groups.

2.9 METHODS OR TECHNIQUES FOR GROUP WORK

Although the investigation of methods for group work is a study in itself and not the main purpose of this study, a brief discussion of the different methods which could be used for group work is in order. It is, however, impossible to discuss all the different methods, since more than a hundred have been described in the literature (Bligh 2000:189). What is important, is to realise that "the variety of small group discussion methods should be introduced in a developmental sequence, both because students can only develop their thinking skills gradually and because they need to develop the skill of how to interact in groups" (Bligh 2000:189). This argument of Bligh is based on the assumptions that students need to learn to think, that complex thoughts develop on simple ones and that one learns to think when trying to answer questions in discussion. In order to achieve outcomes in all the different contexts of learning, it is necessary to use different methods of discussion, which implies group-work methods. To implement the developmental sequence, Bligh (2000:192) suggests that one "*[s]tart with simple tasks in small groups for short periods of time, and then gradually increase their respective complexity, size*

and duration." This implies that certain methods such as buzz groups are ideal methods to start with, whereas free group discussions, seminars and tutorials would typically be more useful after some time because students meet for longer periods of time and the group tasks are typically more complex. Bligh (2000:192) also emphasises that one should return to the earlier methods even when the more complex methods are being used, since different objectives are obtained through the different methods, and by doing this, one prevents group work from becoming dull. On the other hand, some methods tend to be more teacher-centred and structured, such as tutorials, where as others are student-centred and more unstructured (e.g., free discussions, buzz groups, etc.) (Ledingham & Crosby 2001:76).

Jaques (2000:149) also argues that a variety of group-work techniques should be used for the following reasons:

- Students' learning styles and their approach to learning may vary;
- Students need a variety of stimuli and experiences;
- A change in students' relationship with knowledge and the facilitator is necessary as students develop intellectually and emotionally;
- A wider range of aims could be reached through using a variety of methods;
- Students develop a better understanding of the ways in which life works through being exposed to a variety of methods;
- Lecturers need to have a repertoire of methods at hand and be adaptable because it is impossible to predict the way in which teaching or learning could go; and
- Evaluative feedback is easier because students do not connect a certain method to a specific lecturer or facilitator.

Apart from the students, lecturers and facilitators also need variety to keep them interested and involved. Group work allows for a vast variety of methods which could be used to keep sessions interesting and meaningful to both students and staff (Steinert 1996:205).

The following methods are the most important ones suggested in the literature, which could be used for group-work sessions. The first few are tutorless, although the facilitator has strict control over what is discussed:

2.9.1 Buzz groups

Jaques (2000:113) argues that, in itself, this method has little meaning, although it could, if timed correctly, provide a stimulating break to change the focus of attention. It could also provide an opportunity for lecturers to realise what the students know and for students to identify areas of learning which they do not understand. A lecture is typically interrupted and students are instructed to discuss a particular issue in pairs (dyads) or triads for a few minutes. Bligh (2000:204), on the other hand, asserts that this method is fundamental for the development of small group teaching, because a wide range of objectives can be achieved through the method. It provides feedback to both students and lecturers, maintains students' attention, fosters a cohesive class spirit, and gives the lecturer a breathing space. It could also be combined with many other group-work methods. To prevent the feedback from becoming monotonous, the lecturer could sum up the findings from the different groups which he/she observed during the discussion, or each group could be asked to offer one point that resulted from their discussion.

2.9.2 Cross-over groups

Each member of a group receives a code which could either be a number or a colour. All students with the same coding form a new group to discuss a topic or issue related to the session and return to their original groups to report back on what has been discussed. Jaques (1991:86) suggests that, for this method, the number of members in each group should be the equal to the square root of the total number of students who participate. This method is especially useful for a new group of students because it provides an opportunity for them to get to know one another. Since each member of the group has been involved with a discussion with another group, everyone gets the opportunity to report back to the original group. This type of reporting back is more likely to stimulate discussion and questioning than many other techniques (Gibbs 1995b:13). A variation of the technique is the Jigsaw method, based on the work of Slavin (in Jaques 2000:120): The class is divided into groups and each group of students prepares for a discussion on a particular topic to become "experts." The class is then reorganised into new groups, consisting of one person who is an "expert" in each of the different topics, teaching the other members of the group about the specific topic. This method could be very useful in "content-dense" disciplines such as medicine (Smith 2000:32).

2.9.3 Dyads

This is the smallest type of group one could find and this method could be useful as ice-breakers, to teach students listening skills, reasoning skills and to develop interpersonal trust. This method, however, is not suitable for developing creativity or skills to deal with criticism (Bligh 2000:199).

2.9.4 Five minutes each way

This method probes students to confront the limits of their understanding and to follow arguments through a bit further than normal. Two students are involved in a discussion, of whom one is the speaker and the other the listener. The listener may not interrupt the speaker until it's his/her time (e.g., after five minutes), unless the speaker drifts off the point of discussion. This method is useful as an introduction to a session or to use at the end as a summary of the learning that took place during a session (Gibbs 1995b:19). This method could also be implemented as three minutes each way (Jaques 2000:114).

2.9.5 Snowballing/Pyramids

This method could be used when a lecturer wishes to determine the level of students' development and understanding on a certain topic. Students start off discussing the issue in pairs, and two pairs join after a certain time (to form a group of four persons). These groups meet with another four-person group and the process is repeated until the entire class meets to discuss the issue. This method is a non-threatening method to engage all students in the interaction while the lecturer facilitates the discussion (Crosby 1997:10). Although it encourages students to think before they discuss an issue, it could take time to unfold and could break the cohesive feeling in some groups of students (Jaques 2000:114). It also accelerates the group size rather rapidly, which could be problematic when students are not used to group work. On the other hand, this method is useful for large classes, especially to help students introducing themselves to others (Bligh 2000:202). Gibbs (1995b:11) warns that this method could become dull if it is used repeatedly without variation in its structure.

2.9.6 Horseshoe groups

The name of this method refers to the arrangement of the tables and chairs so that all groups sit in a horseshoe shape with the open end towards the facilitator. This provides an opportunity for the facilitator to elaborate on difficult issues or provide feedback to the discussion to the entire class, but still be able to circulate between the groups while they discuss problems related to the topic. However, the facilitator has little control over the amount of interaction and the participation of each student in such a set-up (Jaques 2000:123). It is, however, very useful for developing reasoning, problem-solving and decision-making skills, as well as the creativity of students. It provides a wider range of resources to students than methods such as buzz groups. However, the success of the method is dependent on suitable furniture arrangement (Bligh 2000:214).

2.9.7 Rounds

Rounds involve a group of students sitting in a circle and taking turns to speak briefly. It works best at the start of the session since it encourages students to get involved in the discussion (Gibbs 1995b:8).

2.9.8 Circular interviewing

Students sit in a circular group and each one gets the opportunity to interview the person opposite briefly. Thereafter they swap roles, and this process rotates one place around the group until all members had an opportunity to interview and be interviewed. Students therefore learn to both ask and answer questions, although it could be time-consuming (Gibbs 1995b:9).

2.9.9 Fishbowls

This method implies that a small circle of students participate in a discussion while the rest of the class listen to the group, forming an outer circle around them. Someone may replace a student from the "fishbowl" from the outer circle at any point of discussion. This method is very useful for a large group of students (Gibbs 1995b:12).

U.O.V.S. • U.O.F.S.
BLOEMFONTEIN
BIBLIOTEEK • LIBRARY

1174031 3X

Another variant of this method is videoconferencing where one facilitator assists four to five groups of students – the "inner circle" – discussing a case study, while the rest of the class, the "outer circle," observes the process. This method encourages a deep approach to learning and increases the understanding of the study material amongst the students (cf. Peplow 1996).

2.9.10 Line-ups

Students are asked to indicate the position in a line which represents their views on a controversial topic. They thus have to negotiate their positions in the line with fellow students (Pastoll 1992:49). The role of the facilitator is to define the line and the dimension of views. This method is quick and very useful for large groups of students (Gibbs 1995b:18). It is also appropriate for students who do not know one another well.

2.9.11 Nominal group technique

Students work individually on a problem or a task for a few minutes, and thereafter each member has to present one solution to the rest of the class. All solutions are summarised on a flipchart or blackboard and once everyone has had the opportunity to contribute, the process is repeated until all ideas are summarised. Students then discuss these solutions in their groups by evaluating each one, discarding some and even adding new ones. Brainstorming thus forms the basis of this method (Race & Brown 1998:87). This method is useful for engaging all students from the beginning and for students to get to know one another. Care should be taken to frame the students' ideas in the context of the actual topic under discussion and the rest of the course (Bligh 2000:197). The benefits of the method include the fact that students can express themselves freely and without pressure to conform, and that a wide range of ideas is generated in a short period of time (Jaques 2000:126).

2.9.12 Peer tutoring/co-tutoring

This method involves learners (usually pairs) helping each other with or without the supervision of a facilitator (i.e., member of staff). There are many ways of applying this method, but the most common way is for a more experienced learner to be paired with a more junior student in a specific subject area. The main focus of the co-operation between different students is to

support each other's learning (Sobral 2002:1064). A few other ways of applying this method include self-directed student groups, learning cells or senior students who act as seminar leaders for more junior students. The senior students may be given recognition for their participation by giving them academic credit or payment in financial terms. It is of the utmost importance that these student tutors receive proper training regarding their role as tutors (Bochner et al 1995:23). Although this method enhances students' academic and social skills, they not only need proper training, but also constant supervision by lecturers so as to ensure the success thereof (Jaques 2000:144). The method could also be used within a large class to assist students tutoring one another, which is an important way of learning (Bligh 2000:204).

Boschee (1989:49) also describes cross-age tutoring where the tutor is typically older and more advanced than the learner, and mentions that the computer could also be used as a tutor. However, it cannot replace the teacher.

The following few methods are also tutorless, but are based on procedures for specific tasks:

2.9.13 Brainstorming

Brainstorming is an ideal method of developing students' initiative and lateral thinking and is useful whenever creative solutions are sought. It consists of three steps, viz., generating ideas, clarifying ideas and evaluating and summarising ideas (Crosby 1997:13). Jaques (2000:127) argues that two principles underlie this technique, viz., "deferment of judgment" because criticism inhibits creative thinking, and "quantity breeds quality" because it is usually only by working through conventional ideas that original ones appear. One person should be appointed as recorder to write down all the ideas on a flip chart or board, for everybody to see, and thereafter ideas are summarised and evaluated (Gibbs 1995b:17). Certain rules for brainstorming exist, e.g., the ideas generated by members should not be evaluated or criticised, the wildest ideas possible should be included, as many ideas as possible should be offered, and ideas generated should be combined and used to form new ideas (Schwarz 1994:164).

2.9.14 Case studies

Case studies involve a problem to be studied in its real-life form and therefore complex issues can be included in the problem. One of the advantages of this method is the fact that a variety of subject matters can be incorporated in such a case study. It therefore encourages a "big picture" approach amongst students, although it usually requires some sort of prior experience or knowledge from the students. It is also demanding to hold together such a discussion and can be time-consuming (Jaques 2000:141). This method is especially useful for clinical cases in medical education (Steinert 1996:205).

Students need some experience in basic small-group methods (such as buzz groups) before they can benefit from case discussions. Case studies also take much time to prepare, and it may be that the benefits of this method do not justify the effort involved in its preparation. However, important skills are obtained through this method and it should therefore be used with discretion (Bligh 2000:227).

A study conducted by Forbes, Duke and Prosser (2001) showed that a case-based approach, through its integration of theory and practice, prepares students the best for clinical practice. Although their study involved nursing students, the same could well apply to medical students.

2.9.15 Video supported group work

Case studies do not necessarily have to be "paper cases," and video presentations can also be used as triggers for discussion and problem solving. In medical education, case studies could be presented to groups of students by using videos that simulate a patient consulting a doctor. The students then have to compile a problem list, make a differential diagnosis of the case and list investigations which they would do to confirm the diagnosis. The facilitator is mainly passive during such a group-work session and several learning processes are involved in this method, including formulation of a working hypothesis and clinical reasoning (Dequeker & Jaspaert 1998:384).

2.9.16 Problem-based learning

Although some authors do not regard problem-based learning (PBL) as a group-work method, but rather an educational approach, PBL is a commonly used group-work approach at many medical schools. The entire learning process is centred around a problem, and the process of solving the problem could consist of five or seven steps (cf. 2.10). The group of students receives a problem to analyse in order to determine their learning needs. They consult resources in their own time (self-directed research) to fulfil these learning needs and meet after a certain time within their groups to discuss the material researched. During these sessions they integrate the learning that took place while the teacher facilitates their discussion. Appropriate triggers should be used in the problems to stimulate students' interest and the success of this method depends strongly on the amount of preparation, as well as the attendance by students (Kwizera, Dambisya & Aguirre 2000:67).

Brown and Atkins (1988:53) assert that when problem-solving methods are being used, students contribute the most. Follow-up or feedback is essential to the success of problem-based modules. Therefore, evaluation should take place during which conclusions are drawn and the success with which the learning needs have been met, should be determined (Barrows 1994:40; Crosby 1997:13).

2.9.17 Syndicate groups

Groups of students meet together without the supervision of a facilitator and produce a report or make conclusions regarding a certain piece of work. This method decreases the dependence of students on the facilitator and is commonly used for postgraduate students, although it can also be used during undergraduate education (Abercrombie 1977:17). The boundaries of the learning are partly defined by the lecturer because he/she formulates the questions or assignments for the groups to complete. However, the success of the method depends on the availability of resources during a group-work session (Rudduck 1978:102). Syndicate groups tend to be more task-oriented, rather than purely discussion groups and several groups can meet at one time in one place (if the venue is large enough), with one facilitator moving around between the groups (Gibbs 1995b:11).

2.9.18 Projects

Jaques argues that a project involves a novel educational strategy because students are responsible for the direction and range of the work which they learn, and this could often go beyond the expertise of the involved facilitator. Students are usually responsible for choosing their own topic and direction for the project, have to devise a plan and eventually find solutions to the problem. However, projects offer the opportunity for students to develop skills which they might not learn in another way, especially the handling of real-life problems (Jaques 2000:146). Heimlich (1996:45) argues that a creative presentation of the project should be an essential component of a project, although this could be affected by time constraints and the guidelines given to the groups by the lecturer. A short presentation of a project could also develop students' presentation skills and students do not only learn from their own presentations, but also those of other groups and therefore a transfer of knowledge takes place between students, rather than between the teacher and the students (cf. Ladage & Crone-Kraaijeveld 1997).

Although Bligh (2000:228) regards syndicate groups and group projects as similar methods, using projects clearly develops students' ability to find information and their research skills, which is not the case with syndicate groups.

2.9.19 Role-play

Barlow, Blythe and Edmonds (1999:14) note three functions of role-play: Firstly, it helps individuals learn new behaviour, secondly, it develops empathy amongst group members, so that individuals understand why other persons react the way they do, and thirdly, it is useful to assess how a person would react in a particular situation.

During role-play, students enact a certain scenario by taking on various roles. This is governed by the implicit rules of everyday life (Jaques 2000:133). Students develop skills through role-play and even through role reversal, which they can then use in the working environment (Reynolds 1994:19). It is a valuable method of exploring students' attitudes and developing their communication skills. Role-play is especially valuable in medical education, since the doctor-patient situation could be explored in various scenarios, e.g., breaking bad news. It is

important that students understand the roles they are to play and that debriefing and de-roling take place afterwards (Crosby 1997:14). "Feedback from the observers is crucial to the success of a role-play, because the intended outcome is understanding different ways of thinking or feeling" (Heimlich 1996:45).

There are many forms of role-play, e.g., a daytime "talk show" involves a group of students discussing a controversial topic, while the rest of the class acts as the "audience," asking questions (Davis 1993:135).

Bligh (2000:231) suggests that no more than three students should be involved in a role-play at a time because students first need to deal with their fears for interpersonal interaction, before they become part of larger groups.

2.9.20 Poster tours

Students could present the outcomes of their discussions, projects or laboratory work in the form of a poster. One member of the group defends the poster and answers questions from other groups' members, while the rest of the group takes a tour through the different posters. This method is especially effective where experimental or laboratory work are involved (Gibbs 1995b:13).

2.9.21 Debates

Debates provide an opportunity for large groups of students to participate in a structured discussion. Although the facilitator is not actively involved during the debate, important preparation and briefing of students must be done beforehand (Gibbs 1995b:14). Typically, a controversial topic is used for this purpose (Pastoll 1992:53).

The following group-work methods specifically involve the facilitator in the discussion, even if it is only during the feedback:

2.9.22 Tutorials

Tutorials are opportunities for students to critically probe the subject matter under discussion. It is essential that they prepare for the session, and the questions asked may be determined by the lecturer, or by the students themselves (Crosby 1997:9). Tutorials therefore provide an opportunity to clear out misunderstandings amongst students (Jaques 2000:97).

Tutorials also provide opportunity for better interaction between students and the lecturer and therefore groups should consist of five or less students (O'Sullivan et al 1996:28). Laing (1976:17), on the other hand, notes that, although the size of the group could vary from one to twelve, the optimum size is probably between seven and nine.

The role of the facilitator is to act as consultant when necessary (Nias 1993:70). Some skills that facilitators would need during tutorials include listening skills, orientation skills (e.g., redirecting or focusing the discussion), questioning, interpreting students' opinions, as well as reflecting on and summarising what has been said (Bligh 2000:240).

2.9.23 Seminars

Seminars develop students' critical discussion, presentation and research skills. They typically receive a topic to research, discuss and present to the rest of the class within their groups. It is important that sufficient resource materials be available for all groups to use. Adequate time should also be allowed for feedback to the groups (Crosby 1997:10).

The size of a seminar group is usually between 12-20 students per group, so as to allow students to be actively involved in their learning (O'Sullivan et al 1996:28). Jaques (2000:94) suggests a group size of 8-20 students per group. He also warns that seminars could easily end up in a mini-lecture (:97).

Bligh (2000:256) warns against using the seminar method too early in the course when students are not yet prepared, because one might end up with many silent students. Facilitators should also guard against making the topic for discussion too prescriptive, since it could restrict students too much and seminars may become boring.

2.9.24 Free/associate discussion groups

Controversial or sensitive topics could be used as a stimulus for students to explore their own values and feelings. The form of the stimulus could range from newspaper articles, video clips or written scenarios. Students are allowed to discuss the issues freely within their groups, and although the facilitator summarises the session at the end, no clear resolutions should be expected on the issues discussed (Crosby 1997:11). Students could also summarise the issues discussed, themselves (Walton 1997:459).

The purposes of this method include opportunities for students to become aware of preconceptions, to discover other people's patterns of thinking and perception, and to provide the opportunity for individuals to change their own attitudes (Bligh 2000:257). This method promotes intellectual growth and provides for greater flexibility in the learning process, but learning that takes place is often difficult to assess with traditional methods and facilitators may often find their role in this technique difficult (Jaques 2000:111).

2.9.25 Socratic dialogue/method

This method provides for controlled discussion amongst the students and teaches students to think and not merely memorise the work (Zander 1994:147). The facilitator controls the discussion by asking specific questions to the students (Jaques 2000:108). The students are therefore presented with a succession of questions or problems which should guide them towards gaining knowledge or insight (Whittaker & Scheiman 1996:117). They are thus encouraged to think and not merely memorise everything they need to know (Zander 1994:147). Socrates himself (cited in Bess 2000a:241) argued that "people with specialized knowledge and skills are the best sources of "opinion" about a particular domain, and lay people (for example, students) can learn by questioning them to test their wisdom." Brinton et al (1984:17) also argue that "many medical educators will not be successful with small groups unless they are first trained in the Socratic method.... Students too, must be trained in the values of the Socratic method." However, Tiberius (1999:108) warns that misuse of the technique through inappropriate questioning could inhibit students' contributions.

2.9.26 Games and simulations

"The word *game* is usually taken to describe a group exercise in which players co-operate or compete towards a given end within a regime of explicit rules.... A game becomes a *simulation* when a scenario is provided – it thus constitutes a simplified representation of life" (Jaques 1991:102). Games therefore provide an opportunity for students to experience and share elements of chance, competition and reward. The difference between simulations and role-play thus exists in that role-play involves an audience role and focuses on affective relationships, whereas simulations involves everybody in the action and focuses on the outcome (Heimlich 1996:45).

Games and simulations are becoming increasingly popular methods for group work because experiential learning takes place. The ideal would be for these methods to reflect the profession which students are trained for. The teacher may act as a facilitator or even a player and a debriefing session should be conducted afterwards (Crosby 1997:15). Although these methods could retain high levels of interest and motivation amongst the students, they tend to be time-consuming and learning could be unpredictable (Jaques 1991:106). However, games and simulations develop students' communication, decision-making and problem-solving skills and integrate learning across disciplines (Jaques 2000:134).

Davis (1993:137) argues that, although simulations influence students' motivation and involvement in their learning, this method is not more effective than conventional methods for achieving cognitive outcomes, and should therefore only be used in addition to other methods.

2.9.27 Clinical teaching

This is an extremely important method used during the clinical training of medical students. The teaching could take place around a patient's bedside or in a clinical skills centre. It could even be outpatient- or community-based (Ledingham & Crosby 2001:77). The lecturer or facilitator has an important role to play since he/she should choose a relevant patient for the specific session, should determine the objectives of the session and should keep the students' level of education in mind during such a session. Students' cognitive, affective and psychomotor skills are developed through this method (Crosby 1997:16).

2.9.28 Training groups and sensitivity groups

The purpose of these groups is to learn about the group process and interpersonal interaction. This method provides a way of "learning about groups by being in one" (Reynolds 1994:20). This might enhance self-awareness of an individual, since the perspectives of others are added to the person's own perception. The discussion amongst group members involves the different group processes, e.g., how groups behave. The facilitator usually acts as a member of the group and ensures that members contribute freely and that support is provided to the group when necessary. However, this method is not very commonly used in an educational set-up (Bligh 2000:264).

2.9.29 Synectics

"The term 'synectics', meaning the joining together of different and apparently irrelevant elements, applies to the integration of diverse individuals into a problem-stating and problem-solving group" (Abercrombie 1977:34). Jaques (2000:128) describes four psychological states that students have to experience in order to solve the problem, viz., involvement and detachment, deferment, speculation and hedonistic response. "These psychological states are induced through a series of 'operational mechanisms' that serve to 'make the familiar strange'... or 'making the strange familiar'" (Jaques 2000:128). The operational mechanisms include personal analogy, direct analogy, symbolic analogy and fantasy analogy. Although this technique stimulates creative thinking because problems are solved through analogies and metaphors, it demands considerable time and skill, and is therefore not often used in the higher education set-up (:131).

2.9.30 Computer-mediated discussion

In this method, communication takes place via electronic mail or a Web bulletin board or chat room. Students therefore respond and participate in their own time and this method could encourage students who find face-to-face discussions difficult to participate actively. The role of the facilitator is crucial, since individual members could easily "fade away" and specific interventions might be necessary on a regular basis (Jaques 2000:145).

Any type of discussion provides the opportunity for students to develop their ability to express themselves, to justify opinions, to listen and to tolerate different views. Other discussion methods include panel discussions, forums, symposiums, workshops, field trips, etc. (Heimlich 1996:44; Leypoldt 1967). Brown and Atkins (1988:53) assert that, when problem-solving methods are being used, students contribute the most.

Therefore, different methods provide for different types of groups, e.g., buzz groups, horseshoe groups and syndicates are small, tutorless groups which focus on a specific problem, whereas tutorials and seminars could be regarded as teacher-centred group-work methods where the main focus lies on cognitive development. Student-centred group-work methods include free discussions and role-play, and these methods provide for affective learning and interaction, while the facilitator remains mainly non-directive (Bligh 2000:164).

Certain methods are more applicable for small groups of 2-5 members, e.g. buzz groups, five minutes each way and peer-tutoring, whereas other methods are more suitable for larger groups (8-40 members), e.g., line-ups, brainstorming, and circular interviewing. Some of the methods also provide for inter-group processes, e.g., fishbowls, pyramids, cross-over groups and syndicates. It is therefore important that lecturers and facilitators not only be aware of the different methods, but also of the outcomes which could best be met by the different methods.

2.10 EXISTING APPROACHES TO GROUP WORK

This researcher could not find any definite models for group work in the literature. Although many books have been written on group work in higher education which address the different aspects of group work, none of them suggests a specific model for the implementation and practice of group work. The only attempt that was found for explicit guidelines towards group work, is a model for group effectiveness described by Schwarz (1994:20), but this model only addresses certain aspects of group work. Problem-based learning (PBL) is also a well-described, definite approach to group work, but group work in this regard features as specific steps towards solving a problem. Nevertheless, PBL is the only specific approach towards group work currently found in medical education, and thus a brief discussion of PBL is justified and follows next. Hybrid approaches (which include group work, lecturers and other

instructional methods such as practicals) to medical education also exist at different medical schools, but none of these approaches have explicit guidelines for group work (cf. Chapter 3).

2.10.1 Problem-based learning

Some authors regard PBL as "one of the most important developments in health professions education" (Davis & Harden 1999:130). Barrows at McMaster University first developed PBL in the 1960's and since, much controversy has occurred concerning its proper application in medical education. Issues regarding its relevance in traditional medical schools, the role of the teacher, and the organisation thereof, are some difficulties encountered with PBL (Davis & Harden 1999:130).

Because PBL is such a prominent topic of research as far as small-group learning is concerned, it seems appropriate to elaborate on this issue for the purpose of this study. However, since it is such a well-researched topic, properly examining PBL could easily require a complete study of its own, and therefore only aspects appropriate to this study will be briefly mentioned.

2.10.1.1 Definition of problem-based learning

Problem-based learning has been defined in various ways by different authors. Some regard it as an instructional method, and some as an educational approach (cf. Charlin, Mann & Hansen 1998). However, two aspects are universally accepted regarding PBL: Firstly, it is centred around a problem, and secondly, it is a student-centred approach. Therefore, problems are used as the centre or starting point of students' learning and by following certain steps, students determine their own learning needs and eventually find solutions to the problems (Bligh 1995:342). These problems are presented to students without prior study (Barrows 1983:3079). Students therefore have two objectives, viz., solving the problem and learning related to the problem (Davis & Harden 1999:131).

Many controversies exist regarding the definition of PBL, which could range from a rigid definition (as used by Maastricht and McMaster universities), to suggestions that it could mean anything which includes problem solving. Harden and Davis (1998) suggest a possible solution to this problem by proposing a continuum of PBL (cf. 2.10.1.10). However, most authors agree

that PBL "challenges students to 'learn to learn,' working cooperatively in groups to seek solutions to real-world problems" (Smith 2000:38).

It is at this stage important to distinguish between PBL and a problem-oriented approach: With PBL, the problem forms the starting point and basis of the learning experience, and implies that "students deduce what it means and what learning they must undertake to understand it" (Neame & Powis 1981:890). In a problem-oriented approach, students are first presented with learning material and outcomes, which is then followed up by a problem in which what they have learnt must be applied so as to arrive at the stated outcomes.

2.10.1.2 Rationale for using problem-based learning

Barrows (in Schmidt 1983) conducted a study to investigate whether PBL is a useful alternative to traditional instruction. He asked the question whether PBL could fulfil the three conditions of learning, i.e., the activation of prior knowledge, encoding specificity (learning in context) and elaboration of knowledge. He concluded that PBL could be used in addition to traditional teaching methods, or even be considered as an alternative approach due to the better learning opportunities which it provides to students.

Many outcomes of PBL are advantageous to students because it enhances their employability and ability to apply knowledge and skills in new situations. These outcomes, which could also be regarded as objectives of PBL (in a medical education set-up especially), include the following (Barrows 1986; Caplow et al 1997:440; Norman & Schmidt 1992):

- It develops problem-solving skills;
- It develops clinical reasoning skills amongst medical students;
- It enhances the acquisition, retention and application of knowledge;
- It narrows the gap between basic and clinical sciences;
- It improves self-directed learning skills amongst students;
- It increases students' interest in the subject matter; and
- It enables students to apply their knowledge in different contexts.

PBL is thus a very useful educational approach that involves small-group learning.

2.10.1.3 Features of problem-based learning

Davis and Harden (1999:131) suggest the use of the acronym "PROBLEMS" as a reference to the key features of PBL:

- Problems: The purpose is to structure the learning in a real or simulated task environment.
- Resources: Students should use available resources to find the necessary information for solving the problem.
- Objectives: Although the curriculum objectives should be available to students, they refine and expand them according to the specific problem.
- Behaviour: Students are confronted with clinical reasoning, judgment and decision-making and by working in small groups, they are prepared for the clinical practice.
- Learning: Learning takes place in context, and although it is self-directed to a large extent, it is monitored by the facilitators.
- Examples: Students are lead by examples to develop higher-order thinking skills.
- Motivation: The problem should be interesting and motivate students to discover knowledge.
- Self-directed learning and self-assessment: Through developing self-directed learning skills and self-assessment, students develop into lifelong learners.

Barrows (1986) asserts that there are many variations of PBL and although the common denominator amongst these variations is the use of a problem as a stimulus for learning, the different methods provide for different educational objectives. These variations include differences in the structure of the problem, the degree to which learning is directed and the sequence in which problems are offered and information acquired. Based on these variables, Barrows suggests six varieties in PBL methods, viz.:

- Lecture-based cases: A case is presented to the students after a lecture, and students are merely expected to understand the cases.

- Case-based lectures: Cases are presented to the students before a lecture to highlight the work being covered in the lecture to follow. Students therefore have to analyse the case by using prior knowledge.
- Case methods: A complete case is given to students as part of preparation for the next lecture.
- The modified case-based method: Problems are presented to students in small groups, but only a limited amount of cueing and inquiry is possible, since students usually do not know which additional information they would need to carry out a full and free inquiry.
- The problem-based method: This method allows for free inquiry with a teacher-guided evaluation of the problem afterwards.
- The closed loop or reiterative problem-based method: Students are expected to evaluate the sources of information they used and evaluate their prior reasoning and knowledge.

2.10.1.4 Principles of problem-based learning

Charlin et al (1998:324) name three principles underlying PBL, viz., that the problem serves as a stimulus for learning, that PBL is an educational approach and not a technique, and that it is learner-centred.

Norman and Schmidt (1992) studied the psychological basis of PBL and concluded that it could be useful for the acquisition of problem-solving skills because it provides the opportunity for students to acquire factual knowledge in context, to learn general principles which they can transfer in new situations, and to solve problems through pattern recognition from previous examples. They also note that students acquire factual knowledge through activation of prior knowledge, the elaboration of knowledge and matching contexts.

There are also a few instructional strategies that underlie PBL: Albanese (2000:733) regards co-operative learning as applicable in PBL because most problems are solved in a small-group format. Other strategies include the use of cases as the trigger for learning (case-based learning), independent research and learning by students (student-directed learning), and peer teaching (Caplow et al 1997:446).

2.10.1.5 Models of problem-based learning

Two models for PBL are well described, one with seven steps and the other with five steps. The seven-step PBL model is followed by many medical schools world-wide. Maastricht University of the Netherlands is one university that describes the seven steps in this model very well. The model consists of the following seven steps (cf. Schmidt 1983; Van Til & van der Heijden 1998):

1. Clarifying concepts: After each group of students has received the problem, they identify concepts that need clarification. These concepts are defined or explained so as to ensure that all students start dealing with the problem at a common level.

2. Defining the problem: The essence of the task is determined to establish the boundaries of the topic involved. Thereafter the problem is formulated clearly.

3. Analysing the problem/brainstorming: The existing knowledge of students is determined and as many solutions or hypotheses for the problem as possible, are provided by all members of the group.

4. Problem analysis/systematic classification: All explanations provided during the brainstorming are clarified and interrelationships between them are indicated.

5. Formulating learning objectives: The knowledge that is still lacking before solutions or explanations can be provided, is determined and learning objectives are determined accordingly.

6. Self-study: This step provides the opportunity for students to achieve the learning objectives determined during step five. It consists of several steps in itself, including scheduling (to make use of the available time efficiently), selecting resources of information, studying the resources and preparing a report on what has been learnt.

7. Discussion: Students meet again in their groups to discuss what has been done and achieved during the self-study time. During this step, each student reports back on what he/she has done, uncertainties are cleared out, additional information is obtained from fellow students and the sufficiency of the students' self-study efforts is determined.

The role of the group leader is essential in a problem-based learning set-up. It does not only include determining an agenda for discussion beforehand, but also overseeing that all the different steps take place and that students all participate in the group discussions. Leaders also need to provide structure to the discussions, summarise learning objectives and conclude the seven-step process once the problem has been solved (Van Til & van der Heijden 1998:12). Group members need to take minutes of group discussions in order to summarise the outcomes of group meetings, provide and ask for information, listen actively and provide or receive feedback. Facilitators also have important roles to play in problem-based learning: They have to stimulate discussion amongst students and pay attention to the balance of contributions within a group. Probing questions could be asked and facilitators need to provide information when necessary, especially to explain difficulties or to correct mistakes. Facilitators also need to provide feedback to the group on the group process afterwards (:14-16).

Evaluation of problem-based learning sessions is of the utmost importance to ensure successful interaction and the development of proper skills by the students. The evaluation of these sessions consists of observing and analysing the interaction and providing feedback to one another so as to ensure better co-operation and more efficient discussions (Van Til & van der Heijden 1998:18).

Another model for problem-based learning describes only five steps in the problem-solving process (Crosby 1997:12):

1. First meeting: Students meet for the first time to set the scene for further discussion and problem solving.

2. Introduction of the problem: A problem is posed to the students and they identify their learning needs by analysing the problem.

3. Self-directed study: Students consult resources to research the identified learning needs in order to achieve the objectives. The facilitator should provide sufficient resources for this purpose.

4. Feedback session: The groups meet to discuss the material researched while the facilitator determines the groups' understanding of the material which had been studied. Further research might be necessary if learning needs have not been met.

5. Evaluation: Conclusions are drawn and students determine how successful they have been in identifying and meeting their learning needs.

These models have been adapted and applied in various different forms according to the needs of different medical schools.

In a typical PBL set-up, students usually work together in small groups of 4-8 students and they may work with or without a facilitator. Self-directed learning also forms an integral part of the process of PBL (Charlin et al 1998:327). As far as the presentation of the problem (i.e., the format), the resources utilised during sessions, the role of the facilitator and the assessment of PBL is concerned, many similarities exist between group work and PBL (Charlin et al 1998; Dolmans et al 2001; Lloyd-Jones, Margetson & Bligh 1998; Schmidt 1993).

Two "sub-models" in problem-based learning have been described, viz., the unstructured (U) model and the formal (F) model. In the unstructured model, students meet without the close supervision of facilitators to discuss their findings in groups of 4-6 students. These small groups have to present their findings to the larger group. "There is an expectation that 'debate within syndicates' clarifies and synthesizes student learning" (Kimber 1996:4). The formal model is closely supervised by facilitators who guide students through a series of "problem boxes." The facilitators act as process-advisors for the different groups of students. Kimber (1996:4) also notes that the U-model is more commonly used in Literature and Sociology of Education, while the F-model has been adopted by Engineering and Medical schools.

Reid et al (1989:18) suggest another model for group learning which consists of five stages, viz.:

- Engagement: Students receive background information on the topic in the form of lectures, video clips, reading, etc. The lecturer is responsible for providing this information. It is necessary for students to understand why they have to learn the particular topic, but also where the topic fits into the rest of the course.

- Exploration: Students explore what they already know and what they need to learn about the topic during this stage. The lecturer typically withdraws and allows students to explore within their groups. However, this stage should still be carefully monitored by the lecturer.
- Transformation: Group tasks are done by the students to provide the opportunity to reorganise, practise and use the information available on the topic. This typically takes place in a small-group format and the role of the facilitator during this stage is to monitor the learning that takes place, provide additional information and correct any misconceptions amongst the students.
- Presentation: This stage serves to reinforce the learning that took place during the session and enable students to realise how successful their work has been in the light of the feedback that they receive from other groups on their work. The role of the facilitator is to check whether the outcomes of the session have been reached and to identify gaps that still exist in terms of what the students were supposed to learn.
- Reflection: Students can gain a deeper understanding of their learning (in terms of the content and the process), by reflecting on what they have learnt. This provides the opportunity for lecturers to monitor learning and plan further learning opportunities.

It is thus clear that students have a huge responsibility towards their own learning in a problem-based learning set-up. They do not only have to solve problems, but also have to determine their learning needs in order to do this successfully.

2.10.1.6 Advantages of problem-based learning

There are also many advantages involved with the use of PBL, some of which overlap with the advantages of group work. The most important advantages of PBL are mentioned by Davis and Harden (1999:133): The learning undertaken in a clinical PBL set-up is relevant to clinical problems and students develop generic competencies which are important for clinical practice. Since core knowledge is identified, information overload is reduced and the curriculum is usually integrated. Students take responsibility for their own learning and tend to be more motivated to learn because they enjoy this approach. PBL also facilitates a constructivist approach to learning since it relies heavily on the use prior knowledge.

Students in a PBL set-up develop deep approaches to learning, which implies that they aim to understand the work being studied, rather than learning it off by heart. This approach "closely approximates the aims of most medical schools" (Newble & Clarke 1986:272). Students also tend to develop a need to pursue in-depth knowledge about learning issues, mainly because they feel a need to expand their own knowledge base, but also to fulfil their responsibilities to the other members in their group (Caplow et al 1997:445).

Albanese (2000:736) argues that PBL provides for a more humane learning environment and since it does not reduce students' learning, it would seem worth implementing as long as the costs do not overburden the specific medical school. A literature review by Thomas (1997) indicates that PBL is effective in encouraging students to consult resources, to apply their knowledge when relevant, to attend scheduled sessions and prepare properly, and also to identify gaps in their knowledge more easily.

More advantages of PBL include the fact that students develop flexibility in their thinking and decision-making skills in spite of uncertainty, and they also acquire a "hypothetico-deductive" reasoning process in coming to a diagnosis. Furthermore, they learn strategic enquiry skills, how to analyse data and finally how to make therapeutic decisions in clinical practice (cf. Barrows 1994:chapter 4). It is thus a very appropriate instructional method for medical education.

In their review of the possible outcomes of PBL, Vernon and Blake (1993) found that PBL is superior to traditional teaching methods as far as positive programme evaluation, student attitudes and class attendance is concerned, although they admit that bias could influence some of these results. They also found that the process of learning in a PBL curriculum tended to be more self-directed and aimed at gaining understanding, rather than memorising, as in the more traditional curricula. Although no statistically significant difference was found between PBL and traditional curricula as far as clinical knowledge was concerned, the trend did favour PBL. PBL also stimulates active learning and the retention of knowledge, and teaches students to integrate their knowledge, whereas traditional curricula promote rote learning and teacher dependency (Barrows 1994:28; Bligh 1995:343). Some studies support the finding that students are generally more satisfied with PBL curricula in comparison with traditional curricula (Kaufman & Mann 1996; Lieberman et al 1997). A few studies also showed that

students tend to learn in a more career-oriented than exam-driven fashion in a PBL curriculum and that they also use resources more widely (cf. Woodhouse et al 1997). There are many more advantages which can be compared with those of group work itself (cf. 2.5).

2.10.1.7 Disadvantages of problem-based learning

However, PBL also has some disadvantages which include the following: Lecturers are not encouraged to share their knowledge with students and students are not able to identify with a good teacher. The knowledge that students obtain is, to a great extent, disorganised, and PBL is a time-consuming process. PBL often does not address all the learning issues which are essential for students to learn and students often identify only a percentage of the learning outcomes which initially have been identified by the lecturers, and therefore continuous support of students and monitoring of the PBL process are essential components of effective PBL (Mpofu et al 1997).

Many problems could also occur in relation to the design of the problems, inadequate coverage of the basic sciences, non-specific objectives, and wrong attitudes amongst the staff. Questions about the effective use of time and effective learning in PBL also arise commonly (cf. Barrows 1994). There are usually huge costs involved with the implementation of PBL and staff often do not have the competencies which are required of them to operate in a PBL set-up (Davis & Harden 1999:134).

2.10.1.8 Factors that influence the success of problem-based learning

The curriculum delivery system has an important influence on the outcome of a PBL system: "[A]s long as the delivery system is more compatible with the traditional curriculum, there will be continual challenges to delivering a PBL curriculum in its optimal form" (Albanese 2000:732). The infrastructure necessary to deliver PBL is costly, since sufficient library resources, information technologies and rooms for group work are necessary. PBL may also not be successful if there is a change in the learning process and outcomes, but not in the learning strategies of students (Delva et al 2000:168). Delva et al (2000:176) also conclude that "[c]ontent overload and assessment systems may be more important drivers of students learning strategies than the incorporation of PBL into the curriculum." Furthermore, immediate

feedback to students regarding the solution of the problem under study is essential for the success of PBL (Barrows 1994:40; Crosby 1997:13; Norman & Schmidt 1992:561).

Although specifically mentioned for practice-based learning, the following factors could generally influence the outcome of PBL: The design of the problems, facilitation skills of facilitators, and awarding marks instead of just pass and fail results during assessments (which promotes competition amongst students) (Barrows 1994:89). Since assessment and evaluation tend to determine what students learn, it is important that appropriate assessment techniques are used in a PBL curriculum to test not only the knowledge that students have obtained, but also higher-order thinking and reasoning skills (Woodhouse et al 1997:634). Students should also be assessed on their ability to reason, solve problems and direct their own learning (Barrows 1983:3079).

Dolmans et al (2001) suggest possible solutions for two important problems commonly encountered during PBL, viz., the fact that it leads to ritual behaviour amongst students and that group work is discouraging. They argue that ritual behaviour occurs when the problems used as stimuli for learning do not activate prior knowledge of students and do not encourage them to explore the relevant learning issues properly. Facilitators often provide the learning issues themselves, present a mini-lecture on the subject matter, or encourage students to do the literature study before exploring the learning issues. Therefore, this situation leads to a teacher-centred, rather than a student-centred approach. They suggest that cases should be designed according to specific principles (cf. 2.10.1.11). The second problem occurs because students do not prepare for group work, do not attend the sessions or do not participate during group-work sessions. Although attempts have been made to overcome this problem through summative evaluation (cf. 4.6.1) of a group's performance, it is found that formative evaluations (cf. 4.6.1) by the facilitator and self- and peer evaluations are more helpful, because the responsibility for learning is put in the hands of the learner. The facilitator should also attempt to stimulate discussion through effective questioning techniques, without being too directive. Dolmans et al (2001:888) conclude that, in order to ensure successful PBL, the conditions for co-operative learning should be reviewed and optimised (cf. 2.3.1.2.5). Appropriate triggers should be used in the problems to stimulate students' interest and the success of this method depends strongly on the amount of preparation of, as well as the attendance by, the students (Kwizera et al 2000:67).

Many authors argue that not enough emphasis is laid upon the group dynamics of groups in a PBL set-up, which does not only include insufficient training, but also reviewing the actual processes that take place within these groups (Hak & Maguire 2000; Holen 2000; Tipping et al 1995). More research is therefore needed regarding this aspect of PBL.

A few other factors which could influence the outcome of PBL, include the skills of the teacher or facilitator, and the feasibility and costs involved in preparing proper problems for a PBL approach (cf. Barrows 1986).

2.10.1.9 Arguments that question the effectiveness of problem-based learning

Thomas (1997) reviewed the literature and found that PBL does not encourage students to study problems other than those identified by the lecturer. He also noticed that students in conventional curricula tend to reason "forward from theory" and therefore stay closer to the clinical facts (Thomas 1997:323). Research also did not show a marked difference in clinical knowledge between conventional and PBL curricula: Colliver (2000) did a thorough literature review, including three important articles written during 1993 by Albanese and Mitchell, Vernon and Blake as well as Berkson. He concluded that there is no convincing evidence that PBL is superior to traditional curricula for the acquisition of knowledge and clinical skills by medical students, basing his findings on the fact that the theory underlying PBL is imprecise and lacks explicit description. Norman and Schmidt (2000) responded to Colliver's findings by agreeing that one should rethink the promise of PBL, although they differed from Colliver's approach in the following two ways: Firstly, they argued that PBL is a more challenging and enjoyable approach to education and could therefore be implemented for this reason, provided that the costs involved are not too excessive. They also argued that more theory-based research is necessary to investigate the different variables and interactions in a PBL curriculum.

Bligh (2000:689), in his turn, asserts that "[l]ack of hard 'scientific' evidence for the effectiveness of PBL is not a reason for delaying implementation of PBL in curricula." Furthermore, Albanese (2000:737) argues that "even if knowledge acquisition and clinical skills are not improved by PBL, enhancing the work environment for students and faculty is a worthwhile goal in and of itself."

Albanese and Mitchell (1993) reviewed the literature extensively in order to provide answers to some concerns about PBL. They found that the costs of a PBL curriculum for up to 100 students could be equal to that of traditional curricula. However, more time would be needed to cover the contents of learning in a PBL curriculum. Regarding proper cognitive scaffolding amongst PBL students, there is concern that these students do not have proper basic sciences backgrounds, although further study is necessary to confirm this. Although the concern about sufficient content coverage in PBL curricula may have merit, Albanese and Mitchell (1993) suggested that further research is necessary in this field. Due to the fact that students in a PBL curriculum spend most of their time in a small group setting, there is also merit in the concern that they become dependent on their peers and struggle after graduation to function in solo practices. A hybrid curriculum, providing for the benefits of both a traditional and PBL curriculum would therefore seem viable at this stage (:78). Walton and Matthews (1989:552) support the argument that PBL need not be used in isolation, but other teaching methods such as lectures and laboratory demonstrations could be used in addition to PBL sessions. However, they add that "[w]hen PBL and didactic teaching are mixed the student may find the oscillation between dependence on the teacher and autonomy constitutes a difficult challenge" (:553). Furthermore, errors could occur in the explanations which students find during their problem-solving sessions (Patel, Groen & Norman 1991:388). Patel et al therefore suggest that "it might be unwise to teach problem solving in the context of integrated teaching of clinical and basic sciences. It might be wiser to explore adaptations of the PBL approach in a purely clinical context."

Variation in the quality of teachers is one of the biggest problems with PBL, in addition to resistance amongst medical teachers against designing problems, often due to time restraints (Walton & Matthews 1989:522).

2.10.1.10 The continuum of problem-based learning

One very important development in PBL is the description of a continuum of PBL by Harden and Davis (1998). They suggest that PBL is not a rigid approach to instruction, but rather has two extremes (viz., PBL and information-oriented learning). They suggest eleven points along this continuum and indicate quantitative differences between the different points. The key components of this continuum are the problem itself and the lessons learnt from the study of the

problem. The elements of the continuum are thus based on the rul-eg and eg-rul approaches which were defined in the 1960's for programmed learning by Evans, Homme and Glaser (in Harden & Davis 1998). They argued that concepts and principles (rul's) are built out of examples (eg's). Therefore, principles can either be stated (rul/eg), or deduced from examples (eg/rul). Harden and Davis (1998) describe the continuum of PBL from a rul-eg to an eg-rul approach, with the latter as the extremity where more emphasis is laid on the problem as the centre of learning (PBL). The continuum they suggested thus consists of the following eleven steps:

1. Rul (Th) (Th = theory) – Theoretical learning: This approach includes traditional lectures and encourages rote learning, because applying information is not included in the curriculum.

2. Rul (PT) (PT = practical information) – Problem-oriented learning: The information is provided by the lecturer with little opportunity to apply it.

3. Rul-Eg – Problem-assisted learning: Practical information is presented to students (e.g., a lecture), and thereafter students get the opportunity to apply the knowledge in order to realise the relevance of the knowledge.

4. Eg – Problem-solving learning: Students receive a problem to solve (e.g., through a case study), but the underlying theory is not explored and therefore related information is not learnt.

5. Rul-Eg-Rul – Problem-focused learning: Some information is presented to the students, e.g., in the form of a lecture, and thereafter students receive a problem to solve. Once the problem has been solved, students continue to explore how the information could be applied in new situations.

6. Rul-Eg / Eg-Rul – Problem-based mixed approach: Students are given the option of using the problem-based or the information-oriented approach. This is common in distance learning, since students may choose their own learning strategy. However, it is difficult to implement in a curriculum for full-time students.

7. Eg-Rul – Problem-initiated learning: Although students receive a problem first, the problem is not the main focus of learning but rather provides students with an idea of the scope of the study.

8. Eg-Rul (Sp) (Sp = study of the problem) – Problem-centred learning: The problem is the main focus of students' learning, but the information that needs to be learnt, is provided to students (e.g., through lectures). Students do not need to identify the learning outcomes themselves, since these are provided to them.

9. Eg-Rul (Sp) (Sp = study of the problem) – Problem-centred discovery learning: The problem is the major focus of learning and students need to work out the principles and rules themselves. A period of discovery of learning is provided after which there is a presentation of the problem and a discussion of its solution.

10. Eg-Rul (G) (G = generalisation) – Problem-based learning: Although the problem serves as a stimulus for learning, the final aim is for students to generalise the problem and be able to apply the principles and rules in other situations.

11. Eg (T)-Rul (T = task-based) – Task-based learning: Instead of receiving problems to solve, students or junior doctors receive a task to fulfil. Learning is therefore based on the real world or clinical practice, and this step is more appropriate for later years of study.

Task-based learning was first described by Parry in 1989 (Harden et al 1996:7). This approach implies that health care tasks form the focus of learning, although they are not the objective of the learning. It rather ensures that learning outcomes are met in a clinical set-up. Task-based learning therefore also provides for the acquisition of generic skills such as the ability to work in a health care team. However, it is more appropriate at a later stage in the medical course (Harden et al 2000). Practice-based learning is another description of the same approach, which implies that students should not only solve problems, but they should also be able to understand and work with health problems in the community or groups of people. It is thus specifically directed at clinical practice. This type of learning would typically be implemented in the more advanced clinical years of a medical curriculum (Barrows 1994:2).

All the approaches that involve a problem (i.e., positions 2-10 on the continuum), could be regarded as varying degrees of case-based learning. This implies that the primary source of knowledge is not a set of rules, but rather knowledge gathered from previous experiences,

which can therefore be applied in new situations as well. Eshach and Bitterman (2003:495) argue that a problem-based approach represents human reasoning the best and therefore assert that it "promotes the cognitive processes best suited to the medical profession."

Any medical school should examine the continuum outlined above and describe its medical programme in terms of its position on the continuum. "Describing a programme in terms of where it stands on the continuum removes... ambiguity or uncertainty" (Harden & Davis 1998:321). This could provide a basis for staff development and programme evaluation.

The specific approach to PBL that is adopted, should be determined by a few factors (Davis & Harden 1999:134):

- The outcomes of the course could either focus on providing information to students or the application of knowledge by them.
- The specific learning context will also determine the approach taken, e.g., PBL is more appropriate for pre-clinical students whereas a task-based approach more for the clinical set-up.
- If students need to develop group-work skills, PBL is ideal to implement because it encourages students to work in groups.
- The availability of resources in terms of learning material and space availability will also determine the specific approach to some extent, e.g., group work cannot be realised successfully if no small-group work venues are available.
- If the prior knowledge of students seems to be insufficient, the approach is more likely to fall somewhere in the middle of the continuum.

It may be possible to offer students the choice between PBL and traditional lecturing, although not many medical schools are able to do this. Staff development and student orientation regarding the specific approach to learning are necessary to ensure its success (Davis & Harden 1999:134).

2.10.1.11 The problem and its presentation in PBL

"The problem should lead students to a topic or field of learning and so meet faculty learning objectives" and should either act as a "convenient peg" on which to hang knowledge, or a "growing web" of understanding (Davis & Harden 1999:135). The purpose of the problem should be to stimulate students' learning of important and appropriate concepts in certain parts of the learning field, and to place the learning in the context of a clinical set-up (Charlin et al 1998:326). However, the problem should be appropriate and should be posed to students before any other kind of learning materials is presented (Lloyd-Jones et al 1998:492). The quality of the cases presented to students also determines the nature and extent of their learning.

There are seven principles of effective case design (Dolmans et al 1997), viz.:

- The contents of the case should suit the prior knowledge of the students.
- The case should contain several cues to stimulate elaboration amongst the students.
- The case should be stated in context and be relevant to the future profession of the students.
- Integration of knowledge should be encouraged by presenting the relevant basic sciences in the context of a clinical problem.
- The case should encourage students to generate learning issues themselves and therefore stimulate self-directed learning.
- The case should increase students' interest in the subject matter and should therefore encourage discussion and facilitate further exploration of alternatives.
- The case should match at least one of the faculty outcomes for the particular course.

A case should therefore be appropriate in terms of its contents, context and the timing of the case in relation to the students' stage of development.

The problems can be presented in several different forms, e.g., newspaper clippings, video or audio-tapes, computer simulations, real patients, etc. (Charlin et al 1998:327; Davis & Harden 1999:136). Van den Hurk et al (1998:309) also note that the learning issues or outcomes should contain a keyword which demarcates the topic to be studied, and should be formulated concisely and unambiguously for all group members to understand.

Finucane and Nair (2002) argue that a typical problem encourages students to concentrate on acute, curable diseases and therefore the importance of chronic, irremediable diseases is neglected. They indeed have a point, since most cases have a beginning and an end, which implies that the problem involved can be cured. A community-based approach towards medical education could overcome this problem to some extent, but PBL courses should contain a component which focuses on chronic diseases.

On the other hand, Kamin and Hawkins (1997:215) argue that "exposure to overly complex problems may hinder rather than promote the development of proper cognitive structures." They also assert that "the case remains the equalizing factor that can guide the group to the critical learning objectives" – unlike the dynamics of groups and the skills of the facilitators (:216). It is therefore important that the structure of a case should be congruent with the learning objectives of the particular course. These two authors thus appropriately suggest that an objective tool should be developed to measure the curricular (content) validity of cases in a PBL curriculum.

2.10.2 A hybrid approach

This approach implies a combination of problem-based and didactic educational strategies. "A mixture of formal lectures, small-group work, individual study and project-group work may be best for the majority of students" (Jaques 2000:53). Whittaker and Scheiman (1996) also suggest such an approach: The teacher directs the learning process and although clinical problems are used as a stimulus for learning, students also receive topically organised material which they have to discuss on a weekly basis. Lectures are presented for the more difficult topics and the problems are discussed in either large or smaller tutorial groups. It was found that students' performance improved substantially on final examination with this approach, and it therefore appears to be useful because it is flexible and easily adaptable in a constantly changing curricular environment.

Delva et al (2000:174), on the other hand, warn against the danger of assessing only the material which lecturers have taught students, since students would soon stop learning the material covered by the problem-based approach. This could decrease the value of the problem-based sessions.

2.10.3 Existing models for group work

Only a few models for group work exist in the literature, and all these models only address certain aspects of group work and are thus not suitable for use in a hybrid curriculum. The following models have been described in the literature:

2.10.3.1 The six mirrors of the classroom-model

Hertz-Lazarowits (in Wilkerson 1996) developed a model to analyse the various dimensions of groups in the classroom, as well as the inter-relationships between the social and academic behaviour of students and classroom patterns. This model consists of four process variables, the learning task, the teacher's communicative behaviour, the teacher's instructional behaviour, and the organisational structure. The other two variables are outcome variables, involving students' academic and social behaviour. She named the model the "six mirrors of the classroom" since any activity, and even the structure of one dimension is reflected in all the other dimensions. This model could be useful for designing and reviewing activities in a PBL curriculum, and could also serve as a basis for staff and student training sessions.

2.10.3.2 A model for task group effectiveness

Although designed for business organisations, this model, designed by Gladstein (1984), addresses group effectiveness as the most important output of small-group behaviour. It was thus regarded as appropriate to investigate this model for the purpose of this study. In it, group effectiveness has three elements, i.e., meeting the members' needs, the ability of the group to exist over a period of time, and performance of the group. The model is based on the fact that inputs (group composition, group structure, resources and the organisational structure) are delivered to the process, which includes the group process and group task, so as to produce the output, which is group effectiveness. It thus supports a dynamic, open-systems approach to group work due to the fact that many factors could influence the outcome of the group work.

2.10.3.3 A model for team learning

In this model, learning is defined as "the interplay of individual and group values, beliefs, norms, knowledge and behaviour with that of the collectivity in which the individual or group is embedded" (Dechant et al 1993:3). It is based on inputs, which include the team and organisational learning conditions, action, which implies collective thinking processes in the group, and outputs, which involve team learning and organisational learning outcomes. The collective thinking processes in a group include four learning processes, viz., framing and reframing (i.e., thinking), experimenting (i.e., action), crossing boundaries and integrating perspectives. The model thus regards learning as the major outcome of group work, although the latter is influenced by several factors.

It is thus clear that no definite models for group work exist for hybrid tuition systems where a combination of lectures and group work is used for instruction.

2.10.3.4 The group-effectiveness model

Schwarz (1994:chapter 2) describes a model for group effectiveness, containing elements which contribute to the effectiveness of a group. These include the organisational context, the group structure and the group process. Each element represents certain problems which have to be solved in order to ensure effective groups. The model is aimed at assisting facilitators to identify changes which need to be made to make groups more effective. However, it does not provide for all the aspects of group work.

2.11 CONCLUDING REMARKS

Group work is thus a valuable instructional method which, in spite of some concerns, could contribute to the development of higher-order thinking skills and skills associated with inter-personal relationships amongst students. The benefits of co-operative learning reinforce this argument. There are several ways in which group work could be done, and these include not only different types of group work, but also different methods or techniques. The different methods are each indicated for specific objectives and should be used accordingly. The most

well-known model for small-group learning is PBL, and although it entails specific steps, approaches to PBL lie on a continuum between theoretical and task-based learning. Medical schools especially, need to decide upon the specific point of the continuum which represents their approach the best. The principles of PBL could also be applicable to hybrid curricula. Other existing models for group work are aimed at specific elements thereof and can thus only be implemented for the particular aspects of group work. In this chapter, group work was defined, previous research on group work was summarised, and the rationale behind its use as part of instruction in higher education was explained. Furthermore, the advantages and limitations of group work were mentioned, and the different types and methods of, and approaches towards, group work were indicated. This information serves as a background for the design of a model for group work. The next chapter describes how group work features in medical education specifically.

CHAPTER 3
THE ROLE OF GROUP WORK IN MEDICAL EDUCATION

Good team working does not just happen, it has to be taught, experienced, and reinforced.

(Mathie 1997:30)

An effectively functioning health team is essential for optimal patient care, and the medical practitioner plays a crucial role in such a team. However, as Mathie correctly puts it, team working does not come naturally for most people. The same applies for health professionals. It is thus necessary to provide opportunities for students in this field of learning – including medical students – to develop these skills during their undergraduate education and training already. Nevertheless, different approaches to group work in medical education could be adopted, and therefore, not only the rationale behind implementing group work in medical education, but also the way in which it features at national and international medical schools, is discussed in this chapter. Since the group-work model designed in this study is specifically focused on the situation at the University of the Free State (UFS), an outline is also given of the M.B.,Ch.B.-learning programme of the UFS, as well as the way in which group work currently features in the programme.

3.1 RATIONALE FOR GROUP WORK IN MEDICAL EDUCATION

Crosby (1997:3) argues that group skills are essential for the medical profession because a team approach is an important part of holistic patient care. Through understanding the difficulties which may arise from working within a group, one might develop self-confidence because one has to defend one's own ideas in such circumstances. Abercrombie (in Bruffee 1987:45) also

notes that medical students learn medical judgment best when they work together in groups. The same applies for problem-solving, communication and leadership skills (cf. 2.5).

There has been increasingly more pressure on medical schools world-wide over the past 25 years to incorporate group work into their academic learning programmes, so as to provide the opportunity to acquire these skills. The main reason for this is basically to ensure that learners obtain the skills necessary to serve society to the best of their ability. Already since the 1970's, fundamental changes have taken place in the World Health Organisation's approach to primary health care and the motto "Health for all by the year 2000" was generally accepted at the 30th World Health Assembly in May 1977 (Wilm 1996:1). This reorientation in health care was closely connected to the reorientation of medical education. Therefore, the World Health Organisation (WHO) commenced a "Mobilizing universities for Health" programme (:3). The World Federation for Medical Education (WFME), a non-governmental organisation which is concerned with the education and training of medical doctors, subsequently attempted a complete reorientation in medical education through striving for the highest possible standards (scientific and ethical) in medical education (World Federation for Medical Education 2000:1). Two World Conferences in Medical Education have resulted from these attempts of the WFME to rethink medical education: The Edinburgh Declaration of 1988 and the World Summit Recommendations on medical education (:3). Amongst others, the Edinburgh Declaration provides for training in a team work context by increasing the opportunities for joint learning with other health professions (World Federation for Medical Education 1988:464). The recommendations for medical education that had been determined at the World Summit on Medical Education in 1993, also include the very important ability for doctors to be able to work in health teams. This skill is described in these recommendations as follows: "Doctors alone cannot provide all health care. Contemporary doctors work in teams representing many different professions. Learning together in teams and groups enhances early professional socialization and provides opportunities for leadership development" (World Federation for Medical Education 1993:148).

Changes in medical education did not only take place on an international level, but also on continental and national level. The WHO regional office for Africa arranged a regional consultation on medical education in Yaounde in 1994, following the recommendations of the WFME in 1993. The Yaounde Declaration propagates changes in medical education which

would be better adapted to the health needs of the specific community (World Health Organisation 1994:13). Again the importance of doctors being able to work harmoniously with other members of a health team is emphasised in this Declaration (World Health Organisation 1994:27), and the following behavioural objectives for an undergraduate medical learning programme are suggested (:3):

- Showing respect for other professionals;
- The ability to listen to others and respect their views;
- Exhibiting tolerance to the views of other people;
- Understanding the importance of good communication; and
- Open-mindedness to interaction between people.

These skills could all be developed through interaction between students during medical education and training and therefore group work has become an essential part of the undergraduate training of medical doctors.

In its turn, the Cape Town Declaration rests on the principles of the Yaounde Declaration, but is focused on the South African doctor. Yet again, interpersonal skills and the ability to work effectively in health teams are emphasised (World Federation for Medical Education 1995).

The medical professional boards of several countries also changed their guidelines for the training of medical doctors and these guidelines confirm the importance of team-work skills and the ability to interact professionally and effectively with other people. The General Medical Council of the United Kingdom (UK) published important new recommendations on undergraduate medical education in 1993. Their guidelines for learning systems include learner-centred and problem-oriented approaches and the promotion of small-group learning by reducing didactic lectures (General Medical Council 1993:11). The rationale behind this is, amongst others, for students to develop the ability to work effectively as a member of a team (one of the attitudinal objectives mentioned in these recommendations) (:15). Apart from the skills required to work in a team, the ability to act as a team leader is also mentioned as a desirable attribute of an independent practitioner (:26). The Blueprint 1994 guidelines laid down objectives for undergraduate medical education in the Netherlands and important team-work skills are included in their recommendations, e.g., the ability to perform in a group, the

ability to negotiate and handle criticism, leadership skills and the importance of being a good colleague (Metz et al 1994:49). Many other medical councils such as those of Australia and India followed these actions (Australian Medical Council [s.a.]; Medical Council of India 1997).

The well-known SPICES model of curriculum strategy also advocates a student-centred, problem-based, integrated, community-based approach to medical education with the incorporation of electives and a systemic acquisition of skills and outcomes (cf. Harden, Sowden & Dunn 1984). Most of these approaches could be realised through group work.

One important realisation that has been made is that a single approach to group work cannot be universal applied across different institutions. This is due to important differences between institutions concerning the basis for the composition of groups, the attitudes and skills of the staff involved, the general culture of the institutions, and the availability of resources (e.g., library books and computers) (Rudduck 1978:104). It is therefore necessary for each institution to develop guidelines for group work which are suited to the circumstances and needs of the specific institution.

3.2 GROUP WORK AT INTERNATIONAL MEDICAL SCHOOLS

Group work features in many different ways at different medical schools. Many medical schools implemented problem-based learning (PBL) as part of their instruction of medical students, while group work forms only a small element of instruction at others. Overall, medical schools world-wide have attempted to decrease the amount of lectures and have encouraged students to take responsibility for their own learning. The way in which group work features at different medical schools, will now be discussed briefly, but only a few medical schools will be included as examples.

3.2.1 Group work at medical schools in the United Kingdom

The guidelines of the General Medical Council for medical education in the United Kingdom (UK) appear in Tomorrow's Doctor (General Medical Council 1993). As mentioned before, the ability to work in a health team is one of the objectives of undergraduate medical education in the UK. Several medical schools in the UK have adapted their curricula so as to achieve this objective, although different approaches are being followed. The University of Dundee in Scotland follows a five year medical curriculum with an integrated, systems-based approach. They use a combination of instructional methods, which include a small number of lectures, group work and PBL. Co-operative learning is encouraged and the group work sessions include task-based and problem-based approaches. Study guides are used by students to manage their learning (cf. Medical school (University of Dundee) [s.a.]).

The Leicester University in England follows a five year curriculum of which the first two years are "preclinical." A problem-oriented approach is followed and therefore students still receive introductory lectures on topics, followed by small-group tutorials a week later. These small groups consist of 12-15 students per group and, with the aid of facilitators, the sharing of knowledge, experiences and perceptions are encouraged amongst the students. The lectures and tutorials are supplemented by panel discussions, group projects and student-directed learning (cf. Fraser & McAvoy 1988).

A PBL approach, within an integrated medical curriculum, is followed by the University of Manchester. The seven-step process of PBL is followed (cf. Metz et al 1994), and student learning is enhanced through the use of a few lectures of 2-3 hours per week, practicals, computer-assisted learning, seminars and workshops. Groups of eight students meet twice a week with a facilitator and also visit a community facilitator (general practitioner) for one day a week to gain some community experience. The facilitators for the group-work sessions are usually clinical consultants (cf. O'Neill, Morris & Baxter 2000). Problem-based learning has also been the major teaching strategy at the Universities of Glasgow and Liverpool since 1996 (cf. Bligh 1995).

3.2.2 Group work at medical schools in Europe

Medical schools in Europe have different approaches to medical education. The medical schools in the Netherlands changed their medical curricula according to the guidelines of the Blueprint 1994 (Metz et al 1994). The University of Maastricht follows a seven-step PBL approach in their instruction of medical students (Davis & Harden 1999; Van Til & van der Heijden 1998).

The Vrije Universiteit in the Netherlands adopted a mixed content and problem-based curriculum. Students acquire medical knowledge in an integrated way in the first part of the curriculum. This knowledge is applied in the problem-based part of the curriculum by doing group work on a case study. Clinicians act as facilitators for the groups and feedback is provided after the group-work sessions, during which important issues are discussed in a large group session (cf. Gercama & Gans 1997).

Problem-based learning is an essential part of medical education at the University of Tampere, Finland. This is supported by lectures, small group teaching and specialist guides. The facilitators have "trouble-shooting" guides in which successful and unsuccessful group-work approaches are addressed (cf. Virtanen et al 1999).

The University of Vienna Medical School in Austria has largely replaced the traditional lecture-based medical curriculum with group work. A team-shaping approach towards group work was implemented in the psychology course of the medical students as an experiment. Team shaping implies that the group process plays an important role in the learning of students, and therefore, students focus on both the group functioning and learning. The outcome of the study was that this approach towards group work seems to be feasible and useful to enhance students' experience of group work (cf. Kropiunigg, Pucher & Weckenmann 2002).

3.2.3 Group work at medical schools in Australia and New Zealand

The Australian Medical Council (AMC) included the ability to communicate effectively with patients, their families and other health professionals, as well as the willingness to work

effectively in a team with these health professionals, as essential objectives of basic medical education in Australia (cf. Australian Medical Council [s.a.]).

There are eleven medical schools in Australia of which five follow a pure PBL approach (cf. Finucane et al 2001), including the University of Queensland (cf. Price 1997).

The Flinders University in Adelaide, Australia presents a graduate entry medical programme. Strong emphasis is laid upon PBL, especially in the first two years of the programme. The medical school offers strategies for recruiting facilitators and case-writing activities (cf. Finucane et al 2001). The instruction of students is supplemented by complementary lectures, laboratory sessions, practicals and computer-assisted learning (cf. Finucane, Nicholas & Prideaux 2001).

The medical curriculum at the University of Newcastle, New South Wales runs for five years and one of the most important aims is to guide students towards independent learning. Group work is done in groups of eight students with a facilitator who does not act as a resource person. The typical approach to the stimulus material entails both problem-based learning and problem solving. An additional member of staff is appointed as the expert resource person and can be contacted if the group experiences difficulties (cf. Neame & Powis 1981).

A hybrid curriculum is followed at the Otago Medical School, Dunedin, New Zealand. Although case-based tutorials are the main means of instruction, lectures, laboratory classes and clinical demonstrations are presented to compliment these group-work sessions. Students are accepted to the programme after successful completion of their first year or a degree. The first two years of the curriculum have a systems-based approach and paper-based triggers (that reflect the multi-disciplinary aspects of learning) are used to encourage interaction within groups. Each group has its own facilitator, but the facilitators are not subject experts. Only one roving subject expert is present for a session, and is involved with the interactive feedback on a group-work session (cf. Miller, Schwartz & Loten 2000).

3.2.4 Group work at medical schools in Canada and the USA

Problem-based learning as an approach to medical education, was first implemented by the McMaster University in Ontario, Canada in the 1960's. They argue that "[v]alidation of learning takes place in the small group under the eye of the tutor" (Bligh 1995:342). They emphasise the ability of students to work as a member of a health care team strongly and therefore, group work is an important part of their instruction of medical students (cf. Paul 1993).

The University of Sherbrooke in Canada also uses a PBL approach and students work for at least six hours per week in small groups. Their performance in group activities is assessed as part of their assessment of the modules (cf. Paul 1993). Co-operative learning in small groups and problem-solving are important objectives for medical students at the University of Calgary in Canada, and an inter-disciplinary approach is also followed at this university (cf. Lewkonia et al 1997). A PBL approach towards medical education is also followed at the University of Toronto, Ontario, Canada. This university emphasises the importance of training in group dynamics for students and identified the lack of reflection on group work amongst students as one of the biggest stumbling blocks on the road towards successful group work (cf. Tipping et al 1995).

The report of the Association of American Medical Colleges in 1984 (The General Professional Education of Physicians or GPEP report) served as a trigger for medical educational reform in the United States of America (USA) (Cohen et al 1994:351).

Another medical school which emphasises the importance of group dynamics for the success of group work, is the Bowman Gray School of Medicine at the Wake Forest University, Winston-Salem, North Carolina. Students at this university do case-based tutorials in groups of six students for 30 weeks in their first year. A PBL approach is followed in the second year and the cases are dealt with in greater depth. Students evaluate themselves and their peers on group interaction in an attempt to improve the dynamics of the groups (cf. Philp & Camp 1990).

The Harvard Medical School in Boston is one of the well-known medical schools where mainly a PBL approach is followed, although they also use lectures, laboratory practicals and clinical

sessions to compliment the learning process (cf. Peters et al 2000). Their approach towards PBL entails a six-step approach (cf. Davis & Harden 1999). Case-based tutorials are the main focus of instruction during the first two years during which students (working in groups of eight) function as a medical team, solving health care problems (cf. Lio, Martin & Seifter 2001).

At the College of Human Medicine at the Michigan State University, the first year students receive lectures in a discipline-oriented, basic science course. From the second year, a PBL approach is followed and students meet in interactive groups for six hours per week, using case studies as triggers for discussion and interaction. Seven additional hours per week are spent on lectures and laboratory sessions and the facilitators are not all physicians or content experts. The focus of learning in this curriculum is on knowledge construction and integration (cf. Doig & Werner 2000).

Although the traditional lecture-driven format of teaching students is the dominant mode of instruction at the Morehouse Medical School, Atlanta, they implemented the "PALS" (peer-assisted learning system) approach to some of the themes in the Pharmacology course. This implies that students meet in small groups to discuss the exercises compiled by the teacher. The facilitator circulates through the groups and provides assistance where necessary, without providing the answers. Although these sessions are not compulsory, students feel generally positive towards this method of instruction. Some questions in the examinations are based on these PALS exercises and students tend to perform better on these questions, although the design and revision of these exercises is very labour-intensive (cf. Trottier 1999).

The University of Vermont College of Medicine implemented the Medical Students Learning Group (MSLG) Pilot Project in 1999 to provide an opportunity for medical students to acquire the knowledge and skills necessary for co-operative patient care outside class time. Groups of 6-7 students meet weekly to engage in co-operative activities, and these students become facilitators themselves after eight weeks. This project seems to be a great success and has been continued with the intention of implementing group work formally in the medical curriculum (cf. Pigeon 2001). The George Washington University School of Medicine makes use of a preparation orientation program to allow students to study their interactional and small-group learning styles. Thereafter, they use a case-based approach towards academic orientation, allowing students to discuss a clinical case, the so-called "Advising Oliver Mann" exercise, in

both large and small groups. These orientation opportunities motivate their students to work in small groups during the actual curriculum (cf. Blatt, Kallenberg & Walker 2000).

Several other universities in the USA have also implemented group work as part of their instruction of medical students during the past few years. Some of them adopted a pure PBL approach, e.g., the University of California at Los Angeles School of Medicine and the Sherbrooke University Medical School, while others have implemented a hybrid curriculum consisting of PBL components as well as group work in general. The University of South Alabama (College of Medicine), and the medical schools of the University of Colorado, the University of Hawaii (J.A. Burns School of Medicine), the Tufts University, the University of Rochester, and Queen's University, to name but a few, are examples of universities using a combination of group work and PBL. In addition to lectures that precede group work, the University of California at San Francisco, School of Medicine makes use of co-facilitation, where two facilitators are involved in each group, and let the student groups of six members work together over a period of two years (cf. Muller 2000).

Many universities in the USA have also attempted to decrease the amount of lecturers given to medical students, e.g., the University of Southern California (Keck School of Medicine), the University of South Florida (College of Medicine), the University of Mississippi (School of Medicine), the University of Dakota (School of Medicine) and the University of Texas Medical School at San Antonio. Other curriculum innovations related to group work are also found at several universities in the USA, e.g., case-based learning is used by medical schools of the University of Connecticut, the Emory University (Georgia), the Louisiana State University in Shreveport, University of South Carolina, and University of Virginia (cf. Anderson 2000).

3.2.5 Group work at other medical schools

The Faculty of Medicine and Health Sciences at the United Arab Emirates University also follows a PBL approach, using paper problems as triggers for group work. The students work in groups of 6-9 students and one or two facilitators assist each group during these sessions. Male and female students are separated for cultural and religious reasons. The roles of group leader and scribe are rotated amongst the students between different sessions and the composition of the groups remains the same for an entire year (cf. Mpofu et al 1998).

In Nepal, at the BP Koirala Institute of Health Sciences, Dharan, an integrated partial PBL, medical curriculum is followed. Students are instructed with the aid of structured, interactive lecture sessions, laboratory exercises and PBL sessions. The PBL sessions involve three tutorial sessions, two resource sessions, a review session and one or two laboratory or hospital-based sessions. This Faculty regards the role of the facilitators as essential to the success of group work (cf. Bhattacharya 1998).

Case-based tutorials are the focus of medical education at the School of Medicine of the University of Zagreb, Croatia. Students work in groups of 8-9 students and 30 facilitators are available to assist the different groups during group-work sessions. The number of lectures and practicals are limited and students are encouraged to take responsibility for their own learning. This medical school believes in the quality of facilitation: "It is known that the strength of the PBL lies in the teacher's ability as a tutor" (Percac & Armstrong 1998:115). Facilitators are therefore encouraged to attend case-writing workshops.

There are three campuses at the University of the West Indies and all three present a medical curriculum. These include Mona in Jamaica, St Augustine in Trinidad, and Cave Hill in Barbados. The former two offer full medical programmes, including basic medical sciences and clinical training, and the latter has only a clinical programme. Students are therefore drawn from the first two campuses. At the Mona campus, a traditional didactic learning programme is followed which is discipline-based and involves two years of basic medical sciences and three years of clinical training. A PBL approach is followed at the St Augustine campus which is supported with lectures and practicals. This curriculum is system-based and students work in groups of 7-10 students per group with one facilitator per group. A study which investigated the differences in the outcome of the instruction of students at these two campuses, did not show any significant differences between the two approaches followed at Mona and St Augustine (cf. Alleyne et al 2002).

The medical school of the University of Brasilia in Brazil implemented a reformed 6-year medical curriculum in 1988 in which students could earn credits for additional educational experiences such as elective or cross-year peer tutoring. The latter implies that senior students assist more junior students with learning, emphasising a co-operative approach towards learning (cf. Sobral 2002).

The National Taiwan University (NTU) College of Medicine presents a 7-year hybrid medical curriculum consisting of lectures and group work in a PBL set-up. Groups of 7-9 students are randomly formed at the start of each academic year to meet for the PBL sessions, and each group is assisted by the same tutor for an entire year (cf. Leung, Lue & Lee 2003).

3.3 GROUP WORK AT SOUTH AFRICAN MEDICAL SCHOOLS

In addition to the critical cross-field outcomes which have to be included in all learning programmes presented at higher education institutions in South Africa, the Health Professions Council of South Africa (HPCSA) revised their guidelines for medical education in South Africa. The Medical and Dental Professional Board of the HPCSA determined new guidelines for undergraduate medical education and training in South Africa in 1999. These guidelines are based on the principles of the different Declarations which resulted from the WFME conferences (i.e., Edinburgh and Yaounde). The attributes of a five star doctor are mentioned in these guidelines and team work is one of them (Boelen in Faculty of Health Sciences (University of Cape Town) 1999; Health Professions Council of South Africa 1999:1):

- Promoting healthy lifestyles;
- Providing integrated, curative, preventative, rehabilitative care;
- Working in teams;
- Using technologies optimally; and
- Balancing individual and community needs.

The ability to work in a team is repeatedly emphasised in the recommendations of the HPCSA for the profile of a doctor, the skills and attitudinal objectives which should figure in an undergraduate medical learning programme, as well as the recommendations for teaching and learning ("Self-activity, group work and co-operation in teams should be emphasised") (cf. Health Professions Council of South Africa 1999). The medical schools in South Africa have attempted to address this issue by incorporating group work in various ways in their undergraduate medical curricula. A few of these schools have been included as examples. As

is clear from the references used, most of the information was obtained from accreditation reports and year books of the different medical schools.

The University of Transkei (UNITRA) follows a PBL approach towards medical education with an integrated and community-based five year curriculum. They regard the small-group tutorial as the main means of instruction, although it is supplemented with a few lectures and practicals where appropriate (Dambisya 2001; Faculty of Health Sciences (University of Transkei) 2003a:66). Group work takes place in the form of problem-based tutorials of 8-10 students, who also meet in study teams on an informal basis outside formal contact time (Faculty of Health Sciences (University of Transkei) 2003b:16).

A problem-oriented approach towards medical education is followed at the University of Pretoria (UP), where a six year curriculum is offered. Group work and case-based exercises form an important part of the instruction of undergraduate medical students at this university. Groups for small-group learning consist of 6-10 students (Boon, Meiring & Richards 2002; School of Medicine (University of Pretoria) 2000).

The University of Cape Town (UCT) offers a six year undergraduate medical programme and both lectures and problem-based tutorials ("supported problem-oriented learning" (Faculty of Health Sciences (University of Cape Town) 1999)) are part of the instruction. Groups for group work consist of 8-10 students per group, although larger groups are formed for certain courses and project work. Groups meet three times per week to discuss PBL cases and they follow a seven-step approach to PBL (cf. Van Til & van der Heijden 1998). Self-directed study is also an integral part of the curriculum. The Faculty of Health Sciences at the UCT uses an Intervention Programme where students who do not meet certain minimum requirements by the middle of the first year have to enter the programme, implying that they have to complete an additional year of study (Faculty of Health Sciences (University of Cape Town) 2003a; Faculty of Health Sciences (University of Cape Town) 2003b).

The University of the Witwatersrand offers a six year undergraduate medical learning programme and also uses a mixture of lectures and small-group tutorials as part of the undergraduate instruction. Between three and eight hours per week are spent on group-work sessions and the size of the groups vary between 4-6 students, although the tutorials in some

modules involve up to 20 students (cf. Faculty of Health Sciences (University of the Witwatersrand) 2001). However, a new, four year postgraduate medical curriculum is planned in which PBL will form a key instructional approach. The intended curriculum will still involve a hybrid curriculum, since lectures and large group tutorials will also feature in this new learning programme (Document 7 in Faculty of Health Sciences (University of the Witwatersrand) 2001).

A six year medical curriculum is also offered at the University of Stellenbosch. Lectures, group work and practicals are part of the instruction of the students and a problem-oriented, outcomes-based approach is followed (cf. Faculty of Health Sciences (University of Stellenbosch) 2003).

3.4 GROUP WORK AT THE MEDICAL SCHOOL OF THE UNVERSITY OF THE FREE STATE

The M.B.,Ch.B.-learning programme at the University of the Free State (UFS), which commenced in 2000, is based on all the principles, guidelines and recommendations of the WFME, SAQA, the HPCSA and the Higher Education Act of South Africa (Bezuidenhout et al 2000) (cf. also Chapter 1). It is aimed at achieving the goals for undergraduate medical education and training in South Africa. The aim of this medical learning programme is to empower students to "render a professional service as medical doctors, that is, they will have the necessary knowledge, skills, professional thinking, behaviour and attitudes to pursue a profession as doctors and managers of health care in all the ramifications of medicine and health care" (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:2).

One of the premises underlying the programme is that of a team approach to health care, and exit level outcomes explicitly include the ability to function as a member of a health team (Bezuidenhout, Nel & Nel 2001:3). This ability is also mentioned as one of the skills outcomes for this learning programme.

The student population at the UFS is very diverse and includes Black, White, Coloured and Asian students. In 2002, the average population group ratios for the medical students were

2.30% Asian, 20.58% Black, 6.76% Coloured and 70.35% White students (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:9). Huge discrepancies still exist in school education in South Africa, and although the students are selected for the M.B.,Ch.B.-learning programme on the basis of their academic achievement, extramural activities and leadership qualities (:6), it is a reality that many students still need guidance as far as tuition is concerned. The outcomes-based approach to school education has also only recently been implemented and therefore the concept of small-group learning is relatively unknown to the students who are currently involved with this programme. This is one of the reasons why a purely problem-based approach is not being followed, but rather a hybrid system consisting of lectures, group work and directed self-study. This also forces a directed student learning approach, instead of a student-directed learning approach (Bezuidenhout 1998:14).

Phases I and II of the M.B.,Ch.B.-learning programme consists of different modules that are all semester courses (±14 weeks). Five modules are presented per semester and each module is presented on a different day of the week (e.g., the Gastro-intestinal system module is presented on each Monday of the relevant semester) (Bezuidenhout 1998:15) (see Appendix A for a summary of the structure of this programme). The contact time per week does not exceed 20 hours per week, and not less than 20 hours per week is spent on directed self-study (:8). Each day of the week consists of a three-hour contact time session, of which the first hour is usually spent on a lecture. This serves as an introduction to the next two hours of the session, which are usually spent on group work. Therefore, students have ±5 hours of lectures and ±10 hours of group work per week (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:19). However, this is not a rule, and there are exceptions, such as practical demonstrations, computer assignments, or a second lecture, which could be included in the session. The rest of each day is spent on directed self-study (±15 hours per week which is scheduled for the first years, but not the second or third years) and the development of clinical skills in the skills laboratory (during Phase II). The concept of group work refers to any assignment that students do in small groups, although group work is also done in large groups at times.

A special module, providing for the development of transferable skills (MEA 112), is compulsory for all first year medical students. Based on the model of Leicester University in the United Kingdom, opportunities to develop these skills are embedded within some of the

core modules. However, the explicit teaching of transferable skills is inevitable in a South African context, and therefore it was considered necessary to incorporate a separate module for these skills as well. The assessment of this module poses many problems to the medical school, since it requires a different approach than the traditional testing of the factual recall of knowledge – a problem which is not only encountered in the MEA112 module, but also in the other modules as far as group work is concerned (cf. Beylefeld & Jama 2002).

A full training course on group work is presented to students at the beginning of Phase I during the first two weeks of the academic year as part of the MEA112 module. The first session of this course includes an opportunity for students get to know one another. During this course, students receive training regarding the following aspects of group work (cf. Faculty of Health Sciences: School of Medicine (University of the Free State) 2002b):

- The definition of group work;
- The principles of group work;
- The administrative aspects of group work;
- The importance of group work;
- The types of group work (task-based and problem-oriented);
- The objectives of group work;
- The phases of group work;
- The process of group work;
- Group dynamics;
- Skills for group work;
- Techniques for group work;
- Roles of the lecturer, group leader and group members;
- Ground rules for group work;
- A contract for group work within the groups; and
- Interpersonal relationships.

Although students receive handouts on these aspects of group work, no official guide on group work is currently available to either the students or the staff at the UFS. It was found that the MEA112 was so packed with contents and lectures that little time is available to practise group work (Beylefeld & Jama 2002:117). The staff of the Faculty of Health Sciences of the UFS ("the Faculty") have also received training with regard to group work on three occasions since the development of the new curriculum. However, this training was not compulsory and many staff involved with group work did not attend any of these sessions due to time constraints.

The students are also divided into groups during this period (± 8 members per group in a class of 130-140 students), which is usually done alphabetically. However, a few exceptions are made when, for example, the group only consists of male members. Groups initially consisted of four to five members, but it was found that they were too small for proper development of group dynamics (Beylefeld & Jama 2002:117). Students' needs are also taken into consideration within limits when composing groups.

Assessment of group work takes place in the MEA 112 module in the form of peer assessment, the assessment of leadership in the group, and also the assessment of the group as a whole. The marks of these assessments count as part of the semester mark for this module. Apart from the specific assessment opportunities, portfolios are also compiled for the work done during the MEA 112 module, including reports on individual contributions of students to groups, as well as the functioning of the group as a whole. These portfolios are assessed, and if students or groups do not pass these assessments, they receive another six months during which they can improve their group-work or other transferable skills. However, no specific assessment of group work, apart from formative evaluation, takes place in any of the other modules (Division of Educational Development: Faculty of Health Sciences (University of the Free State) 2000).

Both a task-based and a problem-oriented approach to group work are being followed at the UFS (Beylefeld & Jama 2002:117). The task-based group work implies direct assignments that students have to complete within their groups. Problem-oriented group work includes problems (e.g., case studies) which are presented to the groups and which have to be solved by the group as a whole. The responsible lecturer decides which type of group work is applicable to the particular session.

The lecturer who is responsible for a group-work session has to compile a workbook which contains the aims of the session, the outcomes, references and resources of work that students have to prepare, a synopsis of the lecture, as well as instructions and questions/problems for group work and self-study. Due to the lack of staff and facilitators at the UFS, there is usually only one (sometimes two) facilitators per class for group work (Beylefeld & Jama 2002:118). The UFS has a parallel medium of instruction and therefore there are both Afrikaans and English groups of students. In most modules, the sessions of the two groups are presented in a "dovetail" fashion, which implies that the three-hour session of the first group starts one hour before the second group. This ensures that the same lecturer presents the lecture to both groups of students. Therefore, another facilitator is necessary to facilitate the group work of the first group of students while the lecturer teaches the second group. The lecturer is then available to facilitate group work of the second group after the lecture. Figure 3.1 is a schematic illustration of a typical group-work session at the UFS:

A **HOUR 1** **Lecture** **(presented by lecturer)**	**A** **HOUR 2** **Group work** **(facilitated by facilitator)**	**A** **HOUR 3** **Group work** **(facilitated by lecturer)**	
	E **HOUR 1** **Lecture** **(presented by lecturer)**	**E** **HOUR 2** **Group work** **(facilitated by facilitator)**	**E** **HOUR 3** **Group work** **(facilitated by lecturer)**

A – Afrikaans

E – English

Figure 3.1 A schematic illustration of a typical group-work session at the UFS

However, in a few modules the sessions for the two groups of students are presented on different days of the week and then the lecturer is also the group-work facilitator for all the specific sessions. Although a parallel medium instruction is followed, a dual medium instruction is sometimes used, e.g. during community visits or group discussions (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:28).

Although students are encouraged to prepare for group work, this often does not happen due to a few factors: Students often receive their workbooks for the particular session on the same day as the specific session. This could be explained by the fact that, especially during the first year in which the particular module is running, lecturers compile the workbooks from week to week. Students therefore do not receive the workbooks in full, but rather from session to session. A

module is also reviewed after it has been presented once, and sometimes a few changes are made to its structure. This makes it very difficult for lecturers to compile the workbook beforehand, even during the second year that a module is being presented. This problem should be solved once all the modules of Phases I and II have been presented for at least 2-3 years. The aim is for students to have their workbooks for the entire module beforehand. Another reason why students often do not prepare for group work is because no mechanism exists at the moment to encourage them to do so. This lack of preparation is often one of the reasons why group work is not as effective as it should be.

Students have to attend 80% of the contact time in order to receive admission to the semester examinations (Bezuidenhout 1998:12). Assessments within this learning programme comprise formal end (summative) assessments, as well as continuing formal assessments and informal (formative) evaluations. The assessment is criterion-referenced and outcomes-based and students receive the criteria and outcomes in the workbooks for the individual modules (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:32). The assessments usually take the form of written tests or exams, although other forms of assessment are also used, e.g., spot tests or presentations. Group work is assessed in the MEA 112 module as part of the module mark. Specific assessment instruments are used for this purpose, and the outcome of these assessments should be included in students' portfolios. Different assessment instruments were used for the years 2002 and 2003 (cf. Appendix B).

Students receive academic support from the responsible lecturers, but the Faculty also has a Division for Student Learning Development which provides support to students who experience problems with learning, including problems with group work (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:39). This Division also co-ordinates a mentoring system amongst the students in which senior students act as mentors for the junior students. However, no formal mentoring system for groups is in place.

The resources available for student learning include two libraries (of which one is situated within the Faculty), a computer centre and an information technology (IT) laboratory (Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a:44). There are also video facilities and group rooms available in the library at the Faculty. These resources are available for students to use as individuals, and also as groups. Four new lecture halls have

been erected in preparation for the new medical learning programme. These lecture halls are ideal for group work, since they are large enough to accommodate the small groups of an entire class of students (Afrikaans or English, i.e., 50-100 students in a small-group setting). They also have loose tables and chairs which can be arranged in circles or other formats which would be ideal for group work (:47-48).

It is therefore evident that the Faculty has made many adaptations and preparations for implementing group work as part of the instruction of medical students in Phases I and II. However, this process has not been completely problem-free, and thus this research study will attempt to "streamline" the process.

3.5 CONCLUDING REMARKS

It is essential for medical students to develop good group-work and interpersonal skills in order to ensure that they are able to function effectively in a health care team once graduated. The latter is an essential objective of medical education, determined by the WFME, and subsequently also the professional medical boards of several countries. Different medical schools have implemented group work in different ways which vary from a pure PBL approach to a hybrid curriculum where group work forms only one component of instruction. The Faculty of Health Sciences (UFS) implemented such a hybrid curriculum for undergraduate medical students, and although group work is only one aspect of instruction, explicit guidelines are necessary for its success. In addition to the role of group work in medical education, examples of the ways in which it is implemented at medical schools were described in this chapter. This was necessary so as to zoom in even further on group work with the design of a group-work model in mind. In the next chapter, factors which influence the structure, and thus the design, of such a model, are explored.

CHAPTER 4
FACTORS INFLUENCING THE STRUCTURE OF A GROUP-WORK MODEL

> *In planning experiential approaches it is perhaps more useful to take account of the processes engaged in working with groups than to apply linear models which ignore them. The way to get the best from a design is through the way of working with participants, of helping them work together as a learning group and to make sense of what happens during it....* It is in working with the design in practice that attention to detail becomes important
>
> (Reynolds 1994:40)

In order to design a model for group work, it is necessary to investigate the factors which should be included in the framework of such a model. These factors do not only include elements of the group itself, i.e., the structure, process and task or product, but also those aspects which are essential for successful group work. These include preparing the role-players (i.e., the students and staff – both lecturers and facilitators) properly through training, supporting them, and reviewing all aspects of group work through a process of evaluation. To enhance the success of group work, it is also necessary to ensure the quality of the entire planning and implementation process of group work. This chapter provides an overview of all these factors which could contribute to a feasible and suitable model for group work.

4.1 THE GROUP STRUCTURE

The group structure implies how groups are composed, who the members are, which roles they play and for how long the groups function at a time. The composition of groups is certainly one of the most important factors that influence the success of group work and therefore, clear guidelines should exist as to how groups should be composed. Many different aspects of the composition of groups need to be taken into consideration. Dimock (1987:181) notes that "[t]he

way in which the group is formed – its size, composition, homogeneity, and compatibility – will greatly affect its cohesion and effectiveness." The composition will also affect the ability of a group to achieve its goals and the extent to which personal growth of members within the group takes place.

On the other hand, the group structure is also closely related to the group process, since it can be regarded as a recurring group process due to the continuous interaction of group members with one another in a particular way. If the pattern of interaction changes, the structure is subsequently changed. Schwarz (1994:29), for example, argues that, "[b]ecause structure develops from group process, the distinction between the two is somewhat arbitrary." However, it is important to distinguish between the group structure and process to ensure a thorough study of group work.

4.1.1 The size of groups

No consensus exists in the literature on the optimal size of groups. Most authors, however, indicate the preferred size of an effective group between two and ten members per group (Barrows 1992:43; Boschee 1989:23; Center for Teaching and Learning (Stanford University) 1999:3; Coelho 1994:37; Davis 1993:151; Dee 1976:68; Gibbs 1995a:8; Gibbs & Habeshaw 1989:79; Habeshaw, Gibbs & Habeshaw 1988:22; Holen 2000:485; Imel & Tisdell 1996:19; Jaques 2000:97; Michaelsen 1999:4; Nicholls 1994:161; Race 2000:28; Race & Brown 1998:82; Rudduck 1978:55; Hare in Wilkerson 1996:24). Leypoldt (1967:28), however regards fifteen members as the maximum size of an effective group, and Walton (1997:459) regards a group of 8-12 members as optimal. Most of these authors agree that the size of a group depends on the purpose of group work and the nature of the group task. "The size of the group needs to be related to the goals, aspirations, and interaction requirements of the members... if they get too large, subgroups will form to participate in the activity"(Dimock 1987:186). Thelen's rule of thumb (in Dimock 1987:187) states that a group should be limited to the smallest number of persons who could provide all the resources needed to accomplish the goals of the group. These resources include group-building resources and resources necessary to complete the task at hand. Davis (1993:151) also suggests that groups should be smaller if less time is available or when students are less skilful. However, the demands of the specific curriculum, the availability of venues, and also the size of the class of students are often determining factors for

the size of groups (Ledingham & Crosby 2001:75; Race & Brown 1998:82). Some authors also regard the lifetime of groups as an important determining factor for the size of groups, implying that groups should be smaller (2-4 members) for short-term tasks or groups (Davis 1993:151; Gibbs 1992b:24; Michaelsen 1999:4). Bligh (2000:chapter 16) argues that group tasks in education are conjunctive, i.e., every member of a group has to achieve the same level of performance, e.g., learning the study material. Therefore, is it better for groups in an educational set-up to be small in size.

Quite a number of authors prefer four members per group (Bligh 2000:156; Coelho 1994:37; Davis 1993:151; Reid et al 1989:30). Bligh (2000:156), for example, argues that groups of more than four students "are less likely to obtain the opinions, experience and commitment of all students." However, the majority of authors regard a size of 4-6 students as the ideal, although many also agree that groups of up to eight members would be completely acceptable. On the other hand, most authors regard groups as being large when they consist of more than ten members.

There are unequivocal findings in the literature that large groups are ineffective when doing group work, and many reasons are mentioned, which include the following (Barrows 1992:46; Barrows 1994:38; Bligh 2000:chapter 16; Davis 1993:156; Gibbs 1995a:8; Gibbs 1995b:6, 21; Holen 2000:485; Jaques 2000:102; Joubert & Steyn 1972:151-153; Michaelsen 1999:7):

- As the group size increases, the quality of interaction between the members decreases drastically. Some members might become unresponsive or passive, and some might form private conversations.
- More conflict would occur between members of a large group and competition amongst them would be more prominent.
- An unequal pattern of contributions of the members is typical of a large group, implying that only a few members would participate. This is possibly due to the fact that only a few members can participate at a time in a large group. Members can also hide easily in a large group and this would make it difficult to determine each one's contribution, influencing the fairness of assessing members of a group.
- It is much more difficult to maintain relationships in a large group and the group dynamics change as groups become larger. Leypoldt (1967:28) suggests that the following equation

could be used to determine the possible number of interrelationships (r) within a group: $r = n(n-1)$, where n is the number of persons in the group.

- Large groups are not as effective as small groups. Members have difficulty in working cohesively together and members often lack responsibility towards the group. With many members in a group, the discussion can go easily off the point, and because there are more opinions, it would typically take longer to complete a task and be more difficult to reach consensus.
- Larger groups are also more difficult to manage and subgroups are very likely to form. It also more difficult to monitor the group and the individual members' progress.
- Students evaluate large groups less favourably than smaller groups. This could be due to the fact that individual members get less recognition and experience a lesser sense of achievement, and that their satisfaction within the group is therefore negatively influenced by the size of the group.

However, large groups are useful for group projects, since a greater combination of knowledge, skills and abilities is needed in these groups (Bligh 2000:chapter 16). A greater differentiation of roles could also take place in large groups and a more favourable student-staff mix is expected in terms of involvement of the facilitator (Jaques 2000:156).

A few solutions for problems when working with large groups have been suggested in the literature, e.g., using appropriate group-work methods such as fishbowls or pyramids (cf. 2.9), and determining ground rules for groups (Gibbs 1995b:23). Appropriate seating arrangements can also be useful for enhancing the effectiveness of large groups and computer and information technologies could be used as resources to ensure availability to all members of a group (Barrows 1992:46; cf. also Department of Psychology (University of York) 2000).

Small groups are therefore more appropriate for group work if the main objective is learning, which implies the acquisition of knowledge, skills and attitudes. Members are able to participate better and face-to-face contact is possible (Reid et al 1989:30; Rudduck 1978:55). Smaller groups are also often fluid and little organisation is required (Jaques 2000:7). Consensus can be reached more easily in small groups and they are able to make decisions more

effectively (Joubert & Steyn 1972:153). When groups are smaller, members also play more prominent roles and have more opportunities to speak within their groups (Wilkerson 1996:24).

However, there are also a few disadvantages of small groups: The available pool of knowledge or intellectual resources might not be as big as one would want, and small groups might also lack diversity of style and experience to ensure lively discussions (Barrows 1994:38; Michaelsen 1999:4; Rudduck 1978:55). Very small groups would also lack the opportunity to mature, since members would not be encouraged to deal with a variety of approaches and opinions (Michaelsen 1999:4). Dyads, especially, could develop problems due to the fact that one member is often more active than the other, that tension could develop between them if they do not agree over a matter, and that one member has veto power in the group. Triads could also be problematic because the third person could have the ability to form a coalition with one of the other members, should two members not agree on a specific decision (Joubert & Steyn 1972:155).

Therefore, when determining the size of groups for group work, the specific purpose of the group work and the nature of the group task should be kept in mind (Bligh 2000:chapter 16; Boschee 1989:23). Group size could also be determined by the specific method chosen for a group-work session, e.g., small groups of 2-5 members are suitable for warming up, leaderless discussion, getting every member involved, delegating the "control" of the facilitator, and developing intimacy and trust amongst group members. Larger groups are more suitable to obtain a wide perspective and a variety of ideas, experiencing more complex group dynamics and developing proper communication skills. Even though Ledingham and Crosby (2001:75) argue that "[t]he size of the group is less important than the characteristics of the group," this researcher is of opinion that the size of groups should not become a neglected aspect of the composition of groups since the effectiveness of a group is at stake. The size of the group influences the strength of the group, as better interaction occurs in smaller groups which could cause a more positive experience of group work amongst group members (Dimock 1987:25).

Not many authors comment specifically on the advantage of either odd- or even numbered groups, and no consensus exists on the matter. If groups consist of an even number of members, it would be harder to reach consensus on a specific decision, because the group could be divided equally about the matter. On the other hand, groups with an uneven number of

members could overcome dead points of discussion easily and also reach consensus more easily because there will always be a majority subgroup (Joubert & Steyn 1972:155; Race 2000:34).

There are often two factors which the facilitator is not be able to change during a group-work session, which include the number of students and the venue. Depending on the presence or absence of a facilitator, these two factors could have important consequences for the effectiveness of groups, since the characteristics of groups change according to the specific set-up (Jaques 2000:157) for an interesting summary of how the characteristics of groups change according to the circumstances).

4.1.2 The composition of groups

Forming groups is not as straightforward as it appears to be, since many factors need to be taken into consideration when doing so. The following include the most important ones (Boschee 1989:30; Bosworth 1994:35; Cuthbert 1994b:92; Dimock 1987:181; Harris, Bramhall & Robinson 1994:138; Jaques 2000:158; Miller, Trimbur & Wilkes 1994:35-38):

- The academic achievement or intellectual abilities of students;
- The culture groups and nationality of students;
- The age of students and the presence of more mature students;
- The gender of students;
- The personality of students;
- The cognitive- and learning styles of students;
- The relationships and emotional links between students, especially students in special relationships and students forming cliques;
- The motivation of students to do group work; and
- The different roles that students prefer to play in a group.

Several methods could be used to actually divide students into groups, although each method has specific indications and no one method is best for all situations. The following methods are suggested in the literature:

4.1.2.1 Random selection of group members

Students could be divided into groups randomly, and since students rarely have control over the membership of groups which they are required to work with, it could represent a real-life situation (Hassall & Lewis 1994:169). However, although it could distribute stronger and weaker student more evenly (Gibbs 1995a:8), it would not necessarily ensure heterogeneous groups in terms of gender, cultural groups, academic achievement, personality types, learning styles, etc.

4.1.2.2 Alphabetical groupings

Forming groups alphabetically is impersonal and possibly bureaucratic, although it is logical. However, students from the same cultural grouping often have the same or similar surnames and therefore are likely to end up in the same group. This could defeat the purpose of teaching students to co-operate cross-culturally (Rudduck 1978:56). Apart from using the first letter of surnames, other options for alphabetical groupings exist, for example, using the last letter of a person's first name (Race 2000:31).

4.1.2.3 Academic achievement of students

Much research has been done on ability grouping of school children (i.e., children with similar learning achievements in the same class, but separated from children with higher or lower academic capabilities). Some of the interesting findings include the fact that high-ability children show positive academic effects with homogeneous grouping, that average and low-ability children might benefit from homogeneous grouping for certain subjects, and that children's attitudes could be improved through ability grouping in certain subjects (cf. Allan 1991). However, many authors assert that groups in higher education should include both poor and good achievers (Dimock 1987:181; Harris et al 1994:138; Jaques 2000:158; Rudduck 1978:56). Richardson and Fergus (1993) note that academic ability and learning styles are closely related, although most children (and students) tend to use a mixture of approaches to learning, depending on the circumstances. Being in a group of members with mixed abilities could provide students with a useful experience of real-life situations.

4.1.2.4 Sociometry

Sociometry (i.e., the likely pattern of emotional links between students) provides useful information about the social relationships amongst students in a classroom and can determine the degree to which students will be accepted within a group (Boschee 1989:30; Jaques 2000:158; Miller et al 1994:42). Sociometric methods of composing groups therefore provide the opportunity to group students according to their needs, concerns and even their attitudes. Boschee (1991:4) argues that "[w]ithout the use of sociometric methods, most teachers do not know how their students feel about each other, or the nature and extent of the existing subgroups." He asserts that ordinary methods such as numbering off, using geographical areas or preferences of students for favourite food or colour, for example, could affect the group functioning and climate negatively, and therefore suggests the use of a computer program "Small Grouper" to identify sociometric choices of students for groups. This program is able to identify the isolates (students not chosen at all), the stars (students selected most often) and neglectees (students only chosen one, two or three times). It is a valuable method of composing groups with at least one of the students' choices of preferred fellow group members, and is less time-consuming than ordinary sociometric methods (Boschee 1989:38). Most authors suggest that students should only have a choice of two or three students with whom they would prefer to work, although Joubert and Steyn (1972:106) believe that students should have an unlimited number of choices.

A sociogram could also be done manually, and the following guidelines could be followed for its construction (Boschee 1989:35; Joubert & Steyn 1972:106):

- The group size should be determined beforehand according to the purpose of the group-work session/s;
- The students who are sociometrically poor, i.e., the isolates and neglectees, should be plotted first;
- Isolates should not be in the same group;
- Cliques should be dispersed among different groups;
- Highly rated students should be dispersed among different groups;
- Every student should have at least one student of his/her choice in the same group; and

- Enough time should be allowed beforehand for students to get to know one another.

However, care should be taken to prevent the forming of cliques and subgroups. Groups of students who have a close affinity with each other should therefore be separated (Harris et al 1994:138; Jaques 2000:158), even though groups consisting of friends are more attractive to their members (Dimock 1987:181).

4.1.2.5 Personality types of students

Personality types of students could be taken into consideration in an attempt to compose harmonious groups with high levels of performance (Bosworth 1994:35; Grant 1994:130; Jaques 2000:158).

The Myers-Briggs Type Inventory determines personality types in the context of learning styles and could provide useful insight into the success or failure of a group. The ideal group would be a group with a balance in personality types and learning styles, regardless of the task (Miller et al 1994:35). This again represents a real-life situation.

4.1.2.6 Cognitive styles of students

The cognitive styles of students play a very important role in group dynamics and performance, and should therefore be taken into consideration when forming groups. Although cognitive diversity improves a group's performance, it tends to increase conflict within the group, and therefore also affects the level of satisfaction of the group members. Gordon's cognitive typology has two dimensions, viz., remote association and differentiation. These two dimensions do not correlate well with each other. Students who score high on the differentiation dimension prefer unstructured tasks and integration, and can be regarded as problem finders, whereas those who prefer remote association, prefer a structured task environment and are regarded as problem solvers. Students who score high on both remote association and differentiation are regarded as integrators and students who score low on both, as implementers. Groups consisting of all implementers or integrators are the most harmonious groups, whereas groups consisting of all problem finders or problem solvers are the least harmonious (Miller et al 1994:38).

4.1.2.7 Learning styles of students

A learning style can be defined as "the peculiar combination of strategies and processes a student habitually employs when trying to learn new material" (Richardson & Fergus 1993:69). Gardner's Theory of Multiple Intelligences (in Brualdi 1996) describes seven different types of intelligence which people could develop. Each student has therefore a unique set of intellectual strengths and weaknesses which determines how difficult or easy it is for the student to learn information presented in a particular way. This could be referred to as the student's learning style. Learning preference, on the other hand, could be defined as "how one chooses to approach a learning situation" (Jewett et al 1987:244).

Several types of learning styles amongst students have been discussed in the literature: Surface-level and deep-level processing are the most well-known approaches. Surface-level processors are concerned with covering the content of the work, assimilating knowledge, finding the right answers and learning verbatim. Deep-level processors are concerned with finding the central point and the big picture, the logic of the argument and connections with it, as well as the questioning of conclusions (Jaques 2000:46). Newble and Entwistle (1986) describe a third approach to learning, i.e., a strategic approach. This implies that students are driven by competition and the desire for high marks and therefore switch between a deep and surface approach to learning, depending on the circumstances. Another theory refers to holists, who attempt to look for interrelationships and the broad perspective, and serialists, who pay attention to detail and often are not able to integrate knowledge. Versatile learners are able to alternate between the two above-mentioned styles, depending on the task at hand (Jaques 2000:47). Curry (Curry 1999:411) argues that "a key to educational and professional success is the ability to adapt to different situations – including adapting one's learning style."

Students with a superficial approach expect the facilitators to provide the answers, whereas those with a deep approach are willing to take responsibility for their own learning, are active in their learning and reflect and apply what they have learnt in new situations (O'Sullivan et al 1996:40). These students would function more effectively within groups. The different approaches to learning have important implications for medical education as far as curriculum planning, course design, teaching methods, assessment systems and even selection of students are concerned. Assessment should encourage students to adopt a deep approach to learning and

lecturers should attempt to encourage students to engage in critical thinking and problem-solving activities in their teaching methods. Proper staff development sessions are necessary to ensure these changed approaches (Newble & Entwistle 1986). Newble and Entwistle (1986:174) also assert that the "key to these changes would be to present knowledge in ways which emphasize its vocational relevance and to provide student activities which repeatedly demand the use of such knowledge within a range of professional contexts."

Some authors therefore argue that it is important to consider these learning styles when forming groups, suggesting a mix of superficial and deep learners, since this could encourage students to improve their approach to learning through the exposure to different approaches to learning (Miller et al 1994:36). Hagberg (1999) also argues that heterogeneous groups in terms of personality and learning styles specifically, could enhance effective group work.

Several inventories exist to assist students in determining their particular learning style, e.g., Entwistle's Lancaster Approaches to Learning Inventory (Newble & Gordon 1985:4), and Kolb's learning style inventory (O'Sullivan et al 1996:34). Kolb's learning style inventory identifies four groups of learning styles, i.e., concrete experiences, reflective observation, abstract conceptualisation and active experimentation. Using this inventory, it was found that divergers and accommodators tend to rate group work higher as an effective form of learning than the convergers and assimilators (Spalding et al 1999:112). Research has shown that students who prefer to learn through concrete experiences and active experimentation are the ones who will most likely have a positive attitude towards group work, since the former relate well with other people and the latter enjoy influencing other people and observing the results (O'Sullivan et al 1996:34-35).

Different learning styles among the students can be accommodated by assigning different roles to the members in a group, since this would help members understand not only their own learning styles, but also those of the rest of the group (Allan 1991:3). Learning styles are, however, influenced by environmental, social, emotional and physical factors (cf. Skinner 2000). These also include the specific curricular and teaching approaches adopted by the particular medical school (Newble & Entwistle 1986:164). Race (2000:5), therefore, warns against "pigeonholing people into 'learning styles.'"

4.1.2.8 Students choosing their own groups (friendship groups)

Arguments for and against this method are offered in the literature: Dimock (1987:181) argues that people should be allowed to choose the groups they would like to be members of, because these groups would be stronger and would function better, since the members are attracted to, and happier within, the group. Gibbs (1995a:8) notes that, when students are allowed to choose their own groups, the interaction and co-operation within groups might improve. Davis (1993:156) asserts that students should be allowed to choose their own study teams who meet outside class to study together. This will ensure that students know each other well and have more responsibility towards their own groups.

McLean (2000) conducted a study on students' perceptions of the composition of groups and found that 89% of the students in the study preferred to choose their own groups, based on familiarity and travel arrangements. McLean therefore suggested that students should be allowed to choose their own groups for short-term groups (i.e., groups existing for only a few weeks), but for long-term groups, intervention is necessary so as to ensure valuable cross-cultural contact, otherwise students will segregate on an ethnic and gender basis.

On the other hand, more arguments exist against this method of composing groups: Rudduck (1978:57) asserts that this method could affect the functioning of groups negatively, since many students might end up in groups of their second choice or even further down the order if the size of groups is predetermined. Groups could also end up being over- or under-subscribed, which could pose a real problem regarding the criteria used to re-assign students to other groups in order to ensure equally sized groups. Allowing students to choose their own groups could lead to some students being isolated or to cliques being formed, and one should therefore be careful when making use of this method (Center for Teaching and Learning (Stanford University) 1999:3). One might also end up with a group of poor students nobody wants in their groups, which could lead to accusations of unfairness. A lack of discipline could also exist within these groups which could have a negative influence on their ability to tackle difficult problems (Gibbs 1995a:8). Miller et al (1994:42) argue that students should not be allowed to choose their own groups, but should be offered the opportunity to indicate with whom they would like to work or not (i.e., sociometry). These preferences, especially the negative ones, should be respected

when forming the groups. Friendship groups should also not be formed if one of the objectives is for students to support one another in terms of ability (Race & Brown 1998:83).

Therefore, students should not be allowed to indicate more than three choices for fellow group members, which could be used for sociometry to determine the best possible composition of groups (cf. 4.1.2.4).

4.1.2.9 Students' needs

People join groups with different needs, e.g., learning, friendship, skills training, fun, status or recognition. Dimock (1987:181) notes that "[t]he more a group can meet a new member's needs, the more important and attractive the group will be and the stronger will be the membership of that person."

Although it is not advisable for groups in higher education to consist of cliques or members with special relationships, students' needs, e.g., accommodation or travel arrangements, should be taken into consideration when forming groups.

4.1.2.10 Roles that students prefer to play

Groups may be composed according to the specific roles that members prefer to play. A study conducted by Belbin (in Cuthbert 1994b:92) suggested that the most successful groups are the ones consisting of a balanced mix of roles played by the different members. Belbin's Groups Roles Preference Inventory could therefore be used to form groups according to the roles members prefer to play (O'Sullivan et al 1996:59-66).

4.1.2.11 Other methods

Each student could be given a number on a class list and the numbers could then be used to form different combinations of groups. Astrological groups could also be formed by using the calendar month of a person's birthday, or using "star signs," although it is likely that not all

students would know when exactly the different star signs end and start. This method, however, could be regarded as inappropriate by some students.

4.1.2.12 A heterogeneous mix

Regardless of the method used to form groups (cf. 4.1.2.1 to 4.1.2.11), most authors are in favour of a heterogeneous mix of group members (Boschee 1989:66; Coelho 1994:52; Felder & Brent 1994:7; Harris et al 1994:138; Imel & Tisdell 1996:19). "[I]deally the groups should be diverse enough to include students with a range of intellectual abilities, academic interests, and cognitive styles" (Center for Teaching and Learning (Stanford University) 1999:3). Culture plays an essential role in a person's perspective of the world, and this would influence their approach to learning. Group learning could be enhanced through a diversity in perspectives amongst the group members (Imel & Tisdell 1996:19). It is therefore important to address the issue of culture when forming groups. A multi-cultural composition for a group is more representative of real-life and would thus be preferable for group work in higher education (Coelho 1994). Although some students might object to working in groups with people from other cultural groups, in South Africa, multi-cultural collaboration is inevitable and students thus have to be prepared for the real world. It is therefore advisable that students work together in multi-cultural groups, provided that they receive proper training in this aspect of group work.

The following advantages of heterogeneous groups are mentioned in the literature (Boschee 1989:67; Coelho 1994:36; Jaques 2000:158; Miller et al 1994:37):

- Heterogeneous groups are more analogous to the kind of groups and relationships found in real life;
- A heterogeneous mix of group members provides for the best interaction and performance within the group;
- The interaction of the different ability levels enhances all aspects of development and achievement amongst group members;
- More instructional models and participative methods are available to students and lecturers; and

- Heterogeneous groups enhance the social, affective and maturational development of the group members.

However, there are a few specific indications for forming homogeneous groups, although these situations are for specific purposes, e.g., single-sex groups could be formed to emphasise the difference between men and women and the way this influences groups. Aspects of gender and sexuality could also become more obvious after being in such a homogeneous group, and tensions of power and influence could be revealed which did not exist before (Reynolds 1994:127). It is however, debatable whether such an approach should be used for medical students. Furthermore, homogeneous groups do not represent a real-life situation and such groups could have serious consequences on the academic performance of a group, because lecturers might have certain expectations of specific groups (Jaques 2000:158; Rudduck 1978:56).

It therefore seems that heterogeneous groups in higher education would offer students the best possible opportunity of enhancing their academic performance and developing the necessary skills for group work. "As a general rule a heterogeneous mix of students in each group provides the best chemistry for interaction and achievement of task. Such qualities as age, sex, nationality and personality can be taken into account" (Jaques 2000:158). Coelho (1994:36) supports this argument by referring to research in co-operative learning which found "that heterogeneous groups are the most effective in promoting... positive results.... A group that represents a variety of talents and learning styles is more likely to promote high-level thinking and discussion than a group in which all the members approach a task in more or less the same way." Montaigne (cited in Boschee 1989:67) also argues "[i]t is good to rub and polish our brain against that of others."

The following method of ensuring a heterogeneous mix of students is suggested in the literature (Jaques 2000:158):

- The total number of students should be divided into the possible number of groups to roughly determine the group size.
- The criteria that differentiate students from one another should be chosen, e.g., gender, age, background, nationality, etc.

- A code should be assigned to each student according to the chosen criteria.
- For each group, a person with a different code should be chosen until the group's complement is worked out. This should be repeated if more members are necessary to reach the pre-determined group size, and should be done for all groups to ensure that each group has a good mix of the different criteria.

"It is easy for people who play by the same rules to work harmoniously with each other. At the same time, however, conflicts born from diversity can promote intellectual negotiation and innovation and thereby enhance performance, although not necessarily satisfaction" (Miller et al 1994:37). One should, however, be careful with the gender and culture of students, since certain cultural groups might prefer to work in single-sex groups (Race 2000:116). Since this is not a representation of a real-life situation, students should be informed about the rationale behind the method used to form groups, and the actual composition of groups, so as to encourage them to accept working in heterogeneous groups (Coelho 1994:36).

4.1.3 The lifetime of groups

Rudduck (Rudduck 1978:57) argues that "[t]he life of a group equals the time spent in the seminar room." She bases this argument on the fact that, when groups are composed without the students having a preference for fellow group members, only the minority of students knows each other well and mix socially after-hours. Therefore little interaction takes place during non-scheduled times. However, groups are still formed during group-work sessions and need to function as a group for a specific time. Crosby (1997:21) argues that the lifetime of groups should be discussed and decided upon in consultation with the involved students.

There is no agreement in the literature on how long groups should exist at a time. Some authors assert that groups should not change once formed, e.g., Miller et al (1994:39) argue that once "groups have been established in a class, they should not be shuffled or adjusted, as the growing-together process takes time."

Most authors, however, argue that groups should change membership from time to time (Crosby 1997:21; Gibbs 1995a:8). This could prevent weaker students from relying on the stronger students to do the work or it could prevent students from despairing due an unfortunate

or incompatible mix of members. It could also prevent groups from becoming stale and allow students to vary roles through the year to develop their social and group-work skills (Hagberg 1999:3).

A few authors think that groups should not be allowed to exist for more than two case studies at a time because groups are formed and reformed on a regular basis in practice. This provides an opportunity for students to become accustomed to the real-life situation (Hassall & Lewis 1994:169). However, most authors agree that the lifetime of groups should not be too short, because groups need time to learn to work together well, and sufficient time is needed for proper group dynamics to develop in a group (Felder & Brent 1994:9; Rudduck 1976:7).

Groups could either exist for the duration of a module or a project (Gibbs 1992b:24; Wetzel 1996:474), or could exist for a specific period of time. The ideal period suggested in the literature ranges from a month to a term or a semester (Barrows 1992:17; Felder & Brent 1994:9; Gibbs 1992b:24; Hagberg 1999:3; Rudduck 1976:7). The ultimate minimum time for a group to exist is probably 8-10 weeks, because "[i]n a shorter period of time students may never really get comfortable with the small group learning process or with each other, and thus never reap the rewards of the high output phase" (Barrows 1992:17).

4.1.4 Co-operation between groups of different year groups

There are arguments for and against the working together in groups of students from different year groups. On the one hand, the students with more experience might provide a model for the younger students, but on the other, this could also inhibit the junior students' creativity and courage to participate in groups (Rudduck 1978:57). However, the advantages of peer tutoring have already been noted (cf. 2.9.12).

4.1.5 Co-operation between groups of different courses

According to the World Health Organisation (WHO), the definition of multi-professional education is "the process by which a group of students (or workers) from the health-related occupations with different educational backgrounds learn together during certain periods of their education, with interaction as an important goal, to collaborate in providing promotive,

preventative, curative, rehabilitative and other health-related services" (Harden 1998:404). Harden, however, regards this definition as restrictive because it does not reflect all the possible different approaches to multi-professional education.

Some authors regard multi-professional learning as "shared learning": "Shared learning is one example of cooperation in which students or practitioners from different disciplinary backgrounds undertake basic or post-basic studies together" (Forman & Nyatanga 1999:489).

Although many multi-professional teams in health care fail to function properly, not much has been done in the past to address this issue. There is thus an urgent need for health science faculties to adjust their undergraduate learning programmes so as to provide opportunities for students from different professions to work together. This need stems from the specifications of various professional bodies that require health care students to be able to work effectively in a health care team (cf. 1.1 and 3.1). A change in attitudes, value systems and valuing the knowledge and skills of other disciplines amongst health care team members is necessary in order to maximise the patient benefits (Forman & Nyatanga 1999:493). Students should develop an insight, not only into the dynamics of a multi-professional team, but also the context of the team (Boaden & Leaviss 2000). The main purpose for undergraduate multi-professional learning should thus be to enhance students' understanding of the roles and responsibilities of other professional groups, and to develop the skills needed for effective teamwork (Parsell & Bligh 1998:526).

The ability to work as a member of a multi-professional health team, has consequently received increasingly more attention in the literature during the last few years. Educators have realised how important it is for professionals to be able to work together effectively in a team, and, therefore, attempts are being made to allow students from different health disciplines to work together on undergraduate level already. Accordingly, "[e]arly and repeated exposure of medical students to students of other professions, during which they are facilitated to work at solving their real problems in multi-disciplinary settings, should be an integral part of the courses for all health and social care professionals" (Mathie 1997:30).

The following are a few principles underlying the implementation of multi-professional education (Parsell & Bligh 1998:522; Pirrie et al 1998:414; Roberts et al 2000):

- The context of learning and curriculum goals should be taken into consideration.
- Students should be informed beforehand about the different aspects of multi-professional learning.
- The process should be adequately resourced by the institution.
- The objectives should be achievable and should fit into the respective curricula of the students involved.
- Adequate reflection on the process is necessary.
- The four dimensions of multi-disciplinary learning should be taken into account, viz., the relationships between the different professional groups, teamwork and collaboration, roles and responsibilities of the different groups, as well as the benefits to patients, professional practice and personal growth of individuals involved.

A few questions about the strategies for implementing multi-professional learning should be answered during the planning stage, e.g., which teaching strategies are most effective, who should teach the concepts of multi-professional education, which health care professionals should be taught in a multi-professional education set-up, etc. (Hall & Weaver 2001:873). Hall and Weaver (2001:872) suggest that non-traditional teaching methods e.g., problem-based learning (PBL) (or group work, for that matter), should be used, and opportunities for the acquisition of non-clinical skills such as communication, leadership and conflict resolution skills should be provided to ensure the success of multi-professional education. Students from the different health professions could also develop clinical skills together, e.g., in a clinical skills unit (Falchikov 2001:631).

Some authors argue that students should be exposed to multi-professional learning as early as possible in the curriculum (Herzberg 1999; Mathie 1997:30; Parsell & Bligh 1998:527): "Beginning shared learning as early as possible in undergraduate courses may help to change negative attitudes or prevent the formation of stereotyped views... [and] students may be better prepared for teamworking after qualification" (Parsell & Bligh 1998:527). Others assert that they should first master their own profession and develop their own professional identity before being exposed to other professions, and that multi-professional education has a greater impact on postgraduate level, or at least the later stage of a undergraduate curriculum (Harden 1998; Pirrie et al 1998:412). Herzberg (2000) notes that multi-professional education should be

introduced at all levels of education, including undergraduate and continuing professional development. Horsburgh, Lamdin and Williamson (2001:877), on the other hand, suggest that the particular outcomes for the stage of the students' learning should fit their experience, e.g., only outcomes providing for transferable skills such as working in a team or communication, should be included in the first year course, whereas more professional and clinical outcomes could be included in the later years of the courses. This is probably the best approach for implementing multi-professional learning.

The positive outcomes of multi-professional learning include enhanced professional confidence, better mutual understanding, respect and trust between different professions, improved inter- and intra-professional communication and reflective practice amongst professionals. There are also increased job satisfaction, optimal care and functional status of patients on discharge, increased productivity, shared knowledge and experiences, and optimal support and feedback amongst health care professionals (Horsburgh et al 2001; Makaram 1995; Pirrie, Hamilton & Wilson 1999; Pirrie et al 1998).

However, several barriers also exists against successful multi-professional learning, e.g., the entry gates of the different professions might not be compatible, and undergraduate students usually have little or no clinical experience, especially in the early years of their studies. It is also often not possible to balance the student numbers optimally and therefore students from some professions might dominate, more resources are needed in terms of library and computer facilities, and timetables could become very complex in an attempt to provide for multi-professional teaching sessions. The various courses of the professions could also differ in terms of length and assessment methods. Furthermore, the requirements of the different professional bodies could also make the actual realisation of multi-professional education difficult. Within the groups, students could experience a lack of knowledge of one another, as well as the scope of the respective practices, and groups could find difficulties with power struggles, competition, poor communication, and different habits and interests (Horsburgh et al 2001; Makaram 1995:68; Parsell & Bligh 1998:524; Pirrie et al 1999; Pirrie et al 1998).

Parsell and Bligh (Parsell & Bligh 1998:527)assert that "shared learning opportunities should become regular, assessed elements of courses, and should be incorporated at the planning stage to compliment and contribute towards curriculum goals." A possible checklist for planning

multi-professional learning could include the following (Parsell & Bligh 1998:528; Roberts et al 2000):

- The learning must appear relevant to the learners;
- The course must relate to the existing curriculum;
- Students must receive clear objectives;
- Membership should be balanced between the different professions involved;
- Participants in groups should have equal status;
- Interactive methods should be used during the sessions;
- Real-life clinical problems could be used to stimulate the learning;
- Feedback should be provided to the groups afterwards;
- More resources should be made available;
- Proper support should be provided to the students; and
- Facilitators should preferably be experienced in multi-professional education, or at least receive training beforehand.

The success of multi-professional education depends on three factors, viz., the context of learning, the curriculum goals, and strategies for implementation of a multi-professional approach (Harden 1998:402). The context of learning implies the specific stage of learning of the students, the setting (i.e., the primary health care team), the topic under study and the approach to learning (i.e., lectures, group work, etc.). "Multiprofessional education may fail not because the concept is flawed, but because an inappropriate approach has been adopted" (Harden 1998:408).

Harden (1998) also suggests that the particular approach followed at an institution is one of eleven points on a continuum, which includes the following:

1. Isolation. There is no contact between students from different professions at all.
2. Awareness. Although no formal collaboration exists between students from different professions, they are made aware of one another's roles.

3. Consultation. Discussion takes place between students from different professions, although the courses for the different students remain separate.

4. Nesting. There is no joint shared teaching at this stage, but an effort is made to provide students with a proper perspective and understanding of the other professions. This may involve using teachers from other professions to teach students.

5. Temporal coordination. The timetables of students from different professions are scheduled so that they spend time on a similar experience at the same time, e.g., a lecture, although no interaction between the students takes place.

6. Shared teaching. Interaction between students from different professions is part of the course, although it is only applicable to part of the course and there is no relationship between this particular part and the rest of the students' course.

7. Correlation. Well-defined multi-professional sessions are scheduled and topics related to a multi-professional health care team, are addressed.

8. Complementary. The uni-professional and multi-professional part of a course compliment each other and about half of the time is spent on each part.

9. Multi-professional education. The emphasis is on multi-professional education and little time is spent on uni-professional activities, although students from different professions look at the course from the perspective of their own discipline.

10. Inter-professional education. No distinction is made between the different professions of the students and students learn together to promote collaborative practice. They do not only look at the subject matter from their perspective, but also that of the other professions.

11. Trans-professional education. The multi-professional education takes place in the context of clinical practice and real-life situations, e.g., the management of patients admitted to a ward.

Students involved in multi-professional learning might have preconceived ideas about their own roles, the roles of others and the relationship between the different professions. This could be regarded as students' "readiness" for multi-professional learning (Parsell & Bligh 1998:523).

Some studies have examined students' perceptions of multi-professional education and have found that students generally feel positive about it and have high expectations of the outcome of their training, since they believe that it could be useful for future working relationships and the care of patients (Fallsberg & Wijma 1999; Horsburgh et al 2001:882; Mires et al 1999). However, students might feel negative towards shared learning because it requires more mature experiential learning methods (Roberts et al 2000). The greatest achievements are usually made when students attempt to learn about the different aspects of patient care by blurring the inter-professional boundaries, rather than continuously trying to define their respective professional roles (Cooke 1997). Some authors even argue that students should be selected for health professions courses with appropriate team working and communication skills in mind (Mathie 1997:30).

4.1.6 Roles of group members

Belbin (cited in Dawson, Lord & Baggott 1994:71) defined "team-roles" as "the ways in which members with characteristic personalities and abilities contribute to a team." It is important for members to know their specific roles in a group, since "[k]nowing who gets to do what, and what the expectations are for each member is an important part of a group working smoothly with a high level of satisfaction for the members" (Dimock 1987:35).

Apart from specific roles which could be assigned to certain members in the group, certain roles are universal and should be fulfilled by more than one member in the group. These roles could be divided into three main groups, of which only two are functional, viz., task roles, group-building and -maintenance roles, and individual (non-functional) roles (Dimock 1987:63; Dimock 1993:6). Task roles include roles like defining problems, asking for, or giving, information, seeking or giving opinions, and testing the feasibility of decisions. Group-building and -maintenance roles include coordinating, supporting and encouraging, following, mediating and harmonising, and orienting and facilitating. A few others might include relieving tension and gate-keeping, which is an attempt to engage quiet members in discussion, and standard-setting, which refers to the continuous checking whether the group keeps its rules of conduct (Jaques 2000:28). Non-functional roles could also be played by individual members and include blocking, digressing, competing, seeking sympathy, seeking recognition or status, dominating and withdrawing. Students should be aware of these roles and attempt to avoid

them at all costs (Abercrombie 1977:13). Groups who are not mature tend to be more task-oriented and they can only mature if the members assume group-building and -maintenance roles. Furthermore, members could play either masculine or feminine roles in groups, implying a tough and assertive approach and a sensitive and sympathetic approach respectively (Dimock 1993:23).

Positive interdependence amongst group members could be enhanced by assigning different roles to the members (Tucker et al 2003:67). Furthermore, the specific group-work method used during a group-work session has an important influence on the roles that group members play, since certain roles are imposed on members with certain methods (Bligh 2000:158). The roles that group members play also depend on the nature of the group-work session and the task at hand (Boschee 1989:24). These roles are also affected by the group's goals, activities and process, as well as external conditions beyond the control of the group (Steinert 1996:206). Fully functional members can therefore be identified by their ability to take on a variety of roles, depending on the situation and the need of the group (Abercrombie 1977:13). "The ability to take a wide variety of roles as they are needed in different situations is called role flexibility and is likely to be the most valuable attribute of a fully functioning group member" (Dimock 1993:7).

If students are allowed to choose their own roles, they are likely to choose the roles that satisfy their personal needs (Bligh 2000:158). Several inventories can be used by group members to determine the role which they prefer to play, e.g., Belbin's Self-perception Inventory and the SWOT analysis (i.e., strengths, weaknesses, opportunities and threats) (O'Sullivan et al 1996:59-66). Both these inventories assist group members in determining their strengths and weaknesses, and the SWOT analysis also assists students in becoming aware of the threats and opportunities that they might experience. A group needs an optimum balance in functional and team roles and the ideal composition would depend on the goal of the particular group, the nature of the group work, and the task to be completed by the group (Boschee 1989:24; Belbin in Dawson et al 1994:71). However, every member of a group should be given the opportunity to fulfil all the different roles in the group, because different skills are developed through fulfilling different roles (Boschee 1989:24).

Many different roles have been described in the literature, but they all boil down to the following:

4.1.6.1 Group leader

A good leader has a passion for, and an intense focus on, the task at hand, has the capacity to build and retain trust amongst the members, has a sense of perspective and vision, and is confident about the successful outcome of the group's work (Bligh 2000:160). It is also important that leaders have experience of following others, since this could influence their approach to leadership (Race 2000:20).

The leader has the following responsibilities, although he or she is not solely responsible for the outcome of the session (Dimock 1987:5; Nias 1993:117; Slavin 1990:113; University Teaching Services (The University of Manitoba) [s.a.]:1; Van Til & van der Heijden 1998:12):

- Ensuring that the group starts on time and sticks to the agenda;
- Structuring the group work;
- Stimulating interaction amongst members of the group by asking questions;
- Ensuring that everybody participates or contributes to the group work, although leading unobtrusively and talking little;
- Helping the group to achieve its goals; and
- Maintaining and building the group.

The leader is therefore one of the members who is best able to change the level of performance of a group (Bligh 2000:159). However, "[l]eadership is best thought of as a group function where most members will be contributing to the achievement of group goals and to the maintenance and growth of the group" (Dimock 1987:21).

Different styles of leadership exist on a continuum from controlling to permissive, viz. (Bligh 2000:161; Dimock 1987:9; Jaques 2000:32-36; Ungerer 1993:13):

- Authoritarian: The leader determines the entire policy or agenda of the group work. Although a lot of work can be done in little time, this style often leads to aggression, competition and hostility, or apathy amongst the group members.
- Democratic: The group makes decisions with the assistance of the leader. Group members are motivated and experience a greater deal of satisfaction, and although the group is slower to get into production, the quality of work that they deliver is good. These groups have a more relaxed atmosphere, better co-operation amongst members, and better products of group work, with or without a leader.
- *Laissez-faire*: Group members have complete freedom of decision with the minimum input from the leader. A group under such a type of leadership usually works poorly and does less than groups with other leadership styles.

A permissive leadership style is only advisable for groups of seven members or less, while a controlling style works better for groups larger than seven members, and person-oriented leadership styles are more favourable than task-oriented styles (Bligh 2000:161). However, some authors assert that groups should not have formal leaders: "[I]n the long run, in normal situations, groups thrive best when the leadership functions are democratically shared among the members of the group" (Jaques 2000:32). Reid et al (1989:38) agree that there is no need to appoint group leaders for small groups, since this could prevent group members from taking responsibility for their work. On the other hand, especially inexperienced groups would need the guidance of a leader.

Although the group leader is usually a natural choice if a sociomatrix is used to form groups, all students should be given the opportunity to act as group leader, since this is a very important skill that should be developed in all students (Boschee 1991:3; Reid et al 1989:38). Useful guides to group leaders to assist them with dealing with difficult situations in a group may be found in the literature (cf. Bormann & Bormann 1980:chapter 8).

4.1.6.2 Recorder or scribe

One of the main functions of the recorder is to assist the group in keeping track of the discussion. The recorder also has to summarise decisions or proposals made by the group and in so doing, assists in sharing the leadership load (Dimock 1987:205). This person might also

be required to photocopy the notes afterwards for every member of the group (O'Sullivan et al 1996:66).

Although groups often have recorders, it is sometimes advisable for all members to make notes of what has been said within the group, since this encourages them to take responsibility for their learning and provides the opportunity of giving feedback in the form of cross-over groups or sharing groups (Reid et al 1989:38) (cf. 2.9).

4.1.6.3 Time monitor

This person has an important role to play when a group has a time-limited task to complete. The role entails that the person keeps the process moving, encourages the completion of the task, and reminds the members of deadlines (O'Sullivan et al 1996:66; University Teaching Services (The University of Manitoba) [s.a.]:1).

4.1.6.4 Process monitor

This role could be considered in addition to the record keeper, since this person mainly has to monitor the group process (University Teaching Services (The University of Manitoba) [s.a.]:1). This is a role that is neglected very often.

4.1.6.5 Participation monitor

Although this role could form part of the responsibilities of the group leader, a separate person could also fulfil it. It implies keeping track of the participation patterns within the group, and involving non-participators by asking them direct questions (University Teaching Services (The University of Manitoba) [s.a.]:2).

4.1.6.6 Summariser

The recorder does not necessarily have to fulfil this role and another member could be assigned to summarise group discussions periodically and informing the group of what has been

achieved up to a specific point of the discussion (University Teaching Services (The University of Manitoba) [s.a.]:1).

4.1.6.7 Presenter

This person, also called a "raporteur," typically reports back on the outcome of a group task or project. Preferably, the role should be rotated amongst all the group members to ensure that everybody develops presentation skills (Cuthbert 1994a:86).

4.1.7 Responsibilities of group members

Apart from specific roles, group members also have certain responsibilities to fulfil in a group. These are universal responsibilities which are applicable to all members. It is important that all members understand, and are aware of, these responsibilities. The responsibilities may include the following (Barrows 1994:134; Cuthbert 1994b:93; Davis 1993:155; Van Til & van der Heijden 1998:14):

- All members must prepare for a group-work session;
- All members should attend all meetings and arrive on time;
- All members must actively participate in, and contribute to, group discussions and also contribute to the problem-solving process;
- Members should ask for and provide information on what they have studied in a logical way;
- They should listen actively, pay attention to fellow members and show active involvement through their attitude and non-verbal behaviour;
- They should provide, ask for and receive feedback in a constructive and supportive way;
- Each member should learn and accept help from fellow members;
- Members should provide and accept constructive criticism;
- Each member should teach and help others where possible and appropriate, and they should therefore help to promote each other's learning;

- Members should take responsibility for tasks required to complete the group's work;
- All members should provide support and encouragement to fellow group members where possible; and
- Members of groups should evaluate themselves in terms of their own strengths and weaknesses, as well as the success of their contribution to the group's work.

These responsibilities could be included in the ground rules of groups (cf. 4.2.3.1). One important factor which could enhance the success of group work, is the "*cohesion or diffusion of responsibility*" of the group members (Spalding et al 1999:110). This problem may be countered by linking individual contributions to a group reward or by allocating individual subtasks to the members.

4.1.7.1 The role of ice-breaker sessions

Groups are not merely a collection of people, but rather consist of a group of students, each with his/her own background, interests and talents. Therefore, opportunities should be provided for group members to get to know each other during an initial period of introduction (Barrows 1992:21; Barrows 1994:50). Ice-breakers could therefore lower the anxiety of group members, enhance communication and provide opportunities for interaction in groups. They also help students to get to know each other in terms of each one's strengths, weaknesses and preferences for working in a group, which could then assist members in supporting and encouraging one another, and also enhance the functioning of the group (Gibbs 1992b:25). "Ice-breakers serve to bring group members into different configurations, so that their mixing overrides their tendency to subgroup" (Barlow et al 1999:19).

Many ice-breaker exercises have been suggested in the literature (Barrows 1994:50; Jaques 2000:261; Race 2000:37-40; Robson 1994:41-44). Group building is an essential phase if groups are to become effective. However, a few strategies would probably not work for this purpose, e.g., asking students to introduce themselves, using psychometric testing to compose groups without a separate group building session, and using a presentation as an introduction to group work (Robson 1994:43). Therefore, one should make sure that the exercises chosen are appropriate for the specific group of students and purpose of the group work.

Coelho (1994:53) suggests a few other ways in which students can learn to know one another within a group: Members could brainstorm on areas of common interest amongst them, the group could choose a name for themselves, or each group could receive a space on a bulletin board for information regarding the specific group.

However, ice-breakers could also be used at the start of group-work sessions to help students relax and engage in the group work.

4.2 THE GROUP PROCESS

"*Process* refers to *how* things are done rather than *what* is done" (Schwarz 1994:22). The group process includes the ways in which groups function to complete group tasks and assignments and therefore implies the dynamics within a group. It thus involves different sub-processes and more than one sub-process may be in action at a particular time during a group-work session. These sub-processes could influence the effectiveness of a group, especially factors such as a pleasant group atmosphere, meeting all the members' needs and a general feeling of accomplishment amongst the members (Rose 1996:8). Pre-existing relationships between the group members could also have a great impact on the attractiveness, as well as the effectiveness of a group (Reynolds 1994:39). "[F]or a group to be strong, members must be attracted to the group, be clear about their role in the group and how they can contribute to achieving the group's goals, and be integrated into the group's standards and norms. Groups function most effectively when members agree on goals, standards, and usual ways of doing things" (Dimock 1987:28).

Albanese and Mitchell (1993:73) note in their extensive study on PBL that group dynamics could also influence learning within a group, since much additional time would be unnecessarily devoted to group dynamics when the group is dysfunctional. They therefore argue that more effort should be put into identifying and reconstructing dysfunctional groups. For group work to be effective, students therefore need to understand the group process, how they can contribute to the group as members, and how to deal with difficult members (Reid et al 1989:39).

The study of group dynamics is a study in its own right, and much work has been done on the different aspects related to it. It is not in the scope of this study to address this issue in detail. However, this study would not be complete without mentioning the important aspects of group dynamics, since it has an important influence on the effectiveness of group work, and is thus an essential component of a model for group work. Therefore, only the most important and relevant aspects of group dynamics will be mentioned.

"The dynamic of the team is... strongly affected by the sources of its members' actions" (Heron 1993:123). There are basically four types of motives that group members could have, viz., regeneration motives (development of skills and individuals themselves), fulfilment motives (needs intrinsic to the work they are doing), reward motives (needs that are not related to the group work), as well as pathological motives (unaware compulsions which could lead to distorted behaviour).

Boschee (1989:18) indicates that successful group dynamics in small groups facilitates the intellectual, social and emotional growth of students in the following ways:

- Active participation: Students tend to participate more in small groups, rather than in a whole class.
- Taking risks: Students feel less threatened to participate in small groups because they do not feel that they have to provide "right" answers in front of the whole class.
- Learning from one another: Students learn from one another through discussion and collaboration in small groups because they constantly receive feedback on, and explanations of, the learning material under discussion.
- Expecting success: Students are more comfortable to work and learn together within a group and therefore the task seems less daunting than when they have to do it themselves.
- Learning of social skills: Through working together, students learn to listen to one another and to take their fellow members into consideration.

Schwarz (1994:22) suggests that problem-solving, decision making, conflict management, communication and boundary management are all components of the group process and determine the success of the group process to a great extent.

4.2.1 Elements of the group process

Any group has certain properties that reflect the group process and thus contribute to the effectiveness of the group. These properties include the following (Bligh 2000:113-114; Dimock 1987:25, 30-34; Jaques 2000:chapter 2; Joubert & Steyn 1972; Webb 1985:151):

- Participation pattern: Different patterns of participation include one-way, two-way or multi-directional participation. The interest and involvement of group members would be enhanced with a broader pattern of participation.
- Communication: Verbal as well as non-verbal communication are relevant and might give an indication of how well members understand one another.
- Cohesion: This includes the morale of the group, the team spirit and the strength of attraction between the different members. It is therefore the degree to which members in a group stand together and resist destructive forces from outside the group. "The cohesiveness of a group is determined by the strength of the bonds that bind the individual parts together into a unified whole" (Jaques 2000:24). The percentage of reciprocal friendships is also one of the best indicators of a group's cohesion. It may be enhanced through allowing groups to choose a name for the group, or providing each group its own room if possible.
- Atmosphere: This refers to the social climate within a group and gives an indication of how members feel about the group, as well as the degree of spontaneity of their participation. "[A] group that aims at learning and psychological development or growth for its members needs to allow for a high level of spontaneity and personal expression from them" (Holen 2000:486).
- Norms: The code of ethics that determines what acceptable behaviour in a group is could be included in the set of norms. These norms are often implicit, rather than openly stated, although they could be included in the ground rules.
- Sociometric pattern: The "subtle relationships of friendships and apathy" (Jaques 2000:26) could have an important influence on the activities of the group, since people tend to agree with the people they like and disagree with the people they do not like. The talkativeness and frequency of interaction of group members both also influence the status of a group.

- Structure and organisation: The organisation of the group in terms of the division of labour and the relative prestige or power of members is usually informal and fairly invisible, but it has an important influence on the way in which groups function.
- Procedures: The ways of working within a group have a direct effect on the atmosphere, cohesion and participation pattern of the group. Groups have to decide upon procedures which are appropriate for a specific situation and therefore have to be flexible in their approach to group work. These procedures include how they solve problems and make decisions, and also conflict and boundary management.
- Goals: This is of the utmost importance for the accomplishment of groups and could range from long-term to immediate goals. Goals are often not defined clearly, but rather vague and implicit. However, the worth of aims directed at personal development, a sense of belonging, and self-esteem should not be neglected, since many members of a group might feel isolated because of a lack of concern from fellow members on a personal level.
- Competition: Although competition has been regarded as a motivational factor for learning, more recent research has shown that the contrary is true: Competition between group members affects the ability to work together in a group negatively. "This emphasis on winning can be very harmful, especially when the stakes are high. There can be only a few winners in any arena of endeavor; if the success of the winners invalidates the effort and contribution of other participants, the latter may feel that their participation is pointless" (Coelho 1994:11). Members are also generally more satisfied in cohesive, rather than competitive groups. On the other hand, inter-group competition tends to enhance the group cohesion because members of a group have to co-operate in order to compete with other groups.
- Group pressure: Peer pressure is necessary for effective self- and peer evaluation: "[P]eer pressure for good performance is very effective and not found in other educational methods. In time, each student becomes both more aware and accurate about his own performance" (Barrows 1992:42). Factors which might conform members to pressure, include the desire to remain part of the group, the visibility and strength of the pressures, conflicts with other group standards, the character of the individual and the certainty of sanctions.

The lack of any of these mentioned properties could affect the functioning of a group negatively, resulting in ineffective groups. Groups therefore have to be aware of the properties and have to evaluate themselves continuously to reflect on these elements of the group process.

4.2.2 Stages in group development

Jaques argues that a group is not a static, but rather dynamic organism, continuously changing from one stage to the other (Jaques 2000:32). Many different models exist which describe the stages or phases of group development. These models can be divided into three groups, viz., progressive, cyclical and non-sequential models. Progressive models are based on the assumption that a group is continually moving towards increased maturity and performance, e.g., the model of Tuckman (Crosby 1997:26-27) (see below). Cyclical models imply that a group develops in the same fashion as the different stages of life, e.g., birth, growth and death. Non-sequential models suggest that groups do not follow a particular order of events or phases, but are rather driven by events, e.g., Poole's contingency model of group development (Dechant et al 1993:2). Although these models are useful for understanding the way in which groups function, it should be remembered that they do not explain *how* collective learning takes place in a group.

Tuckman's model of group development is the most well-known and widely-used model, and describes four stages that a group may experience (Crosby 1997:26-27; Jaques 1991:39). O'Sullivan, Rice, Rogerson and Saunders refer to these four stages as Adair's theory (O'Sullivan et al 1996:76). The four stages (with two later elaborations) defined by Tuckman are:

- Forming: During this stage, group members learn to know one another and discover things about each other. This stage is often characterised by silences.
- Storming: Members start to confront each other in an effort to gain control over the group. Conflict may be evident, but all members are accountable for the success of the group, although members could resist efforts made by the group or the leader to control them.
- Norming: The group formulates rules in an attempt to minimise conflict. These rules are often unique to the specific group. The group also experiences harmony for the first time and mutual support develops amongst the members.

- Performing: During this stage, the group starts to focus on the task and on achieving the outcomes and therefore this is the productive period in the group's life. The members assume functional roles needed to complete the task and the group's energy is spent on completion of the task.
- Adjourning: This is an additional stage described by Tuckman and Jensen in 1977 (in Jaques 1991:39) and implies that the group dissolves while the group members experience different emotions. Often the members realise only then the positive influence that the group has had on them. Benjamin et al (1997:124) refer to this stage as the mourning/reforming stage, since members need support to disengage from the group when a group has come to an end.
- Informing: Jaques (2000:34) described this stage as a possible final stage of group dynamics, because groups start to communicate with other groups about the planning of their further work.

Gibbs (1995a:34) argues that it is not possible to skip any of the stages because members have to shift the focus from their individual needs, to the group needs and then to the task needs before they can become productive. The duration of each stage varies from group to group, and the end of each stage represents a crisis and support from the facilitator is often needed to help groups move on to the next stage (:35). It is therefore very important that facilitators also be aware of these stages. Support is needed, especially also during the storming stage, because students then often request to be moved from one group to another. However, the temptation to do so should be resisted, since this is seldom possible in real-life situations (Crosby 1997:27).

Other authors have also attempted to describe the different stages of the group process and development: Pedler (in Gibbs 1995a:35) notes that the stages of the group process may include making contact, exploring, getting down to it, working, and finishing. Cuthbert (1994b:92) argues that a group may fall apart between any of these stages. Armstrong and Yarbrough (1996:35) describe similar stages in group development which include politeness, focus, conflict, solidification and performance. Dimock (1993:9-14), in his turn, refers to stages of inclusion, control and openness.

Bligh (Bligh 2000:chapter 18) distinguishes between subject-centred and student-centred groups: The pattern of development in student-centred groups includes the stages of

dependency, rebellion, resolution, harmony, divisions and anxieties, as well as departure and separation. The development pattern in subject-centred groups differs, and includes stages of structure (becoming a group), conformity (getting acquainted), mutuality (recognising interdependence amongst the members), rebellion (tendency for independence), commitment, and productivity.

Gibb (in Dimock 1987:76-78) uses the TORI theory to describe stages of group development, which includes trust (acceptance and membership), openness (data flow and decision making), realisation (goal formation and productivity), and interdependence (control and organisation).

Argote, Gruenfeld and Naquin (2001:372) describe the CORE processes within learning groups of an organisation. Firstly these processes involve construction processes, which have to do with the adaptation of members to one another, and secondly, operations processes, which imply the activities of a group to fulfil its purpose (including problem-solving, conflict resolution and task execution). Thirdly, there are reconstruction processes which means changes in people, tools and the project plan in order to complete the task, and fourthly, external relations exist which place the group in the context of its organisational set-up.

Dimock (1987:66-71) views the development of groups from a different perspective, and bases the stages on the different interpersonal needs which members experience within a group, viz., inclusion, control and intimacy or openness. However, he warns that it could be difficult to describe the development of a typical group without knowing the members, the goals of the group, and the physical surroundings. During the inclusion stage, members try to get to know each other and establish some kind of commitment to the group. During the control stage, a hierarchy is established in the group according to the extent to which member would allow the group to control them. The intimacy stage implies that members accept one another's individual differences – conflict is tolerated better and there is a general feeling of trust. The leadership is usually shared during this stage since decision-making is based on group consensus.

Another model for group development, suggested by Karl, Marsick and Dechant (in Imel & Tisdell 1996:18), emphasises the learning process rather than task accomplishment. This model has the following four phases: Contained (individual) learning, collected (co-operative)

learning, constructed (collaborative) learning, and continuous (ongoing) learning. Bennis and Shepard (in Miller et al 1994:39) described two phases in the life of a group, viz., dependence and interdependence. These aspects could also influence the success of interaction between group members.

Most of the theories mentioned, in some or other way, provide for stages where group members get to know one another, learn how to work together as a group, and eventually are able to co-operate productively. Only a few of the many theories described in the literature have been mentioned in this research study. Jaques (1991:38-39) has made a summary of the most important theories of the stages of group development which could be useful for further study of group development.

4.2.3 Ground rules and contracts in a group

Ground rules are norms or implicit rules of a group that determine the acceptable behaviour of group members (Bligh 2000:132). Contracts, on the other hand, are drawn up by group members to determine the specific group's goals and ways of working to reach these goals.

4.2.3.1 Ground rules

"People who come together in groups tend to form structures and develop standards that help them to operate effectively and maintain themselves as a group" (Dimock 1987:23). Groups need ground rules to determine the way in which they are to function. Ground rules also provide a safe environment for students to function in, without which some students might feel threatened within a group (Crosby 1997:24). Ground rules could also include statements about politeness, power and defensiveness within a group, so as to protect its members (Gibbs & Habeshaw 1989:70). On the other hand, ground rules have one important disadvantage in that they force individuals to conform intellectually, and this is a great threat to the creativity of group members (Bligh 2000:134).

There are a few principles underlying the determination of ground rules: Rudduck (1978:121) argues that these rules should be reviewed and re-negotiated after they have been tried out for a time. Ground rules should be based on three core values, viz., internal commitment, informed

choice and valid information. They should be based on the assumption that all members of a group are committed and make important contributions to the group (Schwarz 1994:75). "From this process of social control a group derives its strength to pull together as a group and increase its effectiveness and morale" (Dimock 1987:23).

One way of identifying applicable ground rules is through brainstorming and anticipating what might go wrong in a group (i.e., negative brainstorming), e.g., when members do not bring their part, or if the group does not stick to deadlines, etc. (Jaques 2000:183; Race 2000:12). "[T]here is a lot to be said for encouraging a group to explore its own norms and to consider which of these it means to keep and which to change, in order to determine whether any improvement in the group climate takes place" (Jaques 2000:169).

The following ground rules, to name but a few, could be laid down for the general functioning of the group (Barrows 1994:50; Gibbs 1992b:10; O'Sullivan et al 1996:88; Pastoll 1992:21; Schwarz 1994:75):

- Every member of the group is equal in value to the group;
- Everybody should be clear on what is expected from the group;
- All members should attend all sessions where possible;
- Fun and laughter are fine and the health and progress of the group are essential;
- All members should participate in all phases of the process and anyone may make suggestions about how the group should operate, but should not interrupt others;
- The members should stick to the time set for group work and use an agenda to keep the discussion focused;
- Members should help one another if anyone experiences difficulties and decide what the group must do if members fall behind;
- Ground rules for confidentiality should also exist;
- Members should admit when they do not know answers or are unsure about something and must indicate when they do not agree with other members in the group;
- All criticism should be constructive;

- Members should not distract the group; and
- Members should evaluate their own contributions to the group.

Ground rules should be continuously reviewed to remind members of their existence, but also to lay down new rules for problems that were not anticipated initially (Race 2000:43).

4.2.3.2 Contracts

Unlike ground rules, contracts do not determine ways of functioning in the group, but rather provide active steps towards reaching the goals of the group, e.g., how the group can meet the objective for a specific group-work session or which resources and strategies they will use to complete the group task (Ungerer 1993:22).

Spalding, Ferguson, Garrigan and Stewart (1999:112) suggest that the group contract should be reviewed after six weeks of group work, so as to ensure an optimal approach to group work.

Learning contracts between students and teachers can also be drawn up to involve students early on in their learning paths, although it could only be an informal contract, e.g., students could get the permission to ask questions or to make suggestions at any point in the discussion, and the lecturer or facilitator should agree to attempt to respond to all questions asked by students. Such a type of contract may clarify the goals of learning and could provide a reference point for evaluation at a later stage (Brown & Atkins 1988:58).

4.2.4 The effectiveness of a group

In order to do group work effectively, one should not only be aware of the characteristics of effective groups, but also of ineffective groups, in order to be able to identify these groups. It is also important to be aware of factors that influence the effectiveness of groups and strategies which could improve it.

Dimock (1987:165) suggests six steps for developing strong groups which he regards as "the backbone of what we want to accomplish in our groups." These steps include the following:

- Recruit members who will be attracted to the group;
- Set clear and attainable goals for the group;
- Establish structures and rules to ensure that the goals will be accomplished;
- Encourage teamwork and shared leadership;
- Demand from members to invest time and energy into the group; and
- Make individuals aware that they can contribute personally to the success of the group.

4.2.4.1 Characteristics of effective groups

The effectiveness of groups is influenced by the group structure, group process, role of the facilitator, and also the organisational context. Effective groups therefore have certain characteristics regarding these aspects. Slavin (in Ungerer 1993:6) suggested that the performance of a group or group functioning (GF) can be regarded as a function (F) of internal dynamic (ID) forces in relation to external dynamic forces (ED), viz., GF = F(ID:ED).

Effective groups have the following characteristics (Hill in Abercrombie 1977:13; Abercrombie 1977:43; Black 1992:17; Bligh 2000:chapter 15; Brown & Atkins 1988:50; Gladstein 1984:500; Joubert & Steyn 1972:194-213; Larson & LaFasto 1989; Napier & Gershenfeld 1983:4; Reid et al 1989:69; Schwarz 1994:28-33; Sefton 2001:160; Ungerer 1993:5-6; Virtanen et al 1999:272; Zander 1994):

- They have an effective group structure. The membership of a group in terms of gender composition, the age of the different group members and the abilities of the members could have a great influence on the effectiveness of a group.
- Effective groups also have a results-driven structure. This implies that the group's design or structure is aimed at achieving its goals. Based on this, three different structures are possible, viz., problem-resolution groups, creative groups and tactical groups. The most important value of problem-resolution groups is trust, since all members are valued and respected and everyone works together towards solving the problem. Autonomy is the most important factor for creative groups, since members are able to explore alternatives when doing projects. Tactical groups usually have a well-defined plan to execute and aim to

improve the responsiveness of members, and therefore the important element of these groups is clarity of the plan.

- Effective groups also have competent group members who exhibit the necessary skills and abilities to achieve the desired outcomes, and who are committed towards the goals of the group. Whenever groups can select their own members, the ability to solve problems, creativity and tactical abilities are desirable characteristics group members should possess. Competent members are also capable of working together effectively with their fellow group members.
- The needs of members in effective groups are satisfied, they are interested in the work and experience fun together.
- Effective groups are small in size, which allows more effective interaction. The face-to-face contact of group members is of the utmost importance for the effectiveness of the group, since communication and interaction are improved in this way.
- Effective groups also have the ability to exist over a period of time, which implies that members are able to maintain the group process.
- Members of effective groups have clearly defined roles to play and they are accountable for what they do. They also share the roles, implying that the roles are frequently rotated amongst the different members.
- Effective groups have a principled leadership and the leader has a clear goal and vision for the group. The group leader has important task and maintenance functions to perform within a group and therefore has a distinct influence on the effectiveness of a group. The leader also empowers the group members and ensures the structural integrity of the group. Good leaders are tough on principles, not people, and they create a decision-making climate because they cannot make all the decisions themselves. They also create leaders amongst the members within the group as they provide opportunities for members to take responsibility and to develop their self-confidence. However, groups are even more effective when the leadership role is rotated and different members get the opportunity to act as the leader.
- Effective groups also have clear goals which are in line with the mission and vision of the particular organisation they are involved with, and their tasks are aimed at reaching these goals. These goals are clear and obtainable and members believe that their goals would

produce worthwhile results, and actually achieve their goals. They also take the amount of energy, the skills, time and resources it would take to achieve the goals into consideration.

- The values and beliefs of the group (i.e., the group culture) influence the performance (and therefore the structure) of the group. Group norms can be regarded as ground rules according to which groups function and are a necessary prerequisite for an effective group, because group members normally have different expectations of the group. The norms determine how certain things are done within the group, e.g., handling conflict, solving problems or making decisions.
- Unified commitment or "team spirit" is another characteristic of effective groups, which implies that members are dedicated to help the group succeed. The leader, who should encourage the members to be involved with the strategic planning of the group, could foster unified commitment amongst group members. However, effective groups maintain a balance between differentiation and integration, and a certain level of individuality is thus tolerated within the group.
- Effective groups also have a non-threatening group climate where members have the liberty to participate and discuss any problems they might experience within the group, and where learning is enhanced. Social sensitivity amongst group members also enhances a group's morale. Furthermore, caring and closeness occur between members of effective groups, and although they feel free to criticise one another, they also build one another up and share in accomplishments. A general atmosphere of acceptance, prestige and respect amongst group members may be found in effective groups.
- Group cohesion is another characteristic of effective groups. Groups with a high degree of cohesion have better interaction patterns and are more productive in terms of the division of labour, motivation to complete a task, and communication. A collaborative climate and interdependence are also essential for effective groups, because "the whole is greater than the sum of the parts" (Larson & LaFasto 1989:85). When members trust one another, collaboration flourishes and communication is efficient.
- Effective groups also communicate effectively, listen to one another, and even teach one another.
- These groups also know all the steps of problem-solving, follow a systematic way of solving problems, and all members of the group are at the same step of problem solving at any given point in time.

- Groups are effective when they have a specific strategy for making decisions and make decisions through consensus, rather than a majority vote. They are also able to solve disagreements and handle conflict in such a way that members understand afterwards how the conflict arose and how the group has been able to solve it. Members who are self-serving or do not contribute, are also dealt with in effective groups.
- Effective groups maintain the group process and develop and adjust it in order to enhance their effectiveness. They evaluate themselves continuously and provide feedback to all group members regarding their performance and contributions.
- Effective groups also complete group tasks effectively. Members prepare for group-work sessions, attend the sessions regularly, and they have an agenda for the completion of a task and stick to it. They also have effective methods of documenting their work and the decisions made by the group, and also maintain certain standards of excellence, which include individual and group pressure to perform well.
- Active participation and intensive discussion are two more characteristics of effective groups, and all members contribute to the completion of the group task.
- Members' skills and knowledge are also used effectively to perform a specific task and they spend sufficient time on their task (performance time), as well as their group process (process time). "Typically, groups spend too little time on process, underestimating how process time can enhance the time spent on performance" (Schwarz 1994:31).
- Effective groups also have the ability to manage boundaries effectively and overcome threats from outside: Although they need to function independently as a group, they are also dependent on the organisation for support and resources, and this balance needs to be maintained effectively. "**[G]roups also use their processes to identify and solve problems that arise from their processes, structure, and organizational context**" (Schwarz 1994:28).

4.2.4.2 Characteristics of ineffective groups

The characteristics of ineffective groups are mainly the opposite to the characteristics of effective groups. Some additional characteristics include the following (Black 1992:17; Barrows in Das Carlo, Swadi & Mpofu 2003:59; Jaques 2000:29; Joubert & Steyn 1972:198;

Larson & LaFasto 1989:34; Reid et al 1989:69; Thomas 1997:326; University Teaching Services (The University of Manitoba) [s.a.]:1):

- Ineffective groups do not have clear goals and values. They are thus not focused and do not have a sense of urgency to achieve their goals.
- Members' needs are not met in ineffective groups and they often experience a lack of satisfaction.
- Group members play non-functional roles (cf. 4.1.6), e.g., blocking, aggressing, dominating and seeking recognition. The group should regard this self-centred behaviour as a deeper personal need of the specific person and it needs to be dealt with constructively.
- There are reticent group members, or members who are "free riders." Groups are also ineffective when only one or two persons do the talking, and even the work, while the others seem not to be interested in the group work, or are not able to express their feelings freely.
- An atmosphere of boredom and indifference within the group also influences the effectiveness of groups negatively.
- They also make no effort to give attention to the monitoring and improving of the group process.
- Ineffective groups do not deal with conflict and disagreements properly. Members also have poor communication skills and often do not listen to one another, and even accept inaccurate, or reject accurate, information. Sarcasm and lack of spontaneity are also often typical of ineffective groups.
- These groups have inappropriate decision-making strategies, e.g., voting to make decisions, and a lack of consensus about the structure of the group is often present in ineffective groups.
- Groups are ineffective when they have difficulty in focusing on the group tasks or ineffective use of group time. Their discussions are also not kept to the point and individual members' efforts are often diluted, because their individual agendas are more important than the group's goals. The latter is often the most frequent reason why groups are ineffective.
- Ineffective groups struggle with poor problem-solving strategies for both the group task and the group process.

- These groups could also experience "groupthink," which could be regarded as the tendency for groups to avoid making decisions or handling conflict (Janis in Bligh 2000:118). Certain characteristics, to name but a few, which could be ascribed to this concept, include rationalisation, the illusion of unanimity, the pressure to conform to group decisions, the illusion of power by thinking that the rest of the group supports one's ideas, and also belittlement and stereotyping. The latter implies that group members do not regard outside opposition as serious. Groupthink tends to happen when groups are highly cohesive, operate under direct leadership, experience stressful conditions and are isolated (Turner & Horvitz 2001:451). Groupthink should be avoided at all costs by groups.

Being aware of these characteristics, groups should evaluate themselves and their members to determine the level of effectiveness of the group.

4.2.4.3 Strategies to increase the effectiveness of a group

The different strategies could be applied in different stages of the group work and therefore they are discussed accordingly.

4.2.4.3.1 Before group-work sessions

The following could be done before group-work sessions to ensure effective group work:

- Ensure that staff members are properly prepared for group-work sessions. This is a function of the specific organisation, and all staff involved with group work should attend staff development sessions on group work for this purpose. One of the best ways of preparing them for this job is for them to experience group work during their training sessions (Crosby 1997:21).
- Groups could be involved with the planning of group-work sessions, since the effectiveness of the group could be enhanced if all members are involved in determining the goals of the group (Dimock 1987:166).
- Students should also be well-informed regarding the objectives of the particular course and they should understand exactly how group work fits into the course (Crosby 1997:23). If students have different expectations, they might not be able to see the value of group work

(Tiberius 1999:49). Proper training for group work is therefore of the utmost importance and students' responsibility towards this method of instruction should be highlighted to them so as to ensure successful group work.

- It should be emphasised that the group process is just as important as the group task. "*How we work together is as important as what we get done*" (Ellis and Whalen cited in Ungerer 1993:22).

- The group size and membership should be determined beforehand. Although students are often already divided into groups by the time lecturers present the group-work sessions, this is an important function of the organisation involved. Students should be divided into groups according to a specific method determined by the organisation and decisions should be made about the lifetime of groups (Crosby 1997:20). The needs and expectations of students should be kept in mind when doing this (Steinert 1996:204). Groups should be composed with care to include students with fewer and those with more social skills together in a group. Students with poor social skills often work better in pairs and therefore should be divided into groups accordingly (i.e., at least two of these students per group) (Ungerer 1993:22). Group sizes should be as small as possible, since better interaction could take place when only a few people are involved. Many small-group methods provide for small groups, e.g., buzz groups and snowballing (Brown & Atkins 1988:60). On the other hand, Michaelsen (1999:4) argues that, if groups are too small (i.e., 2-4 members), students would not mature into effective groups and sufficient intellectual resources within the group would be lacking. This could hamper the effective functioning of a group.

- Groups should have ground rules to determine their way of functioning, which should preferably be established before groups start to function in group-work sessions (Crosby 1997:23). This should not only prevent anxieties amongst the students, but could also act as a reference point when analysing sessions at a later stage (Brown & Atkins 1988:58). The interactive exercises used during group-work sessions should also be based on ground rules, e.g., confidentiality, and the groups could determine these rules themselves (Barlow et al 1999:12).

- Sufficient resources should be made available, since group work cannot be effective without sufficient resources (Crosby 1997:18). Physical resources include the venue, the arrangement of the furniture, the availability of learning material, etc. The resources in terms of manpower should also be taken into consideration. This depends greatly on the

number of staff available and their expertise for the particular topic under study. It should be decided whether facilitators could be floating, whether they should be experts in the topic under study and whether students could facilitate their own groups. Facilitators or lecturers should also ensure that the materials necessary for a group-work session are prepared and ready and that enough time is made available for groups to complete their task (Benjamin et al 1997:152). Although lecturers could decide on the particular resources necessary and the way in which facilitation should take place for a group-work session, the specific organisation is responsible for providing sufficient resources in terms of physical and manpower resources. Seating arrangements could have an important influence on the nature and pattern of interaction within a group and should therefore receive special attention during the preparation for group-work sessions (Brown & Atkins 1988:58) (cf. also 4.3.1.2).

- A positive, supportive and non-threatening atmosphere during group-work sessions should be ensured. Students should feel comfortable to share and develop mutual trust within their groups (Steinert 1996:204). The safety of students should be ensured by providing rewards for effective group work, or reducing the risks during group-work sessions. This could encourage them participate better. The risks of group work could be reduced by ensuring that the objectives of a group-work session are clear, designing activities which are within the capabilities of the groups and by not criticising students or allowing their fellow members to do so (Brown & Atkins 1988:60).

- The most appropriate method should be chosen for the particular session and clear objectives for a particular group-work session should be set beforehand so that group members would be able to focus on the task at hand (Crosby 1997:18; Steinert 1996:203-204).

- The most appropriate method for the particular group-work session should be selected according to the purpose and the intended outcomes of the session (Crosby 1997:21). This is mainly the task of the lecturer responsible for the planning of the specific group-work session. In order to prevent boredom amongst students (and facilitators), the specific format of group-work sessions should be varied between e.g., case studies, presentations, role-plays, films or video tapes, and even short quizzes (Steinert 1996:205). Role-play could be used to assist students in developing the social skills necessary for group work. Interactive exercises are very useful for enhancing participation in groups, the group climate and cohesiveness, and for engaging members in the group process in an informal way. However, care should be taken when using different exercises, since some members may

interpret them incorrectly, and some cultural groups may experience discomfort or anxiety during these exercises. The purpose of the specific exercise should therefore be clearly explained to the group members (Barlow et al 1999:3).

- The development of appropriate stimulus material to trigger discussion and participation within groups during a group-work session is an important task of the specific lecturer. Various types of stimulus material could be used, e.g., video clips, paper cases, etc. (Crosby 1997:22).

4.2.4.3.2 During group-work sessions

During group-work sessions, the following strategies might enhance the effectiveness of the group work:

- An adequate introduction, and even ice-breakers should be used for a group-work session, especially when it is the first time that a particular group meets. Ice-breaker exercises could help group members unfold, stimulate communication and enhance interaction. Many different ice-breaker exercises exist, although the specific exercise chosen should suit the purpose of the group-work session and the time available (Barlow et al 1999:chapter 2).
- Students should know what is expected of them during a group-work session. Students should not only understand the particular group-work method chosen for a specific session, but should also be clear about the purpose of the session, what they should do, and how much time they have to complete the task (Crosby 1997:24).
- The facilitation of learning and group work is an important task of the staff involved with group work. Although the lecturers normally design the group-work sessions, the role of the facilitator is extremely important for ensuring that groups function properly and that the tasks they perform are successfully completed. Although facilitators are much more involved during the early stages of a group's life, they should ultimately become redundant and encourage groups to take responsibility for maintaining the group process and performing the group task (Crosby 1997:25). On the other hand, facilitators should attempt to demonstrate their enthusiasm and interest to the students, since this could encourage them to follow suit (Steinert 1996:206). Individual feedback should also be provided in a positive manner to the members who do not exhibit proper social skills (Ungerer 1993:22).

- Active participation and involvement of students should be promoted during group-work sessions. This could be done through effective questioning (cf. 4.3.4.1), attentive listening by the facilitator without talking too much, and also acknowledging students' contributions appropriately. Constructive feedback should be provided on their contributions and equal participation amongst group members should be encouraged (Steinert 1996:205).

- The group process should also receive attention during group-work sessions and problems with conflict or tension should be addressed. The improvement of group relationships should always be part of the objectives of group work (Steinert 1996:206). If serious problems are encountered during group-work sessions, the session could be interrupted by the facilitator for a mid-phase evaluation, or even relaxation or interactive exercises (Barlow et al 1999:chapter 4).

- Ineffective groups should be assisted in improving their effectiveness. This could be done in the following ways: Firstly, the facilitator should become actively involved by assigning specific roles to group members. This is contrary to the general tendency for facilitators to withdraw and become redundant. Secondly, the lecturer or facilitator could also use class time to teach group process skills and for group process work. These two possible solutions, however, have a few disadvantages: Firstly, valuable time, which could be spent on mastering the study material, is now spent on the group process, and secondly, when lecturers or facilitators have to invest effort and time in teaching group process skills, they might decide not to make use of group work as an instructional method at all (Michaelsen 1999:6).

- Group work should be monitored by facilitators when moving around between groups by encouraging groups and individuals to participate verbally and non-verbally (Center for Teaching and Learning (Indiana State University) [s.a.]:2).

- Debriefing the group on the group activity is another factor which influences the effectiveness of a group-work session, since student learning is maximised through summarising and clarifying what has been learnt during the session. Barlow et al (1999:9) emphasise that "*[c]oncluding or debriefing the exercises is essential, for it is at this time that important learning happens.*" Debriefing this helps students make sense of the experience. Constructive feedback on the outcome of a group's task which they performed during a group-work session is also essential (Crosby 1997:27). "[I]mmediately following the structured exercise, there must be enough time left for reflection, analysis and discussion

to take place. Failure to plan properly can lead to frustration and to lost opportunities to learn from reflection in this part of the session" (Benjamin et al 1997:152). Allowing students to summarise the group-work session is a valuable way for facilitators to evaluate the success of a group-work session, provided that enough time is available for this (Steinert 1996:206). The feedback provided to groups or group members should be well-timed, relevant, descriptive rather than judgmental, should be balanced in terms of positive and negative statements, should be specific rather then general, and should offer advice students could follow to improve their efforts (Gibbs & Habeshaw 1989:73; McAleer 2001b:297-298).

- Rewards for effective group work should be provided to students in the form of praise, marks or other tangible results. This could demonstrate to students that their efforts are valued (Center for Teaching and Learning (Indiana State University) [s.a.]:2).

4.2.4.3.3 After group-work sessions

The following might increase effective group work, even though applied after a group-work session:

- Proper assessment and evaluation of the group process should be done to make students aware of the possible needs for improvement within their groups. Strategies to improve group effectiveness should be planned accordingly, but the group should be the focus for improvement and individual members should not be relied upon to change the group (Dimock 1987:166).
- Both the students and the facilitator should evaluate the outcome of a session. Students could be asked through questionnaires whether the outcomes of the session had been met and what they liked or disliked about the session. They could even be asked to evaluate themselves and their peers on their performance and contributions to the particular session. Facilitators and the lecturers, who designed the group-work sessions, should also evaluate the outcome of the session.
- The performance of the facilitator during a group-work session could also be evaluated by using evaluation forms, since this could provide the facilitator with insight into his/her skills as facilitator (Steinert 1996:206). They should also evaluate themselves regarding their performance during a group-work session.

- Reflection should take place on the experience of a particular group-work session and the necessary changes should be made to improve the outcome of future sessions. "Reflection cannot be effective in isolation. It should be ongoing, and an integral part of... teaching practice" (Crosby 1997:29).
- The students should be made aware of how a particular group-work session fits into the context of the real world. The facilitator could ensure this by asking open-ended questions on the objective of the particular session (Benjamin et al 1997:153).
- Interactive exercises could also be used at the end of a group-work session or even at the end of a group's lifetime, to "act as a positive transition for group members to put into practice what they have learned in the group" (Barlow et al 1999:137).
- The particular educational institution should monitor group work closely to identify and handle problems as soon as they occur.

Therefore, it is important to note that improving the effectiveness of group work is not only the responsibility of the students, but also that of the lecturers, facilitators and the specific institution. It is also important to note that many factors in different stages of group work should be evaluated when group work appears to be ineffective, and that revitalising groups is a continuous process (Dimock 1987:166).

4.2.5 Communication within a group

"Without dialogue there is no communication, and without communication there can be no true education" (Freire cited in Bellet 1998:376). Communication is a two-way process in which the receiver of the message should listen attentively and provide feedback to the sender. Several factors could affect the success with which the message is conveyed (Jaques 2000:61-75). Walz et al (1999) define communication as stating one's own perspective clearly and acknowledging and understanding another's perspective. They argue that seeking other perspectives and questioning assumptions are the keys to the success of a group.

Proper communication in group work implies that students learn both the rules and strategies of the use of language, and it is therefore of the utmost importance that students receive training in the different aspects of communication (Bligh 2000:183; Tucker et al 2003:152-154).

"Communication helps to support the task and maintenance roles in groups" (O'Sullivan et al 1996:71). It has several functions in group discussion, including conveying information, expressing feelings, asking questions, and establishing relationships (Bligh 2000:182). Non-verbal communication is an essential component of communication which provides feedback to speakers on how people react to what they have said (:184).

"[M]any, and possibly most, errors in communication occur because of psychological rather than logical factors. The feelings, attitudes, behaviours and relationships of those involved in communication are more likely to determine whether it is effective or not" (Jaques 2000:61). Barriers, which could prevent effective communication, are mainly based on students' previous experiences of groups or the particular group members. Defensive strategies such as being concerned with one's self-image, trying to dominate, being judgmental, or preventing people from expressing their ideas, could also hinder effective communication (:71). Three ways of improving communication could include developing a sense of openness and mutual trust among the group members, correcting distortions of the communication through constructive feedback, and engaging in communication about the process of communication (:65). Several authors, such as Bormann and Bormann (1980), provide useful guidelines for effective communication.

Another issue related to communication is that of cross-cultural-communication. Skelton, Kai and Loudon (2001:260) argue that part of the teaching of transferable skills should include "responding to an *individual's* culture in its broadest sense, developing a heightened awareness of one's own attitudes to difference, and 'sensitivity' to issues of stereotyping, prejudice and racism."

4.2.6 Interaction within a group

"[G]roup learning is no guarantee of successful learning, but the stimulation of interactions between students is a prerequisite" (Dolmans et al 2001:888). Also, "interaction is not just having a conversation. The dialoguers must engage in critical thinking" (Bellet 1998:376). Joubert and Steyn (1972:18) regard interaction as any event where the action of one person influences the attitude or behaviour of another person in a characteristic way. Interaction thus depends on how people see themselves and others (Bligh 2000:180). A study conducted by

Dolmans, Wolfhagen and van der Vleuten (1998) showed that interaction has an important influence on the success of a group, and it is therefore necessary that group members pay specific attention to the interaction patterns in their group. Rudduck (1976:5) also argues that "participation is the distinctive procedural aim in small group work and... problems in participation are likely to account for much of the failure of small group learning."

In order to enhance interaction in a group, both the members and the facilitator should be aware of ways in which the interaction could be analysed. Several instruments have been provided in the literature for this purpose, e.g., Bales' system (in Reynolds 1994:48) and the modified Flanders Interaction Analysis (Tiberius 1999:97). Webb (1981) also lists the instruments of several other authors (cf. also Bormann & Bormann 1980:chapter 10).

Another useful way of analysing interaction in a group is a computer-assisted system, used by trained observers, to classify the verbal communication patterns of both the students and facilitators during group-work sessions. A coding scheme is used to indicate verbal behaviours such as lecturing, questioning, responding and summarising of the participants on a computer. The advantage of this method is that summary profiles of the interaction are immediately available after the session and this feedback could be used to improve interaction during next sessions. However, this method does not provide insight into the non-verbal behaviour of the participants and is dependent on inter-observer reliability (Magill et al 1988).

Strategies to increase the interaction and participation in a group should be planned according to the findings of the analysis. In order to do so, the factors which could influence participation of group members should be kept in mind, which include, amongst others, the following (Bligh 2000:105; Bridges 1976:118-120; Davis 1993:85; Kettle & Seddon 1976:112-116; Reynolds 1994:49-56; Rudduck 1978:72-76; Tiberius 1999:55-132):

- Compulsory attendance: Especially if the group work is assessed, students only participate for the sake of getting marks.
- The composition of groups: When groups are too large, when they do not have enough time to complete their tasks or discussions, or when some members play blocking roles, the success of the group work could be affected negatively.

- The characteristics of the group members: Members' motivation, as well as the influence of previous experiences of group work, affect the interaction patterns in a group.
- The existence of ground rules and norms in a group: Ground rules should include aspects of interaction, and both conformity and non-conformity could have an influence on the interaction pattern in a group.
- The environment for group work. Especially the physical environment could influence interaction in a group, e.g., the arrangement of the furniture, the noise level, and the layout of the venue.
- The content of the group work: If the content consists mainly of facts, it is difficult for students to discuss something about the work and interaction would be affected negatively.
- Unclear aims and objectives of the group-work session: If group members are not sure what is expected of them, they would not be keen to participate in the group discussion.
- Lack of common prior knowledge: If students are not encouraged to prepare for group work, members might not be able to contribute to the discussion.
- The stage of group development (i.e., forming, storming, norming and performing). Group members experience different levels of cohesion and conflict between the different stages.
- Shyness, anxiety and distrust of group members: When students do not know one another well and when they fear what the other members of the group might think of their responses, they tend to keep quiet.
- Unconscious processes of group members, e.g., the desire to maintain oneself could have an important influence on the interaction pattern in a group.
- Inexperience of the facilitator: When facilitators are unprepared, or when their manner gives the impression that they are fearful or unsure, students tend to become uncomfortable. The fact that most facilitators are not comfortable with silences and tend to break them, also influences group work negatively. Furthermore, students tend to use silences to encourage facilitators to speak.
- The behaviour of group members or the facilitator: Some group members might exhibit obstructive behaviour which could influence interaction negatively. When the facilitator appears to be dominant or "in authority" students are discouraged from participating in the

discussion. The attitude of the facilitator also influences students' experience of group-work sessions.

- Dependence on the facilitator: Facilitators should guard against dependency of students by not to talking too much and asking questions rather than making statements. Possible signs of dependency include the following: Students take notes of what the facilitator says, contributions are directed towards the facilitator, students try to force the facilitator to give a mini-lecture and students throw back questions to the facilitator to seek the "right" answer.
- Questioning techniques of facilitator: Certain types of questions asked by the facilitator could inhibit participation, e.g., closed questions to which only one answer exists, yes or no questions, personal questions, direct questions and multiple questions which could blur the line of possible response. Students might also interpret a question directed at them as a test of their knowledge, rather than an invitation to express an opinion, or they might interpret an argument or contradiction as a personal attack against them. The facilitator should indicate to the students that he/she is listening, correct answers should be praised and wrong answer should be corrected tactfully.

The are several strategies for encouraging interaction in groups: One way to enhance participation in a group is to allow everybody to say something about the topic at the start. Through asking questions that are not straightforward, discussion could be stimulated and students motivated to start talking (Rudduck 1978:20). A few other ways to encourage interaction could include looking for signals (e.g., a student who wants to ask something), using non-verbal communication (such as an inviting smile), using gestures to invite members to participate, turning questions back and re-directing answers (Jaques 2000:169). Students should also be encouraged to prepare for group-work sessions, e.g., by giving them reading assignments during the previous session. Through allowing them to summarise the material at the beginning of the next session, students would not only be encouraged to participate, but this could also help the lecturer cover the syllabus material (Wilson 1980). Positive interdependence, and therefore interaction, could further be promoted by rotating the roles of the members on a regular basis. Rewards could also be assigned for outstanding performance of the group (Felder & Brent 1994:8). Using a video as a stimulus for discussion, controversial topics or truth statements could help to engage students properly in discussion, and it might even be advisable, although not ideal, to change the group task if a discussion stagnates (Davis

1993:67). Furthermore, certain group-work methods enhance participation and interaction, such as rounds, pyramids, debates and brainstorming (Pastoll 1992:61-63).

In order for group work to be successful, both students and staff should actively attempt to increase participation and discussion within the group. Davis (1993:chapter 9) provides useful guidelines for further study on encouraging student participation in discussion.

4.2.7 Handling problems within a group

Very often, groups encounter difficulties with the dynamics in the group (Gibbs & Habeshaw 1989:81-82; Reid et al 1989:71-74). There are four reasons why the dynamics of a group could be distorted, which include person-bound problems (personal interests and needs dominate the group process), problem-bound issues (aspects related to the planning and completion of the group task), role-bound problems (disrupted structure of the group), and also power-bound problems (issues about power and control amongst members) (Heron 1993:125).

There are also many reasons why groups could experience problems. These could include poor communication, unsuccessful interpersonal relationships or lack of proper group goals and ground rules, difficult personalities, and also lack of motivation, cohesion, participation and/or interaction(Barlow et al 1999:chapter 3; De Grave, Dolmans & Van der Vleuten 2001:53; Race 2000:89). Problems could be related to group members themselves, the facilitators, or the specific institution (Race 2000:89).

Groups are open systems and therefore the internal dynamics of a group may reflect social processes from a social and cultural context (Reynolds 1994:99). These processes should be taken into consideration when students are assisted with making sense of their experience as members of learning groups. Whenever problems occur within a group, certain variables can be manipulated, which include the composition of groups. However, the group composition should not be changed as soon as problems occur, since students develop valuable group-work skills by working through problems within a group (Miller et al 1994:42).

Checklists could be used to identify and address problems that occur commonly in a group during group meetings. These checklists should be used at regular intervals to review the

group's way of functioning, and provide feedback to the members who exhibit unacceptable behaviour. The items in such a checklist could include the following (Gibbs 1995a:43; Jaques 2000:275):

- The members do not listen to one another;
- The group keeps repeating arguments instead of moving on;
- The members constantly interrupt one another;
- Some members are dominating;
- Some members do not contribute;
- The members do not compromise enough;
- The group does not have clear objectives; and
- The members are not clear about what the group has decided.

Group members should also be provided with strategies to tackle the problems, such as the three "rules of thumb" for handling problems within a group (Reynolds 1994:59). They include the following:

- Identifying the problem: It is important to notice that something is wrong before anything can be done about it.
- Making sense of it: Reynolds emphasises that "*[d]ifferent explanations can be applicable to the same event*" (Reynolds 1994:60) and that "*[n]o group can be fully understood without taking account of its context*" (:61). Care should thus be taken when attempting to analyse a situation within a group.
- Doing something about it: "A useful rule of thumb is to *be guided by what the purpose of the activity is*" (Reynolds 1994:61). It is often best not to do anything in the particular situation.

Interactive exercises could also be used to overcome the problems, to develop trust amongst group members, and to confront conflict within the group (Barlow et al 1999:chapter 3). Groups could deal with uncooperative members by allowing each member to submit an anonymous evaluation of the participation of all the other members in the group. The uncooperative members could then get a lower mark than the rest of the group if several people

indicate that they have not participated according to the expectations of the group. Another way of dealing with uncooperative members is to design activities for groups with a clear division of labour, so as to force each member to make a specific contribution towards the task (Davis 1993:152).

However, lecturers and facilitators should know their limits as far as counselling students is concerned, especially when they experience personal problems. They should therefore be aware of the services that are available for students' support, and should ensure that problems are dealt with in groups as they occur (Sefton 2001:164).

4.2.7.1.1 Handling conflict

Conflict is almost inevitable in a group at some or other stage, especially during the storming stage of the life cycle (cf. 4.2.2). However, some members may influence the group process negatively by being extremely violent or disruptive, and therefore, it is essential for the effectiveness of the group that its members be able to handle the conflict. However, handling conflict properly does not come naturally: "Conflict resolution is the most difficult when individuals are locked into old patterns of thinking or into predetermined solutions" (Napier & Gershenfeld 1983:177).

There are several reasons why groups could experience conflict, such as the following (Napier & Gershenfeld 1983:176):

- Members are not being heard;
- Members' feelings are not accepted by the group;
- Personality or racial clashes;
- Other members are not open to new ideas;
- Members lack information but are not allowed to get hold of it;
- Members do not have the power to influence their present situation; and
- Members do not perform up to the expectations of the group.

In order to resolve conflict, it is important to identify the underlying cause, which could either be person-, action- or opinion-related. Groups should be made aware that these different underlying causes could have an important impact in the approach to handling the conflict (Race 2000:115).

One important factor in the resolution of this kind of conflict is to attempt to define the reasons for the conflict clearly and to distinguish between major and minor points of disagreement. Side issues should be avoided and it is best to make a written agreement on the issue once it has been solved (Center for Teaching and Learning (Wright State University) [s.a.]). Although groups should be allowed to resolve the conflict in the group themselves, intervention by the facilitator is often necessary in one way or other in order to prevent groups from being distracted from their main task (Imel & Tisdell 1996:22). The facilitator can deal with the conflict by calling for a break or suggesting a new activity when things get out of hand, or by counselling the involved members outside of the group (Benjamin et al 1997:186).

Conflict may also occur between students and staff, which is best handled outside the classroom (Center for Teaching and Learning (Wright State University) [s.a.]). For further study, Napier and Gershenfeld (1983:chapter 6) provide useful guidelines and strategies for conflict management.

4.2.7.1.2 Handling multi-cultural issues in a group

Minority groups could experience difficulties in their groups, especially when they are not fully bilingual and bicultural, and therefore lack proper communication and social skills to participate effectively in a group. On the other hand, majority groups often lack sensitivity towards the minority groups. However, this situation provides the opportunity to prepare these students for the real world, and should therefore not be avoided (Coelho 1994). Many studies have shown that especially minority students may benefit from a co-operative classroom set-up, since many of these students are culturally predisposed to co-operate and need changes of pace and stimulus in their learning activities. Therefore, group work might be very appropriate for classes that include minority groups (Coelho 1994:20). Coelho (1994:21) argues that group work, which fosters peer assistance and approval, does not appear to be as culturally biased as the traditional competitive learning environment. Interactive exercises could be used to make individual students aware of their own values and how these values influence the group, and also the way

in which diverse backgrounds could influence values (Barlow et al 1999:chapter 6). However, students should be aware of, and prepared to deal with, cultural issues, and the different perceptions of male and female students, in effective groups when, for example, determining ground rules in their groups (Das Carlo et al 2003).

4.2.8 Maintaining the group process

"[G]roup cohesion is a delicate flower which needs constant nurture" (Bligh 2000:188). Making members aware of the group process and regularly reviewing the process could therefore contribute to better cohesion amongst the group members (Spalding et al 1999:110).

"[G]roups that spend longer on group maintenance achieve more.... [D]iscussions about group processes accelerate achievements on content" (Bligh 2000:121). This implies that groups, who do not maintain their group processes, would spend more time disagreeing and attempting to solve problems amongst group members.

Maintaining the group process implies that members fulfil their group-building and maintenance roles (cf. 4.1.6), but also that they regularly evaluate the group process. Evaluation can be done by means of standard questionnaires, weekly journals of the experiences and interactions within a group, and even observers, who may provide a useful perspective on the group process (Cuthbert 1994a:86). These observations could include comments on the communication within the group, how decision-making takes place, power and influence amongst group members, how conflict arises and is resolved within the group, and also the ethos or norms of behaviour of the group (Reynolds 1994:45).

However, groups need not only to evaluate these aspects, but also to reflect on the outcome and plan strategies to improve the different aspects of the group process (cf. 4.2.5, 4.2.6 and 4.2.7). Therefore, feedback on the evaluations is essential. Feedback to members of a group on the group process and on their relative contributions to group work could reduce anxiety and build their self-esteem and confidence. Overall, it could enhance the performance of a group (Bligh 2000:110). To ensure effective feedback on the group process, it should be well-timed, based on firsthand data, phrased in non-judgmental language, specific, and be focused on actions, rather than persons. Some barriers to effective feedback include fear of upsetting the other

person or doing more harm than good, a resistant or defensive recipient, inconsistent feedback, or a lack of guidance on how behaviour could be changed. Therefore, to ensure effective feedback, the credibility of the person who provides feedback and the responsiveness of the person who receives feedback are important (Hesketh & Laidlaw 2002:246).

The facilitator needs to assist and provide support to the groups in this regard during group-work sessions. If mentors are being used, they also need to be aware of the different aspects of the group process in order to provide the necessary support to groups on an ongoing basis. They should especially assist groups with evaluating, reflecting and planning strategies to improve the group process. "Group management needs to be 'light' enough to allow students to learn from themselves, but with sufficient 'steerage' for students to feel they are achieving something and to ensure that the group process does not swamp the learning" (Thorley & Gregory 1994:57).

4.3 THE GROUP TASK

The group task implies the specific assignment that groups receive to complete during a group-work session. This aspect of group work does not only include the way in which a group completes this task, but also the optimal physical environment necessary to do it, the specific method and type of group work chosen and therefore also the preparation and involvement of the lecturer and facilitator. It therefore includes all the different aspects involved with the planning, design and conducting of group-work sessions, as well as the roles assigned to staff and students (Reynolds 1994:36).

4.3.1 The role of lecturers

4.3.1.1 Planning of group-work sessions

Firstly, it should be decided whether group work is the most appropriate method of instruction for the particular learning objectives. Other instructional methods such as lectures or independent learning might just as well be more appropriate for the specific purpose (Crosby 1997:21). "It's best not to think of group work as something added on to an existing course

structure, but instead something that helps shape the design of the syllabus and helps synthesize specific course objectives" (Center for Teaching and Learning (Stanford University) 1999:1). It is also important to realise that group work is not suitable for all learning occasions with all students and that variety is necessary to accommodate all students' needs and learning styles. A balance between the range of delivery methods used in a course and the contents of the course should therefore be maintained (Gregory & Thorley 1994b:179). Typically, the lecturer should ask why group work should be used, when it should be used and how it could be used (Reid et al 1989:77). Although lectures create passivity amongst students, brief lectures or explanations before or after a group-work session could be useful to illustrate or clarify issues which are unclear to the students (Brown & Atkins 1988:62).

Even if lectures are part of the instruction as an introduction and background for group-work sessions, it should be attempted to make the lectures an interactive exercise. Interactive lectures stimulate students to become actively involved, increase their attention and motivation towards learning, promote higher levels of thinking and provide feedback to both students and the lecturer regarding students' learning and needs. Many different techniques could be used to make lectures interactive, e.g., questioning of students, buzz groups, using clinical cases or audio-visual material as a stimulus for discussion, using incomplete handouts, and even using role-plays and simulations (Steinert & Snell 1999). Therefore, lecturers should attempt not to merely transmit knowledge, but rather encourage interaction and active participation amongst students.

Reynolds (1994:30) suggests the following model as a guideline for the design of a group-work session: Establish the learning need/objective → find out about participants → choose appropriate methods → finalise design → implement, evaluate, modify. However, this model is a simplification of the learning process, and it does not necessarily provide for more creative ways of instructing students. Ideally, the facilitators and students should also be involved in the planning of group-work sessions (Napier & Gershenfeld 1983:95). Students should also be encouraged to take responsibility for their own learning (Leypoldt 1967:35).

Proper planning and experimenting with different approaches to group work could enhance the effectiveness of a group-work session (Hagberg 1999). Lecturers should make sure that learning during group-work sessions takes place at different levels and that it can be transferred

beyond the learning environment (Jaques 2000:260). Trying to predetermine the outcome of learning purely by modifying the design of a group-work session has serious limitations (Reynolds 1994:38).

When planning group-work sessions, not only the context where group work takes place, but also the course objectives, the venues, availability of resources, and the time available for the sessions should be taken into consideration (Brown & Atkins 1988:79; Davis 1993:149; Leypoldt 1967:35; Reid et al 1989:44; Reynolds 1994:40). "All such activities must complement the institution's overall curricular strategy, address specific course objectives and enhance the educational programme. The sessions should be seen to be an integral component of the course content" (Ledingham & Crosby 2001:77).

Furthermore, the students' needs, interests and expectations, as well as their different backgrounds, level of abilities and skills, learning styles and personality types, should be kept in mind when designing a group-work session (Davis 1993:149; Jaques 2000:260; Leypoldt 1967:35). This could be done by allowing students to either choose their own role in the completion of assignments, or between two tasks. A variation of tasks through the course from simple to complicated, ensures that all students' needs are taken into consideration (Miller et al 1994:41). The group size and number of groups should also determine the group-work method and assignments that lecturers choose for a particular group-work session (Brown & Atkins 1988:79). Handouts could be useful to supplement the work discussed during group-work sessions (Steinert 1996:205). Group cohesion could be enhanced through inter-group competitions, rewards and group tests (Davis 1993:149). A short quiz at the beginning of a session could encourage students to be punctual and to prepare for the session (Steinert 1996:205).

Lecturers also need to be aware of the different methods available for group work (cf. 2.9), and ensure that the chosen method suits the purpose of the session and the topic under discussion (Jaques 2000:189). Furthermore, they should ensure that there is variety in terms of group-work methods, structure of the sessions, and time spent on the sessions, as it is essential to the success of group work (Jaques 2000:189; Napier & Gershenfeld 1983:95). No one recipe for group work can work all the time, due to the diversity of educational institutions in terms of

values, personnel and resources, and group-work sessions should therefore be planned in the light of the set-up at the specific institution (Rudduck 1978:2).

4.3.1.2 The physical environment for group-work sessions

Some authors such as Sommer (in Bligh 2000:173) found little connection between the classroom layout and student participation, although he argues that the personal space of students is affected by the closeness of relationships and cultural differences between students. However, most authors believe that the physical environment where group work takes place has an important influence on the success of group work. "The style of interaction present in a learning group could... be influenced to a large extent by its general environment" (Jaques 2000:186). Abercrombie (1977:42) argues that few rooms in a faculty building are really suitable for group work. Most rooms consist of fixed rows of seats that are acceptable for lectures, but not ideal for group work. The ideal set-up for group work includes round tables and seats that all look the same to ensure that all members are regarded equally in status. Similar chairs and physical proximity provide for face-to-face contact between the group members to ensure free interaction (Abercrombie 1977:42). "Who sits where and at what distance from whom will affect the social roles and relationships pursued by members" (Jaques 2000:159). Circular, square, C-shaped or U-shaped arrangements of the furniture are most suitable to enhance interaction amongst group members (Unsworth 1976:37). If the facilitator is part of the group discussion, it might be worthwhile to vary the seating arrangements of members of the group from time to time, since dominating students who sit close to the facilitator tend to talk less and shy students who sit opposite the facilitator, might be encouraged to talk more (Bligh 2000:175). Rudduck (1978:59) argues that chairs without tables could be threatening to students, especially when they are not used to working within groups. Tables not only provide security, but also a resting place for papers and books (Tiberius 1999:92; Walton 1997:460). Boschee (1989:24) also suggests that the groups should be physically separated as much as possible, so as to reduce the noise level and to enhance group cohesion. The number of students, facilitators and facilities available determines whether or not several groups are able to operate concurrently (Jaques 2000:189). It is ultimately the responsibility of the specific educational institution to provide appropriate venues and furniture for group work, but lecturers and facilitators need to ensure that the arrangement of the furniture suits the purpose of the particular group-work session, and that the design of the session is appropriate for the venue.

Apart from the venues and furniture, social, cultural and institutional variables, the facilitator's characteristics, the perspectives and preoccupations of students, as well as administrative and financial constraints could influence the students' learning environment (Parlett and Hamilton in Reynolds 1994:84).

4.3.1.3 Resources necessary for group work

The institution involved should provide sufficient resources so as to ensure effective group work. This includes physical resources such as appropriate venues and the arrangement of furniture, sufficient library books and high quality study material, and enough computers for all groups to use (Abercrombie 1977:43; Larson & LaFasto 1989:109; Schwarz 1994:35-36). However, the lecturer needs to manage these resources and ensure that appropriate resources are available for specific group-work sessions.

Harden and Crosby (2000:341) regard one of the roles of a good teacher as a resource developer, which implies that the person is responsible for creating resource material (i.e., case studies and workbooks for group-work sessions), and also producing study guides for students. Resources such as books and study material need to be duplicated to make everything available to all the different groups (Rudduck 1976:8). Books can be borrowed from the library for group-work sessions, and groups can also share resources so as to encourage co-operative learning (Rudduck 1978:61). Due to the fact that many groups often need the same resources at the same time, it could be problematic to supply all the necessary resources to all the groups. One solution to the problem is to use computer and information technologies, although the computers also have to be provided (Department of Psychology (University of York) 2000).

It is also necessary for lecturers and facilitators involved with group work, to plan in advance which resources they would need for specific group-work sessions, since special equipment or resources could sometimes make group-work sessions more worthwhile (Leypoldt 1967:32).

Time is another important resource which is often neglected. "In small group work there is obviously a less economical use of staff time than in the traditional large lecture situation" (Rudduck 1976:8). Due to the intensive personal contact with students, it might also physically

and intellectually strain facilitators. Group-work sessions also take more time than lectures to cover the same amount of study material and therefore it is time-intensive.

Not only enough physical resources are necessary, but also resources in terms of manpower. Enough facilitators should be available to facilitate groups during group-work sessions, but these facilitators should also be adequately equipped to assist students with their assignments (Gregory & Thorley 1994b:184-185). Gibbs (1995b:29) suggests that independent, tutorless groups could be used when not enough facilitators are available for group-work sessions. However, these groups would still need support for proper functioning.

Providing the necessary resources sufficiently is one of the important means in which the particular learning institution can support group work (cf. 4.5).

4.3.1.4 The time needed for a group-work session

The time needed for a specific group-work session depends on the purpose of, and the group-work method chosen for, the session. Some methods only need between ten and thirty minutes, e.g., buzz groups, brainstorming or role-playing, whereas other methods need an hour or more, e.g., case studies or debates (Leypoldt 1967:30).

Another factor that influences the time needed for a group-work session is the task to be completed by the groups. Jaques (2000:183) notes that a three hour group-work session should usually be enough for a group of eight members to complete a task, although timekeeping is necessary to stay focused and prevent interruptions. However, it is necessary for lecturers and facilitators to be flexible in terms of the time allowed for a group-work session and to allow additional time when necessary (Boschee 1989:24). To be able to stick to the scheduled time for a specific group-work session, the facilitator should avoid starting a serious discussion near the end of the period (Davis 1993:136). Race (2000:94) argues that students could be prevented from leaving early from a group-work session by giving specific times for breaks (if the session is long enough), or by making the last few minutes of a session valuable through summarising or providing feedback.

Davis (1993:133) suggests the 25/5 rule for deciding when to end a group-work sessions which implies that, when 25% of the groups have finished their task, five more minutes should be given to the other groups to complete their task.

4.3.1.5 The goals, aims and objectives of a group-work session

The overall goal of group work can be regarded as student-centred learning, and therefore, students should be encouraged to take responsibility for their own learning and develop into lifelong learners (Gregory & Thorley 1994b:186).

Aims are the broad directions for teaching and are usually not easily measurable. Two types of aims are relevant for a group-work session, viz., task aims, which have to do with the completion of the group task (i.e., doing or putting into action), and maintenance aims (socio-emotional aims, changing knowledge, feelings and attitudes). The latter have to do with the group process and dynamics within the group during the completion of the task (Jaques 1991:70; Leypoldt 1967:25). The maintenance aims become more important when groups are bigger. Each of these aims could be divided into two categories, viz., extrinsic and intrinsic aims. Extrinsic aims refer to the aims for the specific group-work session, whereas intrinsic aims refer to the more personal benefits of group work for students, e.g., critical and creative thinking and the awareness of others' needs and interests. Abercrombie (1977:46) describes these as cognitive and affective objectives, according to Bloom's taxonomy (see below).

Objectives relate to "terminal behaviour," i.e., what students should be able to do after a group-work session. The achievement of these objectives should be measurable, although the objectives do not necessarily give any indication of how they are to be achieved. The objectives are therefore an indication of the type of tasks that would be suitable for a specific group-work session. Learning outcomes are therefore the aims of a group-work session translated into specific qualities (in terms of knowledge, skills and attitudes) (Jaques 2000:80). Objectives of a group-work session are necessary to provide direction to the students about what they should learn, but should also make clear to students what opportunities are offered through the learning situation. These objectives could enhance co-operation between group members and prevent the members from following their own agendas (:79). Objectives and outcomes of specific sessions also help students keep on track (Reynolds 1994:40). Students should therefore not

only be aware of the purpose of a group-work session, but also of the objectives determined for the session, and in which ways they can achieve those objectives (Crosby 1997:24; Leypoldt 1967:35). "Unless the learner knows what is expected of him he cannot be expected to assume his responsibility as a learner" (Leypoldt 1967:19).

Objectives should therefore be clear, relevant, realistic, assessable, challenging and within the context of the course (Gregory & Thorley 1994b:186; Reynolds 1994:40; Stone 1994:59). Race (2000:18) refers to SMART (specific, measurable, achievable, realistic and time-specific) goals for the group. Jaques (2000:85) also argues that "a clear learning outcome should say what the students should be able to do, the conditions under which they should be able to do it, and how well they should be able to do it. It should therefore contain... an active verb, an object and a qualifying clause, which specifies a context or condition."

Bloom's taxonomy provides a list of objectives for cognitive levels, classified into two sections, viz., knowledge and intellectual skills. The classification includes the following categories, with the higher-order thinking skills towards the end of the list (Collier & Clarke 1986:613; Jaques 2000:88):

- Knowledge: Remembering an idea or phenomenon;
- Comprehension: A conceptual framework containing the elements of knowledge;
- Application: Applying the knowledge in a completely new context;
- Analysis: Analysing the internal relationships or the structure of an argument;
- Synthesis: The ability to create new concepts or new plans of action; and
- Evaluation: Assessing the quality or value of an idea for a given purpose.

Each of these levels can be achieved by asking specific questions or giving specific instructions through a set of verbs, e.g., the knowledge level is indicated by verbs such as "write, state, recall," etc.

Apart from cognitive objectives, group-work sessions could also include creative objectives, e.g., producing innovative solutions and personal growth (such as developing group and individual awareness and communication skills) (Jaques 1991:83). Different methods of group

work provide opportunities to develop these different skills and achieve the objectives determined.

4.3.1.6 Choosing a method for group work

Group-work methods should be chosen for specific purposes, viz., to develop higher-order skills, to develop students' ability to work in small groups and to communicate effectively (Collier & Clarke 1986:616). However, methods should preferably be varied: "Variety is not only the spice of life. It is the essence of effective teaching" (Brown & Atkins 1988:81). A variety of methods would keep students interested in group work (Steinert 1996:205). A "variety of approaches... can be successful and... no one model approach would be adequate" (Gregory & Thorley 1994b:185).

Group-work skills are also not developed in one session, and therefore a variety of tasks and methods in a variety of groups should be done before students have developed sound skills in group work (Gibbs 1995a:35). On the other hand, Bligh (2000:158) warns against too frequent changes in the group-work method, since different roles are imposed on the group members with each method. If the roles change during every session, the group process could be affected negatively because members do not get the opportunity to develop proper relationships between themselves.

Because students need to learn how to think and interact within a group, it is also advisable that lecturers and facilitators choose group-work methods in a developmental sequence, i.e., starting with more simple methods and moving on to more complex ones later (cf. 2.9). The competency of the facilitators to run the activities and the size of the groups are also important factors determining the choice of a group-work method (Jaques 2000:260).

Lecturers and facilitators need also be aware of the dimensions of the different group-work methods, since certain activities lend themselves to certain dimensions of the learning process, e.g., high-interaction activities that build group cohesion include games, projects and discussions. Some activities enhance creativity and expression, e.g., open discussions or brainstorming exercises. Activities that deal with limitations, structure and authority include games of different kinds. Understanding oneself and others could be developed through

activities such as projects where the members are responsible for the planning and carrying out of the entire assignment (Dimock 1987:209). Inter-group methods (e.g., debates) could be chosen when the group process is important, since they produce a sense of competition amongst groups, promote cohesion within a group and could assist groups in developing group strategies (Jaques 2000:257).

A few other approaches could be used to encourage participation and interaction amongst group members: Group practice and coaching implies that students receive certain learning material and the group ensure that every member understands it or is able to apply the skill. Groups then "coach" all members to do this, since nobody knows who will provide feedback to the class. The jigsaw method is valuable for developing high-level cognitive skills. Typically, two types of groups exist, viz., home groups and topic groups. Each member of a group receives a certain topic and students who received the same topic, first meet in the topic groups to explore and discuss the particular topic. They then return to their home groups to share information on the topic with the rest of the group and thus, the whole group receives information about all the different topics. This type is comparable with cross-over groups (cf. 2.9.2). Co-operative projects allow for an open-ended and student-directed learning experience. Students have to subdivide the tasks and resources amongst the members and therefore each member has a responsibility to the final product. Each group should eventually present their findings to the rest of the class (Coelho 1994:68-78).

4.3.1.7 The contents of group work during a session

The content and structure of the learning material for a group-work session is of the utmost importance and can best be developed by a team of lecturers working together. "The actual content of group work is particularly relevant: students need to see a group project as a real problem, worth solving and motivating in itself. They need to be able to relate the activity to reasons for studying at university and not as an irrelevance. The degree of perceived 'reality' can mean success or failure" (Gregory & Thorley 1994b:183). Group tasks therefore need to represent a real-life situation.

Not only should the learning objectives and assessment criteria be made known to students, but careful attention should be paid to feedback from students on group-work sessions regarding the

contents and the methods used (Gregory & Thorley 1994b:184). The content and order of a group-work session, e.g., whether group work should precede or follow the lecture, should be modified according to the aims and topic of the session (Brown & Atkins 1988:79; Jaques 2000:189).

4.3.1.8 Designing tasks for a group-work session

Group tasks need to have certain characteristics, which include the following (Benjamin et al 1997:138; Center for Teaching and Learning (Stanford University) 1999:2; Coelho 1994:39-45; Crosby 1997:22; Davis 1993:149; Jaques 2000:99; Jaques 2000:99-100; Miller et al 1994:41; Schmidt 1994:661; Spalding et al 1999:113):

- They should be clear to prevent students from pursuing their own individual goals or being dependent on the facilitator for guidance;
- They should be relevant;
- They should take the students' level of knowledge, skills and abilities into account but should be complex enough to encourage co-operation amongst group members;
- They should provide for a wide range of learning styles amongst the students;
- They should enhance learning and challenge the thinking skills of students;
- They should enhance interaction, i.e., discussion, co-operation and interdependence amongst group members;
- They should provide for fair division of the labour amongst group members;
- They should represent real-life situations which allow students to acquire, interpret, attach significance and apply knowledge and skills;
- They should keep students interested and prevent boredom, and should therefore be changed regularly;
- They should preferably be open-ended to enhance higher-order cognitive skills and allow for creativity;
- They should ensure a high level of individual accountability amongst group members; and

- Appropriate stimulus material should be chosen for a specific task, e.g., case studies, a patient, video clips, paper cases, key articles or a particular problem.

Interaction and motivation are two very important factors that influence the success of groups and lecturers therefore need to design tasks that stimulate interaction and motivation amongst group members (Dolmans et al 1998). This could be done by providing both a challenge and also support to the students (Tiberius 1999:43)

The tasks for group work should provide for five phases of learning, including the following (Ngeow 1998:2):

- Engagement: The task to be completed by the groups is presented by the lecturer or facilitator.
- Exploration: Students explore ideas and information in order to complete the tasks.
- Transformation: Students engage in activities to reorganise the information and synthesise learning concepts. This phase requires all members' contributions.
- Presentation: Each group should present their findings and the rest of the class should provide feedback to them.
- Reflection: During this last phase, students have to reflect on the learning process and identify areas for improvement.

Although the design of a group-work session is important, care should be taken not to ignore the importance of its subsequent implementation. Reynolds converted Kolb's learning cycle into a model for the design of an activity, viz., group activity (experience) → feedback of observations by participants/facilitators (observation and reflection) → discussion with/without input from facilitator (conceptualisation) → planning what to do in the future (experimentation) (Reynolds 1994:32). However, this model can be applied too literally in practice, so that the different facets of learning can be compartmentalised.

If group tasks are poorly structured and students lack the necessary prior knowledge, groups will be more dependent on the facilitator (Schmidt 1994:661). On the other hand, more ill-structured, complex tasks could encourage more elaboration and better co-operation amongst the members of a group (Wilkerson 1996:26). Also, the danger of dividing the task amongst the

group members is that each member will only master a part of the topic which could influence their learning negatively. The list of learning outcomes for the session should therefore be made clear to all the members of the group and all students should be able to achieve every outcome (Gibbs 1995a:7). The quality of the problems used during group-work sessions could also influence the outcome of group work (Schmidt & Moust 1995:709).

Heimlich (1996:42) describes the incorporation of four important aspects into group work activities, viz., conflict, co-operation, challenge and content. Conflict could imply missing information, co-operation entails that all members should participate in the completion of the task, the level of information and skills required to complete the task refers to content, and the latter should pose a challenge to the students.

The tasks should also be designed to fit the structure of the group-work session, especially when other instructional methods are also used. "[O]ther learning experiences such as lectures, workshops and tutor-led seminars, might complement... open-ended tasks" (Spalding et al 1999:113).

Other factors that need to be taken into consideration when designing tasks for a group-work session include the following: A co-operative atmosphere, appropriate physical organisation of the venue, and enough time to complete the task (Reid et al 1989:32). Groups should also be expected to present their findings, immediate feedback should be provided on their work, and the products of the group task should be evaluated so as to ensure a sense of common purpose amongst the group members (Center for Teaching and Learning (Stanford University) 1999:2; Coelho 1994:39-45).

While most of the principles of effective case design are suggested specifically for problem-based learning courses, they could also apply for group work in courses where a problem-oriented approach is followed. It would therefore be helpful to make lecturers aware of these principles (cf. 2.10.1.11). The quality of the problems used during group-work sessions could influence the outcome of group work (Schmidt & Moust 1995:709). The bottom line of designing tasks or problems for group work is that they should be "tough enough to make students want to work in groups but not so tough that students get frustrated" (Smith 2000:41).

4.3.2 The role of facilitators

4.3.2.1 Facilitation of group work

Facilitation of group work is one of the most important factors which could influence the effectiveness of group work. "As with most aspects of teaching, a great deal depends on the personality, skills and preferences of the tutor" (Gregory & Thorley 1994b:185). Facilitators therefore need to know exactly what their role as facilitator implies.

4.3.2.1.1 Definition of a facilitator

Many authors refer to facilitators as tutors (Barrows 1992; Brown & Atkins 1988; Gibbs 1995a; Jaques 2000; Neville 1999). Others describe the facilitator as the group leader (Dimock 1987; Walton 1997). According to the following definition, the word facilitator is, however, more appropriate for the purpose of this study: "**Group facilitation is a process in which a person who is acceptable to all members of the group, substantively neutral, and has no decision-making authority intervenes to help a group improve the way it identifies and solves problems and makes decisions, in order to increase the group's effectiveness**" (Schwarz 1994:4). A facilitator's role therefore, "should be to facilitate the learning of students rather than to convey knowledge" (Neville 1999:393). Knowles (in Neville 1999:393) also argues that facilitators should change the concept of themselves from "teachers" to "facilitators of learning."

A facilitator therefore assists the group with both the group task and the group process, but through intervention, should decrease the group's dependence. This would enhance the group's long-term effectiveness.

4.3.2.1.2 The roles and responsibilities of a facilitator

"The major responsibility of any facilitator is to ensure that the structured exercises and the general processes work as smoothly as possible, and in ways that are consistent with the learning goals of the group" (Benjamin et al 1997:152). On the other hand, Barrows (1992:24) argues that the main responsibility is guidance to help students achieve the learning outcomes which include knowledge, skills and attitudes. These two responsibilities are, however, related

to each other, and thus, the facilitator needs to assist students with both the group task and group process in order to achieve the outcomes of a group-work session (Imel & Tisdell 1996:18).

However, the facilitator has many other responsibilities. The following include the most important ones, although some of these could also be fulfilled by lecturers (Barrows 1992:6-11; Benjamin et al 1997:185; Brown & Atkins 1988:60; Baumgart in Brown & Atkins 1988:52; Crosby 1997:26; Cuthbert 1994b:92; Gerlach 1994:10; Heimlich 1996:46; Jaques 2000:164; Kimber 1996:10; Kolars et al 1997:2; Neville 1999:395; Nias 1993:108; Reid et al 1989:39,48; Rudduck 1978:23, 84; Steinert 1996:206; Van Til & van der Heijden 1998:16):

- Acting as a leader/instructor: This implies the traditional role with the danger that students might become over-dependent.
- Creating a supportive and stimulating learning environment for co-operative learning.
- Promoting the students' learning processes by assisting them to identify the learning issues and how their knowledge could be applied. Facilitators should be sensitive to students' learning needs and should change their facilitation styles as students' knowledge and competence increase.
- Assisting group members to plan the completion of the group task and sharing the workload, ensuring that sufficient time is available to do so.
- Enhancing co-operation and equal participation amongst group members through probing and appraising contributions of individual members and also causing students to feel safe through risk reduction. The latter could be achieved through making the objectives clear, ensuring that tasks are within groups' capabilities and resources, and providing constructive feedback to members.
- Promoting discussion and interaction amongst group members through effective questioning and listening techniques, as well as reinforcing contributions and providing feedback, but without contributing anything to the content (i.e., a "neutral chair"). "Allowing silences to linger, continually pressing students for reactions, knowing how to pose questions rather than answering them, are basic teaching skills which too often academics forget" (Kimber 1996:10). Also, "[e]ncouraging and maintaining effective interaction is... one of the most difficult tasks" (Steinert 1996:206).

- Probing students' knowledge deeply by asking questions in response to their answers and challenging students to shift between arguments or reacting by playing devil's advocate.
- Assisting group members to keep the conversation to the point, and also helping them to keep to the time limit. They could even determine time constraints, since groups would then be more focused on the task at hand.
- Ensuring that students follow all the different steps of problem solving and assisting them when experiencing problems with their thinking pattern.
- Motivating students and keeping them interested in the group task. "Motivation enhances learning and retention. Motivation is maximized by the tutor's vigilance in keeping up the challenge always there, but avoiding overload" (Barrows 1992:11).
- Acting as a resource person or consultant who could provide information or skills, especially when groups are stuck with problems. However, the facilitator needs to take care not to make him/herself needed by the group members or turning the conversation into a mini-lecture.
- Monitoring the educational progress of all group members and encouraging them to take responsibility for improving their knowledge and skills.
- Observing and analysing interaction within a group, commenting on the group process when necessary. They also assist groups with keeping their ground rules.
- Acting as an advisor or a counsellor who could provide support to the group on group or personal issues. However, "[t]he tutor should not take on a parental or fully responsible role in dealing with these interpersonal problems when they occur. This will make the students dependent on him and they will expect him to solve them" (Barrows 1992:12).
- Assisting the group with evaluation of their group effectiveness and planning of strategies for improvement according to the outcome of the evaluation. Maintaining the group process implies that facilitators need to be aware of the different stages of the group process and help students who experience problems or conflict in any of these stages.
- Deciding upon the method and time of the feedback after a group-work session and chairing the feedback. The facilitator should assist the students in synthesising and analysing the information gained during the group task, but should also provide feedback on the group process.

- Monitoring group-work sessions by using appropriate strategies and instruments (cf. 4.3.4.5 and 4.6.4.4).

The role of the facilitator is therefore threefold, viz., managing learning, individuals and group processes (Brown & Atkins 1988:56). "Effective tutors can also prevent small group sessions from degenerating into covert, manipulative contests between the participants" (:60).

However, the facilitator should withdraw gradually, so as to ensure that students become more competent and independent (Crosby 1997:26; Kolars et al 1997:2). He/she should therefore become an "absent friend" to the group, being able to leave the group without causing disintegration of the group process (Jaques 1991:125).

To understand the role of a facilitator better, it is also helpful to look at what the facilitator should not do: The facilitator is not a group member and therefore does not have any role in the making of the group's decisions. The facilitator is also not an arbitrator or judge and therefore group members have to resolve conflict on their own, as far as possible (Schwarz 1994:10). The facilitator should also attempt not to appear very knowledgeable through a lot of talking and should not ridicule group members who make mistakes, since these could affect the productivity of a group negatively (Rudduck 1978:21). The facilitator should guard against a position of authority which creates dependence amongst the group members (Rudduck 1978:73) (cf. 4.2.6). The facilitator should also guard against being overly supportive, since this could have a negative effect on the challenge for students to take responsibility for their learning (Imel & Tisdell 1996:18).

According to Wilkerson (Wilkerson 1996:27), students rate the behaviour of facilitators highly when they exhibit behaviours such as creating a pleasant learning atmosphere, balancing student-direction with assistance, contributing experience and knowledge when necessary and stimulating students to evaluate ideas critically.

In essence, effective facilitation implies that group work is guided and monitored properly, and interaction in a group is promoted (Neville 1999:395).

4.3.2.1.3 Styles of facilitation

Facilitators could adopt different styles of facilitating groups, but should be aware of the fact that the specific style of facilitation could determine the atmosphere of a group to a great extent (Walton 1997:460). The specific styles could vary according to the situation or the set-up of the group-work session, although, for the purpose of giving the students responsibility for their own learning, the facilitator should attempt to be as "uninvolved" as possible. The two basic styles of facilitation are authoritarian and democratic (Benjamin et al 1997:154; Walton 1997:460). However, Heron (in Gibbs & Habeshaw 1989:83) refers to the following facilitating styles:

- Directive vs. non-directive;
- Interpretative vs. non-interpretative;
- Confronting vs. non-confronting;
- Cathartic vs. non-cathartic;
- Structuring vs. non-structuring; and
- Disclosing vs. non-disclosing.

Gibbs and Habeshaw (1989:84) suggest that facilitators should evaluate themselves according to these different facilitation styles and rate the type of facilitator they are and would like to be, providing a "self-assessment grid" for this purpose.

As far as the authority of facilitators is concerned, they are both "in authority" and "an authority," because they do not only represent the institution in the educational set-up and act as assessors, but they are usually also experts of the specific subject and should therefore guard against over-dependence of students (Laing 1976:21). Facilitators should also be aware of the important influence they have on group work and aim at a balance between facilitators' authority and students' autonomy (in terms of responsibility for their learning) (Heron 1993:13).

4.3.2.1.4 Skills to facilitate

"The ideal tutor... is flexible and sensitive to the student's learning needs and knowledgeable about the curriculum" (Neville 1999:400).

A facilitator's behaviour could have an important influence on the functioning of a group and also on students' achievement and interest in the subject matter (Wilkerson 1995:304). It is therefore important to ensure that facilitators exhibit appropriate behaviour and skills and attitudes during group-work sessions.

Facilitators need to have group management skills in order to decide on the appropriate type of group formation (i.e., group-work method) for the specific session (Kimber 1996:10). However, this is often the responsibility of the lecturer.

Facilitators need several other skills and competencies as well, including knowledge, diagnostic strategies, heuristic strategies, self-regulatory strategies and intuition. Both informal and formal knowledge is necessary, the former implying knowledge about students' cultural backgrounds, and the latter meaning knowledge about all the different concepts of group work (e.g., the group process). Diagnostic strategies are necessary for facilitators to know when to intervene when groups experience problems, whereas heuristic strategies imply that facilitators should have a repertoire of remedies for different problems that groups might experience. Self-regulatory strategies imply that facilitators reflect on optimal interventions before they respond to different situations in the classroom. Facilitators should also have an intuition for the correct reactions or responses to different situations in the classroom through proper understanding of students (Bess 2000b:112-113; Tiberius & Tipping 2000:112).

Facilitators also need proper communication skills, which include listening, responding and explaining (Race & Brown 1998:90). They also need questioning skills to stimulate discussion. These questions should include questions in the higher-order of Bloom's taxonomy to ensure the higher-order questions are also asked (Habeshaw et al 1988:58). (cf. also 4.3.1.5). Once they have asked the question, they should be willing to wait for the answer (Jaques 2000:173). Facilitators should also know to ask only one question at a time and preferably also questions that have no single right answer. They should be aware of the many possible errors in questioning (cf. Brown & Atkins 1988:73) (cf. also 4.3.4.1).

Other skills of effective facilitators include knowing how to encourage participation amongst group members (cf. 4.2.6), willingness to become involved with the students, the ability to express oneself in terms clearly understood by students, and a sense of humour when groups are

hostile (Laing 1976:26; Schmidt & Moust 1995). Furthermore, they need special skills to handle difficult students, e.g., they need patience with shy students and have to know how to handle dominating students (Abercrombie in Nias 1993:157).

4.3.2.1.5 Principles of facilitation

A few principles underlying the facilitation process, include the following (Barrows 1992:18):

- The interaction between the facilitator and the students should be at metacognitive level. This implies thought, reflection and deliberation through which facilitators encourage students to become independent problem solvers who are able to keep to the objectives of group work without wandering off (Barrows 1992:1-5).
- Students must be guided through all the different steps of the learning and problem solving processes.
- Facilitators should encourage students to obtain deeper levels of understanding by asking appropriate questions.
- Facilitators should not express opinions regarding the quality or correctness of students' contributions.
- Facilitators should avoid giving information to students, since they should find it in other resources.
- Discussion amongst students should be encouraged at all times.
- Facilitators should ensure that a decision made by the group is a group process.
- The challenge of learning should be modulated to be neither boring nor over-challenging.
- Each student's progress should be monitored and help from peers should be encouraged in time.
- Timely interventions should take place if problems with the group process occur.
- Groups should be encouraged to take responsibility for their own learning process so that facilitators could eventually become "unnecessary."

4.3.2.1.6 Planning the facilitation of group-work sessions

A few factors should be taken into consideration when planning the facilitation of group-work sessions: Firstly, it should be decided whether the facilitator should be an expert or not in the subject field in which group work is done. This question remains unanswered, since results from different studies are equivocal about the expertise of facilitators (cf. Davis et al 1992; Hay & Katsikitis 2001; Kwizera et al 2000:66). Kaufman and Holmes (1998:255) assert that the reasons for these ambiguous results include the fact that a great variability exists in the definition of content expertise, that there are wide variations in the different problem-based curricula studies, and that most studies have only been conducted in one single unit or module instead of an entire year. In their study, they defined content expertise as facilitators' ratings of themselves (:257). Although most of these studies are aimed at problem-based learning set-ups, the same principles could apply for hybrid tuition systems where group work plays an important role.

There are thus many arguments for and against the use of facilitators who are experts in the field of study, for group work. As was mentioned, some studies showed that students perform better when using content expert facilitators (Barrows 1992; cf. Crosby 1997; Davis et al 1992:474; De Volder 1982). This could be due to the fact that students are able to identify a greater number of learning issues (in a problem-based learning set-up), and that they also spend more time on the learning issues (Eagle et al 1992). Content experts are also able to ask students more open-ended questions and therefore stimulate participation of group members, and they are better able to follow the students' line of reasoning (Schmidt 1994; Schmidt & Moust 1995:709). Being a content expert also helps the facilitator to identify incoherent discussion amongst groups of students (De Volder 1982). Furthermore, facilitators are generally more comfortable with facilitating group work which involves their specific field of expertise (Sefton 2001:163). This could influence their attitude towards group work.

However, content experts tend to talk too much, are too directive towards groups, and could dominate the group dynamic (Crosby 1997; Kaufman & Holmes 1998:261; Neville 1999:397; Silver & Wilkerson 1991). This could inhibit interaction within a group and prevent students from developing self-directed learning skills. If facilitators were non-experts, they would be more inclined to see things from the students' points of view (Silver & Wilkerson 1991).

However, not being experts could lead to anxiety amongst the facilitators about possible deficits in their knowledge on the subject (Hay & Katsikitis 2001:23).

It is therefore ideal that the facilitators are experts in both the content of the topic under study, as well as small-group facilitation (Crosby 1997; Davis & Harden 1999:137; Eagle et al 1992). "There is no question that the ideal circumstance is for the tutor to be expert both as a tutor and in the discipline being studied by the students" (Barrows 1992:43). However, this is not always possible, and therefore the second best option would be facilitators who are skilled in facilitation, rather than experts on the contents of the group work. They should then at least be well informed about the topic under study and the related learning issues (Crosby 1997:18). "As the skill of the tutor is the backbone of the small group learning process, it is **not acceptable** to have a teacher who is an **expert** in the area of study, but a **weak** tutor" (Barrows 1992:44). The reason for this is that the facilitators should guide students in achieving the learning outcomes, rather than directing them. Davis and Harden (1999:137) also argue that facilitators should have an understanding of the curriculum and, although they do not necessarily have to be experts in the subject field, it would be helpful if they were medically qualified.

When facilitators are experts in the particular study field, they should receive training to make them aware of the pitfalls of their knowledge, e.g., the fact that they could be too directive and therefore endanger students' active involvement in their learning process (Eagle et al 1992:466; Silver & Wilkerson 1991:300). On the other hand, non-expert facilitators could be assisted by providing clear learning and curriculum objectives, and even making experts available for them to consult at any time (Neville 1999:397; Silver & Wilkerson 1991).

The choice of a facilitator would therefore depend on the objectives and the technique planned for a specific session, e.g., in PBL, a content expert would not be necessary during the first three steps, but definitely for the last two (Crosby 1997) (cf. 2.10.1.5). Neville (1999:399) argues that "[t]he degree of tutor content knowledge required for effective learning facilitation in PBL is not an absolute quantity but needs to be tailored to the particular student groups' level of prior knowledge and familiarity with PBL." The same could be said of group work in hybrid tuition systems. The experience of students therefore influences the choice of a facilitator, since inexperienced students rely more on a facilitator for guidance because they need some form of

structure to complete the group tasks. If this structure is not provided internally (i.e., prior knowledge) or externally (i.e., better structured cases or problems), students would turn more often to their facilitators for help. It is in these circumstances that students would benefit more from content-expert facilitators (Schmidt 1994). However, more focused case studies could lead to more directive teaching by the content experts and thus discourage students from participating in the discussion (Davis et al 1994).

Facilitators also need to prepare properly for group-work sessions and need appropriate skills and attitudes to facilitate group work effectively, and therefore the training of facilitators is essential (Wilkerson 1995). The skills needed for facilitation also have important implications for the selection of facilitators for group work (Schmidt & Moust 1995).

A second question that needs to be answered is whether a variety of facilitators can be used for one group (i.e., different facilitators for different group-work sessions). Although the ideal would be to have the same facilitator facilitating a group for continuity, this is not always practically possible. Different facilitators for different sessions, and even floating facilitators, moving from group to group, could therefore be used, especially if the institution is short of staff (1997:19). If there is not a sufficient number of expert facilitators available, additional facilitators should be trained in both the process of facilitating and the content of the work done in group-work sessions (Kaufman & Holmes 1998:261).

Another alternative to staff shortages is to make use of student facilitators, although this could only be done if the involved students have the necessary skills and experience in facilitation (Crosby 1997:20). Much has been said about this in the literature: Although students achieve better when content-expert facilitators are involved in the group work, student facilitators may be better in dealing with unstructured learning situations and are also able to express themselves in language clearly understood by their fellow students (Schmidt 1994). Miller, Trimbur and Wilkes (1994:43) assert that the use of peer learning assistants may be of great value for the success of group work. De Grave, De Volder, Gijselaers and Damoiseaux (in Wilkerson 1995:313) found that staff facilitators concentrate more on explaining the study material to students whereas student facilitators are more committed to group functioning. A thorough review of the literature by Albanese and Mitchell (1993) on the use of student facilitators showed that the data overall do not support the use of student facilitators, although they suggest

that more research is necessary on the combined use of students and faculty members as facilitators. There is no consensus in the literature on the use of student facilitators.

Another issue regarding the choice of facilitators for a group-work session is that of co-facilitation, i.e., whether two facilitators should be present during a group-work session. The intention is usually for the two members of staff to complement each other in terms of knowledge and expertise. It could be useful for students to obtain the viewpoints of both these facilitators, although care should be taken by the facilitators not to do the talking while the students are passive learners (Rudduck 1978:34). During co-facilitation the facilitators have to take care not to compete with each other or over-intervene. Instead, they should complement each other and only seek to support the groups (Schwarz 1994:210). Nevertheless, many institutions would not be able to make use of co-facilitation, purely due to staff shortages.

The ideal number of facilitators for a group-work session is not clearly described in the literature. Some authors suggest tutorless groups (Gibbs 1995b:29), while other mention a particular number of groups per facilitator, which ranges from one to three (Barrows 1992:43; Spalding et al 1999:114; Unsworth 1976:28).

4.3.2.2 Intervening as a facilitator

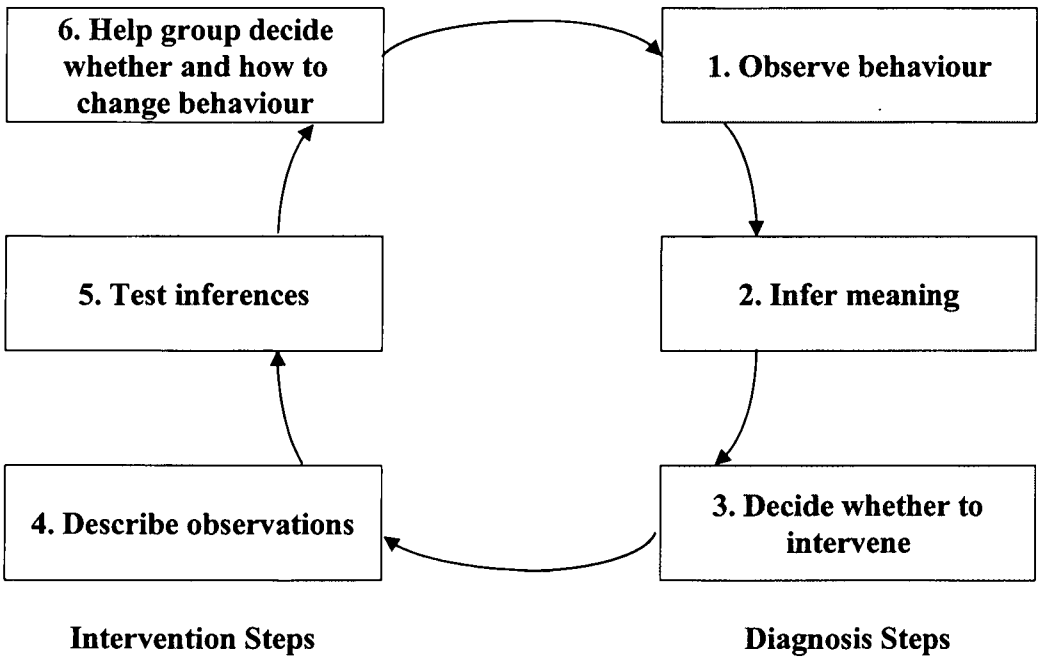


Figure 4.1 The Diagnosis-Intervention Cycle (Schwarz 1994:68)

Schwarz (1994:68) describes a diagnosis-intervention cycle (Figure 4.1) for facilitators to assist groups in improving their effectiveness. The cycle consists of six steps. The first three steps are diagnostic steps and should guide the facilitator when to intervene. The last three steps are the actual intervention steps. The types of behaviour a facilitator would look for include functional, dysfunctional and counteractive behaviour (Schwarz 1994:69). The decision to intervene is made by the facilitator "when a member of the group acts inconsistently with a ground rule that the group has agreed to follow or when the facilitator identifies some element of the group's process, structure, or organizational context that hinders its effectiveness" (Schwarz 1994:89).

Some questions which facilitators could ask before intervening, include the following (Schwarz 1994:90):

- Has the behaviour been observed enough to make a proper diagnosis?
- Is there a contract with the group that the facilitator can make the intervention?
- Is the behaviour important to enough to intervene on?
- Will a group member intervene if the facilitator does not?
- Will the group have enough time to process the intervention and is it not too overloaded?
- Does the group have sufficient knowledge and experience to act usefully to the intervention?
- Does the group have enough information to make a free and informed choice regarding their reaction to the intervention?
- What are the chances that intervening later would still make a difference to the dysfunctional behaviour?
- Does the facilitator have the necessary skills to intervene?

There are different levels of intervention which range from superficial to deep, which include the following (Schwarz 1994:109):

- Structural-functional: The focus is on the roles and functions of group members in general and should not be on individual members' characteristics.

- Performance-goal: The focus should be on the performance of the group, rather than the group processes.
- Instrumental: The focus is on changing the behaviour and work relationships (i.e., processes) within the group.
- Interpersonal: The focus is on the relationships between group members in terms of attitudes, beliefs and perceptions.
- Intrapersonal: The focus is on each member in the group and his/her perceptions, attitudes, beliefs and self-awareness.

The facilitator should be able to decide upon the right time to intervene. Both intervening early and late has its advantages and disadvantages: Intervening early has the advantage that members are still able to remember the incident clearly, but intervening later has the advantage that group members themselves have the opportunity to identify the inappropriate behaviour and solve the problem themselves. If a facilitator therefore thinks that the group has the ability to identify and address the problem, intervention should not take place immediately (Schwarz 1994:120). Boschee (1989:24) argues that a facilitator should not intervene unless it is necessary to keep interaction within a group going, since the purpose of group work is to let students learn through talking and discussion with other students.

The types of interventions include the following (Schein in Schwarz 1994:122-126):

- Exploring: Through exploring the problem, the facilitator would understand the situation within the group better.
- Seeking specifics: The facilitator probes for specific information to clarify the problem within the group.
- Emphasising the process: The facilitator must be aware of the processes underlying the group's problem.
- Diagnosing: Through exploring the group and the problem, the facilitator could analyse the situation.
- Confronting and other feedback: The group has to reflect on the dysfunctional behaviour identified by the facilitator.

- Managing group process and structure: Through intervention, the facilitator helps the group to plan a group task or discussion in terms of time or participation of group members.
- Making content suggestions: The facilitator suggests ways in which the problem could be solved by the group. This should only happen if a group has made several unsuccessful attempts to solve the problem themselves.
- Teaching concepts and methods: The facilitator teaches the group some concepts or methods to solve their problems regarding the group process.
- Reframing. The group members are encouraged to provide feedback to one another on previous events in an effort to improve the effectiveness of the group.

Intervention is therefore not a straightforward process and skills are necessary to know when and how to intervene as a facilitator. These should be provided through thorough training of the persons involved.

4.3.3 The role of students

4.3.3.1 Preparing for group-work sessions

It is of the utmost importance for students to prepare for group-work sessions in order to ensure effective group work (Virtanen et al 1999:272). Students' prior knowledge also plays a role in the outcome of group-work sessions (Schmidt & Moust 1995:709). It is, however, important that students should know what exactly is the minimum amount of work that they should prepare for a group-work session (Rudduck 1976:10).

There are several ways of encouraging students to prepare for group-work sessions: One way is to give students individual assignments to do before the group-work session. Individuals could then first complete a readiness assessment test at the beginning of the session, followed by a test done by the group and turning in "consensus" answers for immediate scoring. This method should encourage students to take responsibility for their preparation, since they have to generate an individual mark and are accountable to their fellow group members for a group mark. It also provides the opportunity for immediate feedback from fellow group members on the work prepared for the session (Michaelsen 1999:2). This compares better than written

summaries which students have to hand in at the beginning of group-work sessions because the feedback on these occurs only later and it is time-consuming to the lecturer. However, the latter could be an option at times (Race 2000:93-94).

Students can also be given the opportunity to write down their own ideas on the topic under discussion during the group-work session, since this is non-threatening and focuses the students' attention on the subject matter (Reid et al 1989:38). It could also be useful to let students work individually before they engage in group work, even if it is only to think of some solutions to a particular problem. This would ensure that all students have something to contribute to the group work and, although not completely, might decrease the likelihood of passive members (Bligh 2000:196). Another way to encourage preparation amongst students is to let them work in their groups on the particular topic at the start of the session, followed by a discussion on the findings of the different groups (Unsworth 1976:37). Students could also be encouraged to prepare by starting group-work sessions with a short quiz or by allowing their fellow group members to evaluate their preparations (Race 2000:93-94).

It is therefore necessary to encourage students to prepare, since better preparation will help students use the opportunities for participation in a small group optimally (Wilkerson 1996:25). "[I]t is important to get the message across to students at an early stage that any discussion is going to be more productive if members are well briefed and well prepared" (Bligh 2000:196).

The work that students have to prepare for group work could appear in their workbook for the particular module or could be agreed upon at the end of the previous group-work session (Ledingham & Crosby 2001:81).

4.3.3.2 Planning and conducting a group-work session

During the planning and conducting of a group-work session, the group members should keep the different team maintenance and group task roles in mind (cf. 4.1.6). Group leaders play an important role in the successful functioning of a group. "[R]esearch has demonstrated that problem-solving groups function more effectively with a chairperson" (Dimock 1987:199). It is therefore important that groups should assign roles to each member before they start with their session.

Groups should also have some type of agenda for the group meeting, without which the discussion could easily be distracted (Dimock 1987:199). As far as time management is concerned, the group should determine priorities for the individual members and the group as whole, and should also decide beforehand how they would cope if a member in the group fell behind with his/her responsibilities (O'Sullivan et al 1996:90).

A thorough planning of the time available should be done, not only for the task as a whole, but also for the sub-tasks to be done by individual members, provided that the task is divided fairly between the members. Active planning should be done for the task or specific sub-tasks, e.g., formulating aims and objectives, determining needs and constraints during completion of the task, the steps involved with completing the task and the resources needed to do so (Gibbs 1995a:41; O'Sullivan et al 1996:83).

4.3.3.3 The process of solving problems

In this context, problems refer to the problems to be solved as part of the group task. Many theories exist about the process of solving problems (cf. Bligh 2000:chapter 8). The process of solving problems correlates well with the different steps of the problem-based models (cf. 2.10.1.5). However, these steps could also be implemented for the solving of all kinds of problems during any type of problem-oriented group-work session.

The following are the possible steps of solving a problem (Dimock 1987:201; Schwarz 1994:22; Ungerer 1993:17):

- Defining the problem analytically;
- Checking involvement from all members;
- Collecting relevant information;
- Suggesting solutions by giving and seeking opinions creatively;
- Evaluating alternatives and prioritising according criteria;
- Identifying causes for the problem;
- Decision-making and gaining commitment or consensus regarding a solution;

- Planning implementation of the solution, including the testing of the feasibility of the plan;
- Assigning responsibilities to group members; and
- Evaluating and re-planning the implemented solution.

Another approach to problem-solving is a model based on an acronym "IDEAL." This implies the steps of identifying the problem, defining and representing the problem, exploring possible strategies, acting on the strategies, and looking back and evaluating the effects of activities that took place during this process (Bransford and Stein in Barrows 1992:32).

Schwarz (1994:158) suggests that it would be best if groups follow the particular steps of solving problems in order, although it might not always be possible. Group members may also need or provide information at any stage of the problem-solving process. On the other hand, a study conducted by Hirokawa (1983) showed that the success with which a group solves a problem is not associated with a particular sequence of interaction phases in the group. He also indicates that there is no single "path" for solving problems, although groups that analyse the problem first in an attempt to understand it, before attempting to find solutions, tend to be more successful in solving the problem.

Therefore, students need to be aware of the different steps in the process of problem-solving, even if they are not within a pure problem-based set-up. Solving problems is an integral part of group work and a necessary skill and lecturers should be aware of these processes, since the tasks they design should develop students' problem-solving skills (Bligh 2000:56).

4.3.4 Other aspects related to group-work sessions

A few other factors which could influence the success of group work should be kept in mind. The most important ones include the following:

4.3.4.1 The skills necessary for effective group work

One of the advantages of group work is that many essential skills are developed through doing group work (cf. 2.5). However, these skills are only developed when actually doing group work

and would not come naturally to most students. Both students and staff need to be aware of the skills that are necessary for effective group work, and should realise the importance of using the opportunity to develop the skills.

The following skills ensure effective group-work sessions (Bligh 2000; Boschee 1989:72; Brown & Atkins 1988:68-77; Gibbs 1995b:49-51; Johnson & Johnson 1989a:30; Race & Brown 1998:90; Ungerer 1993:1):

- Explaining: Not only group members explain work to each other, but the facilitators also need to know when and how to explain. If they interfere too early students might become passive. Therefore, facilitators should first let the students attempt explanations, and only then use their contributions as part of the explanation.
- Questioning: Effective questioning does not only depend on asking the right questions, but also on listening and responding. A sequence of questions could be asked to encourage contributions amongst the students. Useful tactics of questioning include pitching, pausing, prompting, probing, directing and distributing, and some errors in questioning may include asking too many questions, asking the same kind of questions all the time, asking irrelevant questions or ignoring answers. Tiberius (1999:109) provides more useful guidelines for effective questioning.
- Responding: Responses "are the mechanism whereby new information is introduced, the topic is changed, or discussion is moved on" (Brown & Atkins 1988:75). Students and facilitators often experience difficulties with this skill.
- Listening: The four levels of listening include skim listening, surveying listening, search listening and study listening, of which the latter is the deepest level of listening. Other aspects of listening include intermittent listening, selective listening and confused listening. Apart from listening, paying attention is probably easier in a small group set-up than having the whole class listening to the lecturer.
- Summarising and closing: "Summaries not only provide brief answers to questions but also show the decisions and priorities in a subject. As such, summaries are vital for developing understanding and they require judgement about what to highlight and omit" (Brown & Atkins 1988:77).

- Thinking skills: These skills are teachable and the best way to do it is by incorporating appropriate activities as an integral part of the outcomes for a course.
- Information skills: Students have to consult resources within their groups in order to complete assignments and therefore need the correct skills to do this.
- Decision-making skills: The only way to develop this skill is through experience and therefore lecturers should ensure that sufficient opportunities are created for students to do so. "Decision-making is not an area where there are short cuts to be learned" (Bligh 2000:90).
- Time and task management skills: Students need to plan group-work sessions in terms of time spent on specific tasks and also need to plan how they are going to complete the tasks within their groups.
- Problem-solving skills: Students learn to solve problems through working within groups. In order to develop these skills, both lecturers and students need to know which processes are involved in the process of solving problems.
- Reasoning skills: These skills could be developed through group work and might include the ability to deduct or to test hypotheses and inferences on the basis of probability.
- Presentation skills: Students learn from their own groups as well as the presentations of other groups, they gain more self-confidence, and are able to apply the knowledge and skills in other situations (Ladage & Crone-Kraaijeveld 1997:778).
- Creativity: This involves a combination of free association of ideas, enthusiasm, persistence and a wide repertoire of cognitive strategies to be able to see a problem from many different perspectives. However, several different group-work methods might be necessary to provide opportunities to develop these different aspects of creativity.
- Attitudes and values: Although one cannot change the attitudes of another person, the person could be made aware of the processes involved in this and a person's freedom to change. Students should also be made aware of the factors that influence a person's attitudes in discussions.
- Social skills: Students must not only see the need for such a skill in group work, but also have to understand what the skill implies and when to use it. They must also use the skill repeatedly to master it, reflect on its application and practise it continuously. Rewards like bonus points could be used to encourage students to develop this skill.

- Self-directed learning skills. "No medical school can teach in four years all that their medical students will need to know. Much of what they do teach will be forgotten, become out of date, or be incorrect in the future. Independent, self-directed learning is another skill that must be learned in medical school, since there will be no lectures, syllabi, or reading assignments after graduation" (Barrows 1983:3077).

The first five skills listed could also be regarded as communication skills, which are also essential for lecturers and facilitators and should be accompanied by information on the process of communication (cf. 4.2.5). Thinking, problem-solving and time and task management skills could be regarded as valuable life skills (Gibbs & Habeshaw 1989:189). Students should be aware of these skills and make use of the opportunities provided to develop them. Lecturer's and facilitators need to provide these opportunities, especially through the design of tasks and a variety of methods for group work. Many authors provide useful tips for strategies to develop and supervise these skills (Bochner et al 1995:33-39; Gibbs 1992b:46-49; Gibbs 1995a:33, 37-39; Gibbs & Habeshaw 1989:180-189).

4.3.4.2 Providing feedback on group-work sessions

"Feedback is an essential activity for helping trainees reach their maximum potential at their particular stage of training" (Hesketh & Laidlaw 2002:245). Because group work rests heavily on experiential learning, feedback is also essential for students to review their learning experiences. "Experiences themselves do not teach without analysis or consideration. Processing following a discussion or activity allows for meaning to be constructed by the learner from the experience... and leading this processing is one of the adult educator's primary roles" (Heimlich 1996:42). The same could be said of lecturers teaching undergraduate students.

Debriefing of the group work may help students understand the significance of their collective experiences (Gregory & Thorley 1994b:181). This is necessary to ensure that optimal learning takes place and that students are able to see the particular session from the perspective of the whole course (Crosby 1997:27). Feedback is especially needed when students present their work, when role-play takes place or where psychomotor skills are demonstrated. The specific

type of objective for a group-work session, i.e., cognitive, affective or psychomotor, should therefore be kept in mind when providing feedback (Crosby 1997:28).

Although specifically mentioned in a problem-based learning set-up, Norman and Schmidt (1992:561) argue that immediate corrective feedback on the problem studied by the students is essential for the success of the particular session. Since most group-work sessions are based on problem-solving, the same is true for hybrid curricula.

Constructive feedback entails the following (Schofield in Crosby 1997:28):

- Factual matters should be briefly clarified;
- The individuals who are uncertain should start off with their impressions, followed by the rest of the group of students and finally the facilitator;
- The good points should be identified first;
- Constructive feedback should be given to provide opportunity for improvement;
- Disagreements should be discussed; and
- A clear summary of the strengths and weaknesses of the session should be made at the end.

However, Gregory and Thorley (1994b:181) warn against over-enthusiasm from the lecturer's side and suggest that some issues must remain unanswered to stimulate students for further thought. On the other side, facilitators should be wary of allowing too much repetition during feedback sessions and should therefore allow only one or two groups to report on a particular problem (Reid et al 1989:64).

Either the lecturer or the facilitator could provide feedback on a particular group-work session. Groups can also present their work for marks, so as to hold them accountable for their work (Hagberg 1999). Feedback should not only be provided on the group task, but also the group process, although this is not automatically the focus of a group-work session.

4.3.4.3 Rewards for effective group work

No consensus exists in the literature on the role of rewards in effective group work. One group of authors asserts that it is essential for the success of group work, whereas another group doubts its usefulness.

"Traditional group work, in which students are encouraged to work together but are given little structure and few incentives to do so, has been repeatedly found to have small or nonexistent effects on student learning" (Slavin 1990:30-31). Coelho (1994:39) also argues that students need incentives to work together, otherwise they would not do so. Rewards for group work could enhance the effectiveness of the group work due to the motivational effects involved. Group members should be rewarded equally, rather than as individuals (Schwarz 1994:35). Several studies have confirmed that groups perform better when they receive a group reward than when individual members are rewarded. However, every member's effort should count, since group members could easily rely on a few individuals to take responsibility and work harder. Peer interaction and enhanced motivation amongst group members due to rewards, could also help students learn better. Students could also reward one another in a group or could be rewarded if the teacher uses their contributions (Tiberius 1999:72). Group rewards could be competitive or non-competitive, depending on whether only winning groups receive a reward or whether all groups that fulfil certain criteria receive rewards. However, it is often difficult to tell whether a group's achievement is improved by the competition between groups or the reward that winning groups receive (Chang 1993:9-13,60).

Slavin (1991:89) also found that many studies have shown that groups achieve more when there is some sort of reward, e.g., certificates, grades, or appraisal (Slavin 1991:89). He argues that "[o]utstanding achievement always produces extrinsic rewards of some kind" (:90), since this is exactly the reason why these achievers' motivation is maintained. In another review article he concludes that the "cooperative incentive structure" (i.e., rewards) most often explains the effectiveness of co-operative learning and that no evidence exists that group work *per se* makes any difference to student achievement (Slavin 1983:440). He also mentions reasons why group rewards are necessary: The fact that it creates peer norms which favour achievement, and that, without rewards, members would just provide answer to their peers without explaining the work. He therefore strongly supports the idea of providing rewards to effective group work

(Slavin 1991:90). However, he argues that a second factor is necessary for the successful outcome of group work, and that is the individual accountability of each member of the group (:144). These two methods cannot guarantee the success of group work without each other.

Norman and Schmidt (1992:562-563) state that "the nature of the subject matter studied and the depth of learning are determined not so much by interest or perceived importance as by the nature of the reward." However, many studies have shown that extrinsic rewards could undermine intrinsic motivation and even make subject matter less interesting to students. Dimock (1987:187) also argues that the successful completion of a group task is a reward in its own, and this could ensure a strong, effective group.

Chang's (1993:60) study, however, showed that a group reward system (in terms of students' grades) does not increase the motivation of learners to learn more. This could be explained by the fact that group members feel more peer pressure when groups are rewarded as a whole. Therefore, "[g]roup reward... did not deliver many benefits" and "might bring mixed blessings to students" (Chang 1993:68,80).

Sapon-Shevin and Schniedewind (1989:64) argue that rewards and prizes for group work could foster competition and send mixed messages to students, since the message of group work should be that of working together. They therefore assert that the satisfaction of group work should stem from working together and overcoming obstacles together, rather than receiving rewards for successful group work.

Kohn (1991:83) argues that rewards are limited in their effectiveness, may undermine students' interest in, and their attitude towards, the task at hand and may even reduce the quality of a group's performance. He states that "no artificial inducement can match the strength of intrinsic interest in a task," referring to many studies done in the field of Psychology to support his argument (:83). His arguments are based on the fact that rewards make people feel controlled by the work, interfere with their creativity, cause "ego-involvement," and make people think that the particular activity is not worth doing for its own sake: "what makes us think that bribing groups to learn is productive and benign?" (:85). In his opinion, co-operative learning methods should not rely on extrinsic motivations like rewards, but should rather provide for autonomy, since this could produce intrinsic motivation.

One has to realise that different types of rewards could have different effects on the outcome of group work. Therefore, more research is necessary in the field of rewards and their effect on the motivation and achievement of students in their learning.

4.3.4.4 Handling problems related to group-work sessions

"Problems... are to be expected and it is how we deal with them that determines the degree of success" (Jaques 2000:258). If a group-work session has not been successful, the factors influencing the effectiveness of group work should be evaluated in an attempt to find the reason for the failure. On the other hand, Gregory and Thorley (1994b:185) argue that the unpredictability of groups may lead to many difficulties that could be encountered during group work, but also creates a richness of experience amongst students and staff. Furthermore, "[w]hen discussing reasons for failure, one of the most common elements seems to be the time span teachers allow for it to succeed.... Another common reason for failure is poor planning" (Goldstein [s.a.]:2).

Steinert (1996:206) suggests some questions to be asked when problems (such as poor interaction, conflict or poor motivation) are encountered during group-work sessions:

- Why is a particular problem occurring?
- What can be done differently to overcome the problem?
- How can students share the responsibility for the success of group work?

Facilitators and lecturers need to have a plan of action ready for these problems. The following are some of the most commonly encountered problems, although there could be many more:

4.3.4.4.1 Insufficient coverage of the syllabus

Constant tension to cover the syllabus could affect the success of group work and many of its advantages might therefore go lost. A few options exist to overcome this problem, e.g., additional lectures as an introduction to the study material, or follow-up lectures as summaries of the work covered during group work. Students can also do additional work on their own as

self-study, which would enhance their self-directed skills. Group work thus needs discipline and proper planning of time by lecturers, facilitators and students (Rudduck 1976:8).

4.3.4.4.2 Unclear goals and structure

Students often are not sure what is expected of them and how they are to complete the group task. Clear aims and objectives should therefore exist for group-work sessions (Race & Brown 1998:90) (cf. 4.3.1.5).

4.3.4.4.3 Lack of preparation for group-work sessions

Preparation for group work involves both the students and the staff and either or both of these role-players could fail to prepare properly for group-work sessions (Race & Brown 1998:90). Students will not prepare for group work if they are unsure about what to prepare, if resources are not available, if the amount of work for preparation is too much, or if the facilitator is not strict enough and provides the answers when students do not know (Unsworth 1976:39).

Lecturers need to prepare for group-work sessions in terms of selecting appropriate topics and methods, setting clear objectives for students, providing sufficient resources and providing an appropriate environment for group work (Unsworth 1976:38).

4.3.4.4.4 Poor participation of group members

Students often do not want to work within groups at all. Reid et al (Reid et al 1989:72) assert that these students should be allowed to work individually. However, this could be dangerous since it might encourage other students to follow their example and one might end up with a class of students in which very few students are willing to do group work, and this would defeat the whole purpose.

There is often also poor co-operation and interaction within a group. Unresponsive members could not have prepared properly, could be unsure about the aims of the group-work session or task, could feel that the task is too difficult, or could simply be shy or uninterested (Unsworth 1976:39). When students' needs, interests and expectations are met, they should also be more willing to contribute to group work (Reynolds 1994:36). Assigning responsibilities to group

members and involving students in the planning of group-work sessions could also motivate them to be more actively involved (Reynolds 1994:40) (cf. 4.2.6).

Furthermore, group members can be either disruptive, dominating, not listening, or can appear to "know it all." These members can be dealt with through several strategies, but groups should be allowed to first attempt to solve the problems before the facilitator intervenes. However, these groups would often need support to do so (Race 2000:95-98). Disruptive members can be handled by isolating them, or letting them work together within a group (expecting the same results as the other groups). The latter could encourage them to work together due to peer pressure, because they might not want to be singled out for not producing results from their group work (Reid et al 1989:72). Dominating members can be handled by taking turns to speak, rather than allowing any member to speak when they want to, by putting them in one group with a leader, or by letting groups purposefully evaluate their group process and identify dominating members. Through the feedback they receive from their peers, these students might realise the disruptive influence they have on their groups (Reid et al 1989:74; Tiberius 1999:118-121).

4.3.4.4.5 Different levels of abilities amongst group members

The presence of less able students in groups could pose problems, although, the beneficial effects of peer tutoring might be better for these students, rather than just sitting and listening to the lecturer. These students are more likely to become involved when they work in groups, since they will receive the opportunity to make contributions (Reid et al 1989:73). By ensuring resource and role interdependence and rewarding skills development, both high and low achievers could be encouraged to work co-operatively in their groups (Tucker et al 2003:209-211).

4.3.4.4.6 Struggles with the completion of the group task

Group members could also experience problems with poor time and task management (Gibbs & Habeshaw 1989:81-82; Reid et al 1989:71-74). Through proper training and the assistance of facilitators, these problems could be overcome.

4.3.4.4.7 Inappropriate facilitation style

Facilitators could dominate group-work discussions in various ways, e.g., filling in silences, making statements rather than posing questions, conducting dialogues with certain students, taking control of discussions and not noticing that shy students want to say something (Unsworth 1976:40). This is especially the case when facilitators are experts on the subject matter (cf. 4.3.2.1.6). Facilitators could also ignore non-participating members, allow domineering members to continue, and fail to ensure equal contributions amongst group members. Tiberius (1999:96-99) provides useful tips on how facilitators could prevent themselves from talking too much.

Furthermore, they could rely too much on their authority and thus discourage students from taking responsibility for their own learning (Tiberius 1999:68). They should thus evaluate themselves, be honest about their shortfalls and plan strategies to improve their approach towards facilitation (Race 2000:99-109).

4.3.4.4.8 Difficulties with facilitator intervention

Facilitators might find it difficult to know when to intervene when groups experience problems with the work. This is probably one of the most difficult issues to handle. Facilitators should always attempt not to get too closely involved with groups working on a specific assignment (Reid et al 1989:71).

Many authors suggested a number of solutions for problems commonly encountered during group work (Gibbs & Habeshaw 1989:81-82; Reid et al 1989:71-74; Tiberius 1999). However, it is not in the scope of this study to discuss these troubleshooting guides in detail. It is more important that students, lecturers and facilitators be aware of the fact that problems could occur in group work, and that they be prepared to handle these problems. The involved institution should ensure that guides are available for troubleshooting, for example that of Tiberius (1999).

4.3.4.5 Monitoring group-work sessions

To ensure the success of group work, it is necessary to evaluate group-work sessions regularly. The perspectives of both the students and the staff members are important, but the evaluation of a group-work session should be a collective effort of groups. Jaques (2000:161-162) suggests the following strategy for monitoring group-work sessions:

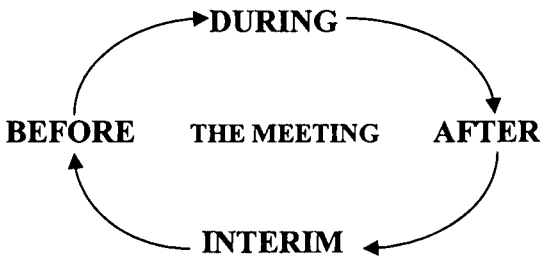


Figure 4.2 Monitoring strategy for group facilitators (Jaques 2000:161)

Figure 4.2 indicates how a group-work session could be monitored by looking at the different stages of such a session, i.e., before, during, after, and in between sessions. The following could be done in each of these stages:

- Before sessions: Consider the goals and aims of the group-work session and then decide on the method and anticipate what might happen during the session.
- During sessions: Monitor what is happening, evaluate whether the intentions for the session compare with what is happening.
- After sessions: Make notes of what should and should not have happened and review the session.
- Interim period: Think the session over, look for new ideas and prepare new material for the next session.

Apart from the group-work session, the groups and their members, as well as the lecturers and facilitators should also be evaluated on their performances. To ensure that students do not rely on their fellow group members to do the group work, it is necessary to evaluate each one's contribution to the group task and process. Several different approaches could be followed to evaluate the performances of the different role-players (cf. 4.6.3). The product of group work,

i.e., the outcome of the task which the groups had to complete during a group-work session, also needs to be evaluated or assessed. This would provide feedback to the students on their learning and could assist in identifying areas of learning in which the students have experienced problems. It is also necessary to evaluate the group process since the functioning of a group influences its effectiveness (cf. 4.6).

4.4 TRAINING OF STUDENTS AND STAFF WITH REGARD TO GROUP WORK

Training of students, lecturers and facilitators with regard to group work is one of the most important factors which could contribute to the success of group work. Training opportunities should thus be provided to everyone involved with group work (Schwarz 1994:35). It should take place before students start with group work, and it should be a part of regular staff development sessions. "An effective faculty training programme may well be the most essential ingredient in the success of any educational innovation" (Wetzel 1996:474).

The following aspects regarding the training should be taken into consideration:

4.4.1 The rationale for training regarding group work

"Implementing cooperative learning in the classroom is more complex and demanding for the teacher, as well as the student. Faculty development is essential to assist faculty in the role transition from traditional teaching methodologies" (Kaufman et al 1997:41).

Both students and staff need to be informed regarding the rationale and principles of group work, for them to know how they could benefit from it (Race 2000:14). However, they also need to know which skills are needed for, and developed through, group work (cf. 2.3 and 2.5). This information could best be provided through training sessions. "Students will work effectively in small groups when they believe that their work has a purpose and when the small group structure is appropriate to the task. **Simply arranging the classroom furniture into groups will not result in effective group work**" (Reid et al 1989:37).

Staff members' understanding of, and attitude towards, group work could also be positively influenced through training sessions and these sessions are thus useful to prepare staff to use this instructional method properly (Nasmith et al 1997:239). The role of the facilitators and their knowledge about group work also influences the effectiveness of groups: "**To help groups become more effective, facilitators must understand the elements that contribute to group effectiveness and how those elements interact. The knowledge enables facilitators to determine how members' behaviors and others** [sic] **factors contribute to and detract from group effectiveness**" (Schwarz 1994:19). Staff members therefore need to receive proper training regarding all the different aspects of group work, because their skills and behaviour could influence the outcome of group work (Brown & Atkins 1988:50; Schmidt & Moust 1995:709).

4.4.2 The provider of the training

It would be advisable for all the students to receive at least the same training in the basic principles of group work, and because lecturers often have their own individual styles, the best approach would thus be for the institution to provide the training (Rudduck 1978:117). The same applies for the training of staff. Preferably, experienced and skilled persons should be appointed to provide this training.

4.4.3 The trainees

Since group work is a relatively new instructional method in medical education at many higher education institutions, especially in South Africa, not many staff members are familiar with the objectives, principles, methods and techniques of group work. All staff members who are involved with group work, whether it is the lecturer who has to design the group-work sessions and tasks, or the facilitator who has to facilitate group work, should receive training in group work. Since group work has also only recently been introduced into South African schools as part of outcomes-based education, most children who currently finish school and enter university are also not used to group work as part of their learning. Therefore, if group work plays an important role in the instruction of a course, all students involved should receive training with regard to group work. Since the ability to work as a member of a team is now a generic skill which students have to develop, most students have to be included in this training,

especially medical students. If mentors are used as part of the support for groups (cf. 4.5), these persons also have to receive training in especially the aspects of the group process, and the same applies for senior students who act as peer tutors or facilitators (Crosby 1997:23).

"The problems of developing satisfactory small group work depends as much on student training as on teaching training" (Sternhouse in Rudduck 1978:116). Training should thus be provided to everybody who is involved with group work in one way or the other.

4.4.4 The timing of the training

It is debatable whether the training of students should take place at the beginning of the first year, or a few months later, after they have gained some experience of working in groups and thus have a reference point to use (Rudduck 1978:118). However, even though starting instruction with a group-work exercise without any prior training could be helpful to identify the students' learning needs, it might also be discouraging to students. Gibbs (1995a:30) therefore argues that "[s]tudents should not be left to struggle for long before being trained," and also notes that students lack the skill of working in groups, and therefore need training relatively early in the course.

The ideal is therefore for students to receive their training near the beginning of the course which they are to follow (i.e., in the first year of their studies). If it is possible for students to be accepted to a course after the first year (e.g., graduates entering a course in the second or third year), it would be advisable for these students also to receive a short training course, especially if they have no previous experience of group work. This is indeed the case at some medical schools where the medical curriculum is a postgraduate course.

The ideal for training of staff would be for them to receive their training when they are appointed at a higher education institution, but this is an unrealistic expectation, since many of them have been involved with these institutions for years already, and have only recently become involved in group work. Therefore, these training sessions should take place as soon as possible, and all staff involved in group work in some or other way should be encouraged to attend the sessions. Regular staff development sessions could be held to repeat certain important aspects or to address certain problems which are experienced with regard to group

work. Holcomb (1996:87) argues that two types of training should take place, viz., basic training for all new members of staff, and also advanced training to stimulate the process and involve the staff on an ongoing basis.

4.4.5 The format of the training

The training could either take place as an intensive short course, or as an extended series of meetings (Rudduck 1978:118). The best way to train someone about group work is for the person to work within a group and experience the entire process. Experiential learning is an essential part of learning – not only for students, but also for staff. "Many of the insights and skills needed for group-based learning can only be effectively acquired as part of personal development, facilitated through a participative learning environment" (Gregory & Thorley 1994a:64). Many authors support this argument (Crosby 1997; Gregory & Thorley 1994a; Holcomb 1996). "There is a need for tutors to experience personally similar situations to those in which they will put students during the assignments they will run, and for tutors to begin to understand group processes and the strong feelings that can be engendered in groups" (Gregory & Thorley 1994b:185).

It is thus advisable that the trainees (i.e., the students and staff members) work in groups during the training sessions (Crosby 1997:21). An experienced person should facilitate the trainees working in groups. For example, in a problem-based learning set-up, facilitators usually meet once a week with a skilled facilitator to discuss the case study for the following week, and also problems that occurred during the past week (Wetzel 1996:476). Facilitators could also receive "on the job" training, or could join and observe more experienced colleagues while they facilitate group work (Ledingham & Crosby 2001:79).

Other approaches to training could also be followed e.g., videos that explain important aspects of group work and demonstrate how a group could function in reality. The video "*Collaborative learning – Working together in small groups*" (1996), for example, demonstrates important stages of group work, viz., finding common ground, roles and goals, getting the job done, and reflecting. Games are also available to teach students different aspects of group work e.g., the board game "*Teams: A game to develop group skills*" (1988) which

could be used to develop group skills, evaluate the balance of roles within a group and encourage individual members to do what they are best at.

A guide containing all the important aspects of group work could be made available to the students and the lecturers. This should serve as a guide and a reference source on any aspect of group work in which problems are experienced. The guides for students and staff will necessarily differ from each other, although the basic principles should be similar. Such a guide should contain, amongst others, the rationale for using group work as an instructional tool (Tribe 1994:30-31).

Apart from this, guides for facilitators and students on the different group-work sessions could assist both parties in knowing what is expected of them during each session. A guide for facilitators could typically contain the following information (Gibbs 1995b:25):

- Suggestions for discussion formats/group work techniques for each session;
- Handout material that students could receive to read and discuss;
- Suggestions for advising students on how to prepare for the next session; and
- Information about the assessment of group work, including assessment criteria, regulations and deadlines.

A group work guide for students could help to improve the effectiveness of their groups (Gibbs 1995a:37). The student guide could also ensure that students prepare well for these sessions, and could contain the following information (Gibbs 1995b:26):

- A timetable of all the times and venues of the group-work sessions;
- Outlines of the topics to be discussed during the sessions;
- Learning outcomes for each group-work session;
- Bibliographies and alternative reading material which students can use as resources for preparation for group work;
- Advice on how to prepare for the group-work sessions;
- A description of the different group-work techniques which could be used during the sessions;

- Advice on how to participate actively in group discussions as well as a checklist for self-evaluation concerning this issue; and
- Assessment criteria and guidelines for peer-assessment.

The information on specific group-work sessions is often provided as part of the workbook which students receive, e.g., the outcomes of a particular session, preparation for a session and evaluation of the session. The contents of these guides would typically vary from institution to institution, depending on their specific set-up.

4.4.6 The contents of the training

Since most students and staff members are used to traditional instructional methods, many aspects of group work should be addressed during training sessions of both students and staff, including the following:

4.4.6.1 The rationale of group work

"Addressing the importance of group work and the goals of group work is essential, since students will be far more motivated to participate if they see the relevance of the group assignments to larger course objectives" (Center for Teaching and Learning (Stanford University) 1999:3).

Both students and staff should be informed about the reason why group work has been implemented as an instructional tool in the particular course. The fact that the ability to work as a member of a team is a necessary prerequisite for employability should be pointed out, as well as the purpose and advantages of collaborative learning (cf. 2.3.1.2.3). Because the expectations of students could influence their behaviour and perception of group work, students need to know beforehand why they are working in groups (Abercrombie 1977:44).

Furthermore, everybody involved with group work should not only be aware of the objectives of group work (cf. 2.4), but also the advantages of using this instructional tool (cf. 2.5). The

principles underlying group work should be pointed out (cf. 2.7), as well as the importance of a positive attitude towards group work, without which it would not be successful.

4.4.6.2 The skills for group work

"[C]omplex, verbalized thinking and social skills will not be displayed automatically by students who are part of cooperative learning groups. Without explicit training in discourse and social skills, small groups appear to operate at the most concrete level.... [W]e need to teach students the social behaviors associated with productive group discussions" (Wilkerson 1996:30).

Group work provides the opportunity for students to develop many skills, but they first need to know which skills are involved and how they can be developed (cf. 2.5). This is best done through training and providing opportunities to students to actually develop the skills. Lecturers and facilitators also need to be aware of these skills, not only because they also need most of the same skills for effective group work presentation, but also to provide opportunities for students to develop them. Johnson, Johnson and Holubec (in Putnam 1997:71-78) developed a six-step approach to teaching co-operative skills, which include naming and defining the skills, explaining why the skills are needed, demonstrating the skills, providing opportunities to practise the skills, observing and providing feedback on the skills, and reflection and goal setting.

4.4.6.3 The importance of a positive attitude towards group work

Lecturers must believe that group work could enhance student learning to ensure effective group work. "A positive attitude [amongst teachers] will show students that group work can multiply the opportunities for interaction, responsibility, and learning" (Boschee 1989:23). The attitude of the staff and their opinions about group work could thus have a definite influence on the outcome of group work, since they need to adapt to the change in their instructional approach.

The students' expectations of group work, prior experience of the course and their attitudes towards one another or to the facilitator can also influence the success of a group-work session

(Reynolds 1994:38). Not only lecturers, but also students therefore need to have positive attitudes towards group work. A variety of techniques can be used to address different needs amongst the students and a positive experience of group work could improve their attitudes towards group work (Gregory & Thorley 1994b:183). The motivation and attitudes of group members are also positively influenced when the group's accomplishments can be attributed to the entire group, rather than the individual efforts of different members (Dimock 198735).

A positive attitude is also necessary towards the group itself: "Key attitudes which aid group functioning are positive attitudes to the group, positive attitudes towards interaction, readiness to be creative, and readiness to be critical at the right time and in the right way" (Thomas 1997:325). This may include a willingness to join the group without preconceived negative ideas and to be committed to the group process. A positive attitude towards interaction implies that members are loyal to the group, participate actively and are willing to resolve conflict in the group when necessary. Prior experience or hearsay (i.e., existing mythology about group work), as well as the interpretation of a lecturer's intentions with group work, can influence students' perceptions of group work (Reynolds 1994:39).

4.4.6.4 The group structure

Students should know about the different roles which group members can play and what the responsibilities of group members are. Since the role of the leader is likely to alternate between different members of the group, all students should receive training in the role and tasks of a group leader (cf. 4.1.6 and 4.1.7). Facilitators need to assist students during group work and lecturers need to design appropriate tasks, engaging all members of the group, and therefore they also need this information. Furthermore, if students are to co-operate with students from other year groups or courses, they should be informed about the rationale for this (cf. 4.1.4 and 4.1.5).

4.4.6.5 Learning styles of students

Learning styles of students vary due to personal, cultural and social influences and this has important consequences for a particular group in their approach towards learning. If students are aware of the different learning styles, they may attempt to have a more balanced approach

towards learning within their groups (Saunders et al 1996a:B11). Lecturers and facilitators also need to know the different learning styles, since lecturers need to design group tasks which provide for the different learning styles, and facilitators need to assist the group with accommodating all individual learning styles of the members (cf. 4.1.2.6).

4.4.6.6 The group process

"Management of a group is fundamental to its success, as nearly all the problems a group may encounter deal with a lack of understanding of group dynamics and how to manage the group process" (Heimlich 1996:42). Making students aware of the importance of the group process through training is of the utmost importance, although many medical schools neglect this aspect of group work. Thomas (1997:325) argues that this "would give each medical student the ability to recognize the developmental stages of groups, the steps in problem-solving and why groups may function poorly, and enable them to make a personal contribution to the improvement of group function." However, staff members – especially facilitators and mentors – should also receive training in this regard.

The following aspects of the group process should be addressed during these training sessions:

4.4.6.6.1 Group dynamics

Both the students and staff (especially the facilitators and mentors) should receive training in the basic principles of group dynamics. This does not only include the different stages of a group's life cycle, but also the following: The nature of groups, group cohesiveness, "group think," group goals, norms, co-operation and competition, leadership and management of conflict (cf. 4.2). The purpose of ground rules and contracts should be highlighted (cf. 4.2.3) and groups could even be given the opportunity to compile these during the training sessions.

It is important to be informed about the structure and functioning of a group in order to acquire the skills necessary to function as a member of a group (Cuthbert 1994a:83). Although the basic principles of group dynamics could be taught during training sessions, the real learning process only comes through practice, which can be achieved through experiential group work, student-

led discussion groups and assessment (:83-85). Learning about the group process is thus an ongoing process.

4.4.6.6.2 The importance of maintaining the group process

The effectiveness of a group depends very much on the group process and therefore it is essential for groups to maintain proper dynamics. Students should therefore be informed about all the different aspects of the group process, and how these should be evaluated, maintained and improved (cf. 4.2.8). Facilitators need to assist groups during group-work sessions and mentors (if being used), are involved with groups on an ongoing basis. They thus also need training in this regard.

4.4.6.6.3 How to increase participation and discussion within a group

Since interaction within a group is an integral part of group work, students should be trained how to analyse the patterns of interaction in a group (Cuthbert 1994a:84). Facilitators are often expected to assist students in this regard and should therefore receive similar training. Students and facilitators also need to be informed about the factors which could influence interaction and participation in a group, as well as strategies to increase interaction and discussion in a group. Especially the group leaders and facilitators would need this information, but since most students would get the opportunity to act as a group leader, it would be wise to include this aspect in the training of all students (cf. 4.2.6).

Lecturers should be aware of the fact that a lack of "common background knowledge" could affect students' participation and should therefore be provided with strategies to ensure common prior knowledge amongst group members. This could be done by giving a lecture, showing a film, giving a demonstration, role-play, or giving reading assignments to students as preparation for group work (Tiberius 1999:77).

4.4.6.6.4 How to identify and handle problems within a group

Both students and facilitators should know that it is very likely that groups will experience problems at some point. They should be aware of the many possible reasons for the problems, should know how to identify the nature of the problem, and should also be informed about the

strategies which could be used to address the different problems (Race 2000:29) (cf. 4.2.7). Mentors should also be informed about this aspect of group work.

These problems also include conflict and multi-cultural issues:

4.4.6.6.5 How to handle conflict

Conflict is almost part of the group process and groups should be prepared to handle it when it arises. They should not only be aware of the reasons for conflict, but should know strategies to resolve it. Facilitators and mentors often need to intervene when conflict occurs in a group and therefore also need training in this regard (cf. 4.2.7.1.1).

4.4.6.6.6 How to handle multi-cultural issues in a group

Multi-cultural issues would be relevant if classes include minority groups. Students should be prepared to handle these issues and facilitators and mentors need to be able to assist them where necessary. Training regarding this issue is therefore essential (cf. 4.2.7.1.2).

4.4.6.6.7 The process of communication

Students need to be made aware of the process of communication and should know the importance of verbal as well as non-verbal communication. They should also be informed about the possible reasons and solutions for communication failure, and should be provided with strategies to improve communication within groups (Cuthbert 1994a:84; Saunders, O'Sullivan & Rice 1996b:C27; Zander 1994:85-87) (cf. 4.2.5).

A study conducted by Maguire (1990) showed that communication skills can indeed be taught to undergraduate students and that the outcome is better when feedback is provided to students on the development of their skills. Communication can specifically be demonstrated to students by making use of videos or role-plays which point out the characteristics of good and poor communication. Certain group-work methods also provide specifically for the development of communication skills, e.g., role-plays and games (Snadden & Ker 2001:248-254).

However, not only the students but also the staff need training in these aspects of communication, since the facilitators and mentors often have to assist students in identifying and solving problems within the group, including communication problems. Facilitators also need communication skills themselves in order to facilitate group work effectively (cf. 4.3.2.1.4).

4.4.6.7 The group task

Studies have shown that training of children regarding the task to be completed and the rationale behind it helps them perform better (cf. Barron & Foot 1991). The same would apply for university students. The following aspects of completing the group task, and therefore of group-work sessions, should thus be included in the training of students and staff:

4.4.6.7.1 How to plan and conduct a group-work session

Students and staff need not only know about the different types of group work (cf. 2.8), but also need to be aware of the different methods which could be used during a group-work session (cf. 2.9 and 4.3.1.6). Lecturers need to decide upon the appropriate type and method for a group-work session, students have to do the group work and facilitators must assist them in doing this. The reason why a variety of methods should be used should be made known to especially the lecturers, but also to the students and facilitators, so that they can understand the reasons for doing so. Lecturers also need to know how to compile workbooks for group work and which assignments would be most suitable for interaction within the groups (cf. 4.3.1.8). Students need to know how to plan their time and task to finish the group task effectively (cf. 4.3.3.2). This includes being aware of the different steps of solving problems (cf. 4.3.3.3). As far as time management is concerned, they need to understand that time is a valuable resource which they should use effectively, since it disappears if not used properly (Rogerson 1996:A6). They should also learn to identify priorities, spend time on those activities and attempt to identify and avoid obstacles which could influence effective time management (:A26). It is also necessary for lecturers and facilitators to be made aware of the importance of feedback to the students on the work being done during a group-work session (cf. 4.3.4.2).

4.4.6.7.2 The importance of regular evaluation of the group task

Students and staff have to understand the rationale for regular evaluation of the group task, since it provides students with feedback on their progress in their learning. This could provide the opportunity for students to reflect and improve their approach to learning. Assessment of the group task should also take place and students and staff need to be informed regarding the assessment criteria and techniques which could be used, and staff members should know the possible strategies to award marks for groups and individual contributions to the group task (cf. 4.6).

4.4.6.8 Approach to effective group work.

Students and facilitators need to be aware of the characteristics of effective and ineffective groups and group members (cf. 4.2.4.1 and 4.2.4.2). Not only should group members attempt to contribute to the effectiveness of a group, but they also need to know which types of behaviour to avoid to prevent groups from becoming ineffective. Facilitators should be able to identify ineffective groups in order to assist them with addressing the problem. Groups also need to be able to plan strategies to increase the effectiveness of their group (cf. 4.2.4.3), according to the findings of their evaluations of the group. Facilitators need to assist groups in this regard where necessary.

Staff members should also attempt to increase the effectiveness of group work through proper planning and evaluation of the sessions, reflecting, and designing plans of action accordingly (cf. 4.3.4.5). They thus need to be provided with strategies to do so.

4.4.6.9 Additional aspects to address during the training of lecturers and facilitators

There are a few additional aspects of group work that need to be addressed during the training of the lecturers and facilitators. McAvoy and Fraser (1990:33) argue that "the training of teachers is still not an integral part of medical academic institutions." The success of such a training programme would depend on the resources available at the institution for faculty development, as well as the amount of time that staff have available for training (Wetzel

1996:475). The training sessions should be timed carefully so that they do not clash with other important activities of the involved staff members (Price 1997).

A training programme for medical teachers could include knowledge regarding educational goals and strategies to accomplish these goals, competency in small-group teaching, awareness of the range of teaching techniques for group work, and familiarity with the principles and techniques of assessment of group work (McAvoy & Fraser 1990). Lecturers need not only know how to plan group-work sessions and design appropriate tasks for group work, but they also need to be aware of the importance of a suitable environment and the provision of resources to ensure effective group work (cf. 4.3.1).

Since many lecturers and facilitators might be uncertain about what facilitation entails, the role and responsibilities of a facilitator, as well as styles and skills for facilitation, should be included in the staff development programme of a higher education institution (Davis & Harden 1999:138; Schmidt & Moust 1995; Talbot 1994:111; Wilkerson 1995:314) (cf. also 4.3.2.1). Obtaining the skills necessary to facilitate groups should be an essential part of the training of lecturers and facilitators. This includes the ways in which groups work, the structure necessary for effective group work and how to achieve positive learning outcomes through group work (Gregory & Thorley 1994b:184). Another important aspect of the training of facilitators implies the knowledge of when to intervene as a facilitator, should groups experience problems (cf. 4.3.2.1.6). Apart from being able to facilitate and observe groups properly, facilitators need to be aware of the importance of ongoing reflection on the role of the facilitator, modifying their behaviour where necessary (Price 1997).

4.5 SUPPORT OF STUDENTS AND STAFF INVOLVED WITH GROUP WORK

Support is an essential element in the success of group work and should be provided to everyone involved, including the students, lecturers and facilitators.

4.5.1 The reason for support

"**Strong, positive human support fuels learning**" (Race 2000:16). Both students and staff have specific needs with regard to group work. If these needs are not addressed, the outcome of group work could be affected negatively. For group work to be successful, it is therefore crucial to provide the necessary support to students, especially when problems occur. Also, not all students would necessarily be comfortable with group work as part of their learning paths, and this could be ascribed to several factors, e.g. their previous experience, and also differences in their learning styles and personalities. These students would need extra support to ensure that they also benefit from group work. This support should include providing reasons for using group work as part of instruction, and also guidance about how to implement if successfully (Kaufman et al 1997:62).

Support does not only mean that problems are being solved, but also that students' personal needs are being met. The better these needs are addressed, the stronger the cohesion and solidarity of the group will be (Dimock 1987:25). "Group harmony often correlates inversely with group performance but directly with satisfaction" (Miller et al 1994:43). Lack of support to the staff could also lead to a decrease in their enthusiasm, and even boredom and burnout (Tiberius 1999:150). Teachers should therefore be allowed to take responsibility for their input and planning of group-work sessions and they should receive the support and credit for doing so (Sapon-Shevin & Schniedewind 1989:64).

4.5.2 The responsibility to provide support

It is primarily the responsibility of the specific higher education institution to provide a supportive environment for group work to take place. However, students' peers, senior students, lecturers, facilitators and mentors could also provide support to individual students in some or other way. Both internal and external support of a group should be provided. This implies that the group members provide support to one another, but that lecturers and facilitators, and even resource material, should provide external support where necessary. Typically, the amount of external support needed becomes less when the internal support is sufficient (Davis & Harden 1999:137).

The word mentor "is synonymous with a wise teacher, guide, and friend" (Galbraith & Maslin-Ostrowski 2000:133). A mentor-mentee relationship is a long-term relationship which facilitates cognitive and affective growth amongst students. The purpose of mentoring could be regarded as assisting students in becoming "more confident, critically reflective, and self-sufficient learners" (Galbraith & Maslin-Ostrowski 2000:135). Mentors could be appointed to provide groups of students with support, without them becoming dependent (Harden & Crosby 2000:339). The process of proper mentoring depends very much on the particular faculty's attitude towards such a process and, although it is most commonly implemented on a one-to-one basis, a mentor could also assist a group of students with problems they experience as a group. More experienced and advanced students could also act as mentors for junior students (Grant 1994:131). Mentoring therefore does not necessarily include academic problems, but also social and personal problems.

Mentors should have good communication skills and should be able to motivate and encourage others. They should also be aware of available resources which could assist the mentees in solving their problems and they should be willing to invest time and effort into helping students with their problems (Galbraith & Maslin-Ostrowski 2000:143). Mentors, especially student mentors, should therefore undergo training in communication skills and basic counselling, but should have a member of staff available to contact if any serious problems are experienced (Bochner et al 1995:25).

4.5.3 The types of support needed

Students need support in every aspect of their academic careers, including academic support, personal support and social support. Groups need support as far as the group process and group task are concerned (Gibbs & Habeshaw 1989193; Heron 1993:159). Race and Brown (1998:98) suggest academic and personal tutorials for academic and personal support respectively.

Lecturers and facilitators need academic support in terms of guidelines for workbooks and assignments for group work. A guide for facilitators containing important information about the group-work sessions, could also be useful (Ledingham & Crosby 2001:79). Furthermore, lecturers and facilitators also need organisational support in terms of timetables, venues,

resources and the arrangement of furniture, and administrative support as far as attendance registers, processing of marks, etc. are concerned. However, often staff also need emotional support when they experience problems with group work (Johnson & Johnson 1987:30). Teaching excellence should also be rewarded to maintain staff members' enthusiasm for their contributions to group work (Tiberius 1999:152-153).

4.5.4 The means of providing support

Support could be provided in several ways to students, including the following (Bochner et al 1995:22-23, 27; Cuthbert 1994b:90; Davis & Harden 1999:138; Gibbs & Habeshaw 1989:193; Pastoll 1992:91; Saunders et al 1996a:B23; Smith 2000:28, 37; Wadoodi & Crosby 2002):

- Mentors can act as counsellors to groups who experience problems with the group process (cf. 4.5.2). They could assist groups with setting goals for group work, monitoring their group processes and planning strategies to improve their group work.
- Peer support groups can be used. This could be defined as "a generic term for any kind of group in which people meet on a regular basis to help each other develop their personal or professional lives in the world" (Heron 1993:159). This type of group is a valuable way of meeting students' personal needs, but could also be a means of providing academic support in a group set-up. These groups can be formed informally (self-help groups) or formally (e.g., learning groups). They can also exist for the entire duration of the course to provide support and assistance to students (so-called "base groups").
- Self-help groups can provide tremendous support to students experiencing personal or academic problems. These groups may be regarded as study networks and offer many advantages to students, e.g., shared resources, pooled ideas, solving problems, shared tasks, and the improved confidence of students. "Self-help groups are simply informal groups of students who meet without a teacher to help each other with their learning" (Gibbs & Habeshaw 1989:193).
- Learning groups within the course: Students who meet regularly know one another well and feel comfortable in one another's presence, and this could be an ideal way of providing support to the students. Often these groups already have ground rules in place and team building exercises could be implemented to enhance the cohesion of the group. Typically

the members know one another's telephone numbers and addresses. They could even exchange e-mail addresses.

- Supplemental instruction: Senior students can present additional tutorials for first year students who experience academic problems. This could also be the responsibility of the lecturer, although time constraints could make it difficult to realise.
- Peer-assisted learning: This can be regarded as the acquisition of knowledge and skills through the assistance of status equals, i.e., fellow students who are usually more senior. Through assisting the junior students, senior students' own academic performance could be enhanced, even though they need training in order to act as tutors. This could take place under the supervision of a lecturer. However, tutors should rotate between different groups to compensate for the lack of knowledge of some tutors. Tutors could receive intrinsic or extrinsic rewards – intrinsic rewards imply the satisfaction of being a tutor and the development of own academic skills, whereas the extrinsic rewards could include financial incentives. These sessions should be time-tabled formally and the duration should be restricted so as to prevent students from discussing irrelevant issues. The medical school should support this system by providing the necessary resources and providing opportunities to evaluate the process and outcome of peer-assisted learning sessions (Wadoodi & Crosby 2002).
- Documentation: Study guides could provide support through useful information about the outcomes of the particular session and how the specific session fits into the whole curriculum. Other documentation includes detailed course guides, lecture handouts or transcripts, workbooks for group work, and even assessment tasks.

The support to lecturers and facilitators should mainly be the responsibility of the particular institution. Lecturers and facilitators can form support groups, which could result in better teaching performance, better interpersonal relationships amongst the staff, and even higher self-esteem for everyone involved. Johnson and Johnson (1987:30) argue that, in order to be effective, these groups should be based on the same principles as co-operative groups amongst students (cf. 2.3.1.2.5). Preferably, expert persons should be available to assist with problems, and a group-work committee could even be appointed to provide the necessary support (cf. 4.7). It is thus clear that support is of the utmost importance for the success of group work.

4.6 EVALUATION AND ASSESSMENT OF GROUP WORK

The assessment of group work is not at all an easy task. Many arguments against it exist, e.g., that facilitators should not make judgments about the skills or personal qualities of students, and that it is not possible to assess groups in a fair and reliable way. But Jaques (2000:213) argues that "[w]hat makes assessment in group work so valuable and exciting is that in tackling the above as problems it can open students and staff to a more shared and democratic level of awareness about what is going on, what is being learnt and what skills are needed to achieve learning."

4.6.1 Definitions regarding evaluation and assessment

In order to discuss the assessment of group work, it is important to distinguish between different terms used for this process. Firstly, formative and summative assessment should be distinguished from each other: Formative assessment does not contribute to the final mark, but provides useful feedback to group members regarding the skills they are to develop, whereas summative assessment implies the awarding of marks for a specific aspect of learning (Freeman & Lewis 1998:32; Gregory & Thorley 1994b:182; McAleer 2001b:293-294).

Both the words evaluation and assessment are used in the literature when referring to group work, but the meanings added to these words are not used consistently by different authors. For the purpose of this study, the word "evaluation" explicitly refers to formative assessment, i.e., assessment for the sake of feedback and not for awarding marks. Reid et al (1989:87) define evaluation as "a deliberate appraisal of the effectiveness and quality of the teaching and learning that have taken place. It is a process used continually in planning, monitoring, reflecting and post-programming." They define assessment as "a judgement of the quality of student outcomes measured against the learning objectives" (cf. also 1.9). Evaluation and assessment, according to their meaning in this study, could also be regarded as two extremes of a continuum, i.e., judgmental and developmental approaches, implying assessment and evaluation respectively (Brown, Bull & Pendlebury 1997:9).

4.6.2 The purpose of evaluation and assessment

"If you want students to take teamwork skills seriously then you need to identify and assess them. Also, if we are serious about the role of skills in our curricula, then students' grades and degree classifications should indicate something about how skilful they are, and not just something about what they know" (Gibbs 1995a:31).

Assessment of group work is necessary because students would not take group work seriously if only conventional assessment methods were used. "If the group's product is not assessed... and individuals are appraised using only conventional methods such as an unseen exam, there is no incentive to take teamwork seriously, and students opt out in order to prepare for the exam" (Gibbs 1995a:9). If assessments only provide for the testing of knowledge, group work would be seen as an "add on" and thus a waste of time (Tiberius 1999:50). It is therefore "about gaining a profile about what each member of a group has learnt or contributed" (Jaques 2000:214), but also about the skills acquired through working in groups.

Equally so, continuous evaluation of group work is advantageous to both the lecturer and the students: It "places the teacher in a position of knowledge about the work of the classroom and the direction to take next. At the same time, students are encouraged to work towards the best kind of learning for them, and towards achieving the best products of the learning experience" (Reid et al 1989:92). Also, "[e]valuation gives direction to a learning situation. How will you know whether you achieved your goals unless you evaluate your accomplishments?" (Leypoldt 1967:117). For teachers, evaluation thus indicates whether the means of instruction is effective, and for students it provides a sense of accomplishment or indicates where they lack appropriate skills, knowledge or values. Students can also develop discrimination skills to identify good work and teachers will become aware of the progress of the students (Davis 1993:282). In other words, assessment (or evaluation) measures performance and can provide useful feedback on the input (contents), the process (teaching) and the output (student performance) (McAleer 2001a:306).

4.6.3 The persons involved with evaluation and assessment

"Everyone who is involved in the learning experience should have an opportunity to participate in evaluation. Each person... has a different perspective on the learning situation. Without participation by all, evaluation cannot be valid" (Leypoldt 1967:118). Through "triangulated assessment," which implies assessment by the lecturer or facilitator, the students themselves and the students' peers, "a degree of objectivity is obtained by having three separate judgements on the value of the student's achievement" (Jaques 2000:104). Therefore, students themselves, their peers or fellow group members, as well as the staff members should be involved with the evaluation and assessment of themselves and the other role-players (Nicholls 1994:163).

Group members thus have to evaluate themselves and their peers. "If the student is to assume responsibility for his own learning, he has to be able to assess his ability to work with a problem or task accurately" (Barrows 1992:41). Das, Mpofu, Dunn and Lanphear also argue that "acquiring skills in self-evaluation is a prerequisite for the continuing learning of every doctor" (Das et al 1998:411). If students are aware of their own strengths and weaknesses, they are able to improve their performance in a group-work setting. Students should be evaluated according to their attendance, their contributions to the group process and the completion of the group task, and also the support and encouragement they provided for their fellow group members (Ledingham & Crosby 2001:83). On the other hand, some authors such as Tiberius (1999:75) argue that students should not be assessed on their participation in group work, so as to force them to work in groups, but should rather be attracted to group work by increasing their motivation. However, self- and peer evaluation could also enhance the quality of feedback given to students, make students understand better what is expected from them, and save marking time for lecturers (Brown et al 1997:172; Gibbs 1992a:50; Race & Brown 1998:91). It is also vital for medical students to learn how to deal with feedback and draw out the advantageous aspects from it, since they will continuously be evaluated by patients once they start practising (Holen 2000:487). However, students need training to ensure successful self- and peer evaluation (Brown et al 1997:173).

Self- and peer evaluation can be done in different ways: A self-evaluation form can be used with categories such as responsibility, information processing, communication, critical analysis and self-awareness (cf. Das et al 1998). Group members could also be allowed to receive one

positive and one negative comment from other members, although strict ground rules should apply for such an approach (Gibbs & Habeshaw 1989:88). Jaques (2000:66-67) suggests useful guidelines for giving and receiving feedback after evaluation, and checklists exist in the literature for self- and peer evaluation (cf. Dimock 1993:44-45; Gibbs 1992b:14).

Some authors argue that self- and peer evaluation should not take place too often, and should preferably not form part of the assessment of group work, since students usually strongly oppose this (Das et al 1998; Prinz et al 1998:424). It would also be very difficult to determine the fairness of this kind of evaluation, and students usually lack the skills and experience to do it properly (Gregory & Thorley 1994b:182). On the other hand, students would not take group work seriously if their contributions to the group task and process were not assessed. Mathews (1994:79), therefore, argues that peer assessment could take place, although the marks awarded should only count as part of the total assessment and should not be enough to fail a student. In this case, facilitators should have the responsibility for the final mark of students, and the latter should receive training in self- and peer assessment (Gregory & Thorley 1994b:182). When peer reviews are being used, a checklist should be used individually before the group compares their ratings of the different members (Gibbs 1995a:17). Students should also be informed whether peer assessment will take place anonymously or by open discussion, since this might influence their behaviour within the group (Gibbs 1992b:13). Leaders of groups should also be evaluated according to their performance and leadership styles, using specific instruments such as questionnaires (cf. Brown & Atkins 1988:87).

Groups as a whole should also monitor the group process and its effectiveness, and should be able to identify successful and unsuccessful working procedures in the group (Gibbs 1995a:30). However, individual accountability should be taken into consideration, so as to ensure that all members contribute to group work (Center for Teaching and Learning (Stanford University) 1999:2) (cf. 2.3.1.2.5).

Furthermore, lecturers and facilitators should evaluate themselves and their peers on their role in group work. The competence of teachers is becoming increasingly important due to the high expectations of students and the need to acknowledge and reward outstanding teachers. One way of determining the competence of teachers is to evaluate their performances during teaching sessions, which includes group work. Specific instruments should also be available for

facilitators to evaluate themselves and for colleagues to provide feedback to them about their performance during a group-work session (cf. De Grave, Dolmans & Van der Vleuten 1998). Preston-Whyte, McCulloch and Fraser (1996:136) argue that "an instrument which is valid and can reliably assess teaching performance in tutor-led, task-oriented small groups... will be a useful adjunct to formal summative and formative assessment." The self-assessment grid of Gibbs and Habeshaw (1989:84) is one such example. Peer review of the self-evaluations can be useful for staff members to share the outcomes of their self-evaluations with other members of staff, and to plan strategies to improve the outcome of the evaluation (Heron 1993:149). The L-PAST (Leicester package for the assessment of teaching skills) has been developed to evaluate teaching competence. The rationale for developing this instrument lies behind the fact that basic competencies should be identified and assessed in order to determine teaching competence. These competencies have been divided into six categories, viz., preparation for teaching, structuring teaching, monitoring the learning environment, demonstrating personal qualities and knowledge of the subject, demonstrating specific communication skills, and giving and receiving feedback. Instruments such as this one are therefore useful for determining the competencies of the staff involved with group work, and as long as they are non-threatening and based on agreed-upon criteria, they seem to be acceptable to the staff members involved (Preston-Whyte et al 1999; cf. Preston-Whyte et al 1996). A Teaching Style Inventory for the evaluation of teaching styles by facilitators could also be useful, since it provides for the two extremes of teaching, i.e., "assertive and suggestive" and "collaborative and facilitative" (cf. Leung et al 2003). Although the general applicability and construct validity of this instrument still needs to be investigated, this inventory could provide facilitators with useful feedback on their facilitation styles.

Other ways of evaluating teachers include questionnaires, direct observation by a colleague, subjective analysis of videotapes, or portfolios (cf. McAvoy & Fraser 1990; Race 2000:67; Tiberius 1999:153). The feedback from these should provide teachers with useful information about how they could modify their teaching behaviours to be more effective (Prinz et al 1998). Students should also be given the opportunity to evaluate the lecturers and facilitators on their role in group work. This could be done, for example, by using standard forms containing the different aspects which should be evaluated (Sefton 2001:166).

4.6.4 The aspects of group work which need to be evaluated and assessed

Different aspects of group work should be evaluated and assessed: Firstly, the learning that takes place during group-work sessions should be evaluated. This implies the knowledge, skills and attitudes that students develop through doing group work. Secondly, the product of group work, i.e., the outcome of group task should be evaluated, and thirdly, the group process, i.e., the functioning of the group during group-work sessions. All these aspects could also be assessed for marks.

Three different elements of group work should therefore be evaluated or assessed, viz., changes in behaviour, changes in knowledge and skills, and changes in the group dimensions related to the group process (Dimock 1987:143). "The assessments made of individual and group growth have as their purpose the improvement of the effectiveness of the group" (Dimock 1987:145). Many authors agree that both the group product (task) and the group process should be evaluated or assessed (Gibbs 1995a:26; O'Sullivan et al 1996:93). The former allows for evaluating end products of group work, whereas the latter helps students discover how well their groups are functioning. The facilitator (or lecturer) is probably in the best position to evaluate or assess the product of group work, whereas students themselves could probably assess the group process the best (Gibbs 1995a:26).

4.6.4.1 Evaluation/assessment of knowledge, skills and attitudes

Students' perceptions of the assessment techniques and also of what is being assessed has an important influence on how they prepare for these assessments. If the assessments do not assess what has been done during group-work sessions, but rather only knowledge of the work being done, students would not take group work seriously (Collier & Clarke 1986:615). This is especially important when assessing group work, since it does not only involve knowledge, but also skills and attitudes. "If skills are not assessed then students soon stop taking the skill, and skills development exercises and courses, seriously" (Gibbs 1995a:31). It is therefore not only good enough to assess what student know, and thus, ways to assess what students can do and what their feelings or attitudes are, have to be implemented (Leypoldt 1967:118). This is

especially important for the assessment of the transferable skills, including the ability to work as a member of a group.

Few rewards for good group-work skills exist at the moment and students are still been assessed individually (Gibbs 1995a:3). This certainly does not promote students' willingness to engage in group work and to develop the necessary skills. Since the development of interpersonal and group-work skills is important, students' progress towards these skills should be evaluated. This will serve two functions: Firstly it will provide students with information regarding their progress in developing these skills, and secondly, it provides information to facilitators on the skills that need to be reinforced (Coelho 1994:48). On the other hand, the practise and evaluation of group-work skills alone is not enough, but a reflective approach towards the development and use of the skills, which includes feedback to students, is necessary (Gibbs 1995a:31). The knowledge, skills and values necessary to achieve a particular outcome should therefore always be developed and assessed within context, and learners should have clarity about the end goals of their learning programmes (Olivier 1998:20).

On the other hand, the knowledge that students gain during group-work cannot be ignored, and should be evaluated and assessed as well. However, since group work promotes the acquisition of higher-order cognitive skills by students (in terms of Bloom's taxonomy – cf. 4.3.1.5), appropriate questions (i.e., "reflective" rather than "regurgitative" questions) should be asked during assessments (Kimber 1996:11). Assessment should therefore encourage students to adopt a deep approach to learning and lecturers should attempt to encourage students to engage in critical thinking and problem-solving activities in their teaching methods (cf. 4.1.2.7). Proper staff development sessions are necessary to ensure these changed approaches (Newble & Entwistle 1986). Newble and Entwistle (1986:174) also assert that the "key to these changes would be to present knowledge in ways which emphasize its vocational relevance and to provide student activities which repeatedly demand the use of such knowledge within a range of professional contexts."

Collier and Clarke (1986:615-616) also argue that, "students should be introduced to such questions in advance... and given opportunity of practising those skills in an examination context." Since assessment methods need to be valid and reliable, there is a need for psychometrically validated methods to assess student learning (Thomas 1997:328).

Students' understanding of the subject matter for a specific group-work session could be evaluated continuously by asking a few questions to students at the start and/or the end of the class. Such questions could include e.g., what mark would students give themselves for preparation for the class and for readiness to contribute to their collaborative groups, or what students want to learn or have learnt from the day's session (Cramer 1994:23).

4.6.4.2 Evaluation/assessment of the group process

"Unless group management skills are identified, and unless students are asked to reflect on their successes and difficulties with exercising these skills, few participants will see the relationship between completing the project and achieving some larger goals of the assignment or course" (Center for Teaching and Learning (Stanford University) 1999:3).

If students are to take the group process seriously, it should therefore be assessed in some or other way. This is usually more problematic than assessing the group task, because students and staff lack the appropriate experience to do it, and because the process is more transitory (Jaques 2000:230). Regular evaluation of the group process should, however, be part of some or all assignments during group work, so as to make students aware of the importance of the group process (Felder & Brent 1994:15). "[G]roups are far better off if they can identify problem issues before they result in major frustration or overt conflict. If the group is willing to reflect self-consciously on its dynamics, there is a strong chance that it will be able to accommodate the legitimate needs and wishes of its members as it progresses towards its goals" (Holen 2000:486-487).

Several aspects of the group process should be evaluated or assessed, including the following (Dimock 1987:61-61; Jaques 2000:23-27; Miller et al 1994:34):

- The pattern of participation: There is no indication in the literature whether one-way, two-way or multi-directional patterns are the best, but a greater participation pattern amongst group members seems to increase interest and involvement in the group. The pattern of participation could be charted so as to indicate which pattern is the most prominent for the group at a particular stage. The rate of interaction should also be evaluated, since this could be an indication of the emotional climate within the group.

- Communication: This aspect could indicate how well members of the group understand each other and how well they communicate their feelings and ideas. Attention should also be paid to non-verbal communication.
- Cohesion: This aspect could be an indication of the morale and spirit within the group. It could also assist the group in maintaining itself and ensuring that members conform to the standards of the group.
- Atmosphere: Although it is difficult to determine atmosphere, it can be sensed within the group. Attempts should be made to do so, since it affects the spontaneity of participation of group members. The literature often refers to it as the "social climate" of the group.
- Norms: Every group tends to have certain norms for acceptable behaviour within the group and if uncertainty exists about these norms, or if they are absent, frustration and poor functioning could be a result.
- Sociometric pattern: These "subtle relationships of friendship and apathy" (Jaques 2000:26) indicate the degree to which individuals are accepted and preferred by their peers as fellow group members. Research has shown that people tend to agree with people they like and disagree with those they do not like.
- Structure and organisation: The structure within the group refers to the labour division amongst group members and can be formal of informal. It is not always visible, and is often based upon factors such as prestige, power and influence amongst the group members.
- Procedures: The ways of working within the group vary from one situation to the other. It therefore requires flexibility from the group members to adjust their procedures according to a particular situation or group-work session.
- Goals: Groups may have long and short term goals and although these are sometimes vague, goals play a very important role in the group's accomplishments.
- Productivity of groups: This is usually the main focus of the group, and is closely related to the goals of the group, since the presence of goals encourages group productivity and influences the satisfaction of group members.

To ensure fair, valid and reliable assessment of the group process, assessment criteria should exist and be used. The following criteria may be included (Jaques 2000:233):

- Attendance at group meetings and preparation for the task;
- Contribution of ideas to the particular task;
- Participation in the research, analysis and preparation of material for the task;
- Contribution to the group process during the project;
- Positive attitude towards other members, e.g., encouraging and supporting them;
- Practical contribution to the end-product; and
- Co-operation with other members.

There are several ways in which the group process may be evaluated or assessed. The following are some useful methods (Brown & Atkins 1988:84; Cramer 1994:73-75; Dimock 1987:112, 148-153; Gibbs 1995a:16; Gibbs 1995a:16, 22; Harris et al 1994:137; Jaques 2000:238-242; Ledingham & Crosby 2001:82; Reynolds 1994:37):

- Observation: External observers can provide useful information about the interactions within the group. The fishbowl method is a useful way of having a group of students observed by their peers (cf. 2.9.9). "Observation is the most important method for gathering information about groups because everyone related to the groups is already doing it" (Dimock 1987:80). Several authors agree that direct observation of groups is probably the best way of obtaining information about a group (Brown & Atkins 1988; Gibbs 1995a; Jaques 2000). However, groups might have "off-days" and this method should therefore be repeated at several different opportunities. It could therefore become a time-consuming way of assessing or evaluating groups. Although systematic observation is one of the best ways to observe group interaction constantly, skill and experience are required in order to do it properly. A guide should be provided so as to draw the observers' attention to those important aspects of the group process which should specifically be observed, including the group climate, involvement, interaction, cohesion, productivity, and the fulfilment of the roles by members. An example of such a guide is suggested by Dimock (1993:36). There are several ways to interpret the information collected from the observations, using different techniques, e.g., the "eyeballing" technique, ranking, numerical scoring and percentages, etc. (Dimock 1987:153). At least three different people should observe the group to ensure credible information about the group process.

- Self-reports: Group members can evaluate their contributions to the group through personal information sheets, diaries, journals or learning logs. These can assist them in identifying problem areas in co-operative learning.
- Reporting back: One or two groups could be asked to report on their evaluations from previous sessions in an attempt to provide continuity between different group-work sessions.
- Paired appraisal: Two members of a group could ask each other specific questions about their learning and the functioning of the group. Findings could be reported back to the group to inform all members about how the group is perceived by the different members.
- Checklists: Several checklists exist which provide for a systematic evaluation of the group process and these may be used as a trigger for discussion amongst group members on their functioning as a group (Dimock 1993:39-43; Gibbs 1995a:20-21; Gregory & Thorley 1994b:184; Jaques 2000:244-251; cf. Leypoldt 1967:118-120; Reid et al 1989:89):
- "Do-it-yourself" checklist: The snowball technique (cf. 2.9.5) can be used to draw up a list of comments on the group process during a particular group-work session, which can then be rated by the students on a scale. The results of the ratings can then be discussed within the groups.
- Interviews: Interviews can be held between the facilitator (or even a member from another group) and a particular group's members. This could either be one-to-one or one-to-the-group.
- Questionnaires: Standard questionnaires are useful instruments for evaluating the group process according to certain criteria. Examples of questionnaires exist in the literature (cf. Napier & Gershenfeld 1983).
- Self-made evaluations: Each member of the group can be given the opportunity to write down some comments, while the others read and add to them. The group members can then discuss the comments which they agree or disagree with, afterwards. Groups can also subdivide into subgroups on a regular basis, in order to evaluate the group's functioning and can then describe critical incidents of the group.
- Video playback: Groups can be given the opportunity to watch a video of their group-work session and discuss the session afterwards, with the aid of a facilitator. Video recordings are helpful to stimulate analysis and appraisal of the interaction within a group, and are

therefore a valuable method of providing feedback to a group, and of creating opportunities for the self-evaluation of group members.

- Sociograms or a social relations scale: Members of a group can nominate fellow members regarding different issues, e.g., who should be the leader, who is the most effective person, etc. A sociogram is a graphic display of peer nominations for a particular issue, e.g., which members would prefer to work with whom. This information could indicate the level of acceptance and status within a group of its members.
- Group records or log-books: These could provide valuable information on how a group spends its time, how sessions are attended, and what the goals of a group are. Rudduck (1978:39) argues that groups could complete and hand in a week-by-week record of the events and process of the group during the course as a necessary prerequisite not to be assessed on the group process at all.
- Projective descriptions of the group: An indication of members' perceptions of the group could be presented in a creative way, e.g., role-play or drawing pictures.
- Simulations and role-playing: These methods can be useful for evaluating the group's approach to problem-solving through the use of stimulus material such as case studies, videos or role-plays.
- Ten-minute discussions: Another way of evaluating the group process could be in the form of a ten-minute discussion at the end of a session to review the functioning of the group. Evaluation forms or questionnaires could be used for this purpose (Dimock 1987:208).
- Portfolios: An evaluation of the group dynamics, as well as the group and individual contributions to the project should be reported in the portfolio.
- Exam questions: Questions on group functioning can be asked, including possible solutions to problems experienced by the group.
- Ranking aspects of the group process: Groups could rank the relative importance of aspects of group work which they regard as characteristics of effective groups. It is important that groups reflect on the findings of this group ranking, but the information could also be useful to facilitators and lecturers who have to plan and monitor group-work sessions.
- Personal log-books: Although these are often used to evaluate or assess individual students' contributions to group work, care must be taken not to impinge on an individual's personal

freedom. Individuals' creativity should not be undermined by too much emphasis on the common goal of the group.

There are thus many ways to assess or evaluate the group process, and in order to ensure that every aspect of the group process is covered, a variety of techniques should preferably be used. Many assessment instruments which can assist with the evaluation and assessment of the group process exist in the literature, e.g., the six-category intervention analysis (cf. Jaques 2000:15), and also the Bales's Interaction Process Analysis, the Seashore Index of Group Cohesiveness, the Brilhart Problem-Solving Process Scale, etc. (cf. Thomas 1997). However, most of these instruments only concentrate on specific components of the group process, and a comprehensive assessment will thus make use of a combination of some of these.

Feedback on the evaluation and/or assessment of the group process is essential, and should be provided as soon as possible after it has taken place, as groups need the feedback in order to function effectively (Falchikov 1988:328). Groups should subsequently plan strategies to improve the group process, which could include collecting information about the group functioning, clarifying and analysing the information, and identifying areas where action is needed to improve. Thereafter a plan of action for group involvement in the process of change should be drawn up, the plans should be carried out, and the results should be evaluated and re-planned where necessary, always involving the whole group (Dimock 1987:170). Reviewing the progress of the group should either be done informally or at agreed intervals (Gibbs 1992b:11).

4.6.4.3 Evaluation/assessment of the group task

The final outcome of a group task (i.e., the group product) should also be evaluated and assessed in order to provide information to groups firstly on the outcome of these products, but also about what they have learnt during the group-work session. Performance outcomes where real-life situations are created can be used as part of the assessment of students' knowledge and skills (Dimock 1987:149). Marks for these assessments can contribute to the semester marks of students. Through assessing the final group product, peer pressure could motivate all members to do their best (Center for Teaching and Learning (Stanford University) 1999:2).

There are several methods for evaluating the group task, and according to which groups can report the outcome of their work, which could include (Cramer 1994:73; Dimock 1993:49; Gibbs 1995a:22; McCrorie 1997:372; Peel 1998; Pressnell 1994:125; Talbot 1994:108):

- Student papers: Students could submit their draft papers for feedback before formal awarding of marks takes place. This would provide an opportunity for the group to reflect jointly on their learning experiences.
- Written reports: This is the most common approach and is usually acceptable, although the reliability of marking is often poor. It might also be challenging to group members to summarise their actions in one report.
- Presentations: This is also a commonly used method, although only one group member can do the actual presentation. Assessment is, however, not reliable unless it is done according to specified criteria, and it could be difficult to assign marks to individual students after a presentation. For medical students, these assignments could be, for example, on current health issues.
- Posters and exhibitions: Although this is a quick way of sharing the outcomes of group work between groups, it should not be the only assessment method, and should at least be accompanied by a viva to explore raised issues and to distinguish between the contributions of the different group members. If the work is being assessed, individual members' marks could be down-graded according to their lack of contribution to the group work, if necessary. The marks could also contribute to the final mark of the students.
- Vivas: This method is useful for gaining additional information about individuals' understanding and involvement in group work. It is therefore useful to allocate marks to individuals within a group, compared to the group's average obtained through a report or a poster.
- Exams: If questions are asked which can only be answered on the basis of involvement, this can be an effective means of distinguishing between individual contributions to a project. However, some conditions apply to the success of this method, e.g., more advanced questions should be asked to prevent students from memorising the information in the project.
- Portfolios or log-books: Examples of intermediate products of the group project should be collected and included in the portfolio or log-book. These two methods reveal the quality of

the group work and bring learning and assessment closer together. Individual contributions can be distinguished, although the results may be faked by the members of the group. Since these methods rely heavily on students' ability to apply them (especially log-books), it would be best to use them in combination with other assessment methods.

- Learning journals: These journals reflect the pathway of learning of students during the completion of a group task, and can be used for self-evaluation, but also as a means to stimulate discussion amongst students or between students and facilitators.

Continuous evaluation and assessment of the group task includes reports on the functioning of the group and individual contributions to the group project or task. Therefore, since assessment is important if students are to obtain marks for a specific module, continuous assessment can also contribute to their final marks and should not be neglected (Hassall & Lewis 1994:170).

4.6.4.4 Evaluation of group-work sessions

Students' evaluations and expectations of group-work sessions can be very helpful when determining the success of group work. It would not only help lecturers plan the group-work sessions more effectively, but it could also be helpful in evaluating the outcome of the sessions afterwards. A few instruments for this purpose are suggested in the literature, e.g., the ELPO (Expectations Led Planned Organisation) model for student feedback (cf. Teaching and Learning Unit (University of Leicester) 2001), and using a sociomatrix (cf. Toffler et al 1990). It is important for the quality assurance of group-work that group-work sessions be evaluated on a regular basis. However, it is also essential to act on the outcomes of these evaluations.

4.6.5 The process of evaluation and assessment

The guidelines of the World Federation for Medical Education (WFME) on assessment of medical students are clear: "Assessment principles, methods and practices **must** be clearly compatible with educational objectives and **must** promote learning" (World Federation for Medical Education 2003:12).

"One of the most difficult aspects of changing teaching methodologies is to ensure that all facets of the educational process remain congruent and consistent. Assessment in particular

must be undertaken in a way which reinforces rather than contradicts the teaching approach adopted" (Kimber 199611). There are many aspects of the evaluation and assessment of group work which should thus be taken into consideration in order to ensure that the assessment of group work is appropriate: The rationale and policy of assessment at a particular institution should be made very clear to students, due to the importance of the outcome of the assessment. This responsibility mainly lies with the faculty involved (Davis 1993:282). The aims of group work should be made explicit to both students and staff before assessment methods and criteria are determined, which should support these aims (Gibbs 1995a:24). Many studies have shown the important influence of the format of assessment on student learning. Care should therefore be taken to prevent a mismatch between the course objectives and the objectives actually assessed during assessments (Newble & Jaeger 1983). Students also need to know beforehand exactly how marks will be allocated, since this could have a marked effect on their approach to group work (Gibbs 1995a:25).

Various methods of assessment should be used for both the group process and –task, so as to prevent the assessments from becoming stereotyped, and also so as to suit the purpose of specific group-work sessions the best (Leypoldt 1967:39). Students are also more positive about evaluation and assessment if the methods used are sensible and are made clear to them, and also when evaluation forms an integral part of the learning programme in the form of feedback with which to improve their group-work skills (Jaques 2000:237).

Trial runs of the assessment of group work and even peer-assessment can be helpful to prepare students for proper assessments (Gibbs 1995a:25). Due to the chance that group members might fall ill during exams, ground rules should exist regarding the issues of the assessment of groups (Gibbs 1995a:24). Interactive exercises can assist students in developing evaluative skills. The feedback from these exercises can inform members about productive and counterproductive aspects of the group, and can also provide information for strategies to improve group work (cf. Barlow et al 1999:chapter 9).

Providing feedback on the evaluations and even the assessments that have taken place is important, so as to ensure that students' learning is enhanced, and that they are motivated to improve their knowledge and skills (McAleer 2001b:297).

4.6.6 The timing of evaluation and assessment

It should be decided how frequently, and at which point in time during the group-work sessions, evaluation or assessment should take place. It is best to assess groups on an ongoing basis, and collecting and interpreting information about group functioning should form part of the regular activities of groups (Dimock 1987:146).

The timing of evaluation or assessment is of the utmost importance, since it has very little value when it is too late already to act upon the outcome of the evaluation or assessment. Jaques (2000:235) therefore argues that regular, formative assessment, e.g., the last five minutes of each session, should take place, rather than at the end of the course only. Intermediate deadlines can also be used to help students review their progress and to keep them on track. This can be very useful when groups experience problems during their projects (Gibbs 1995a:25). Gibbs (1995a:25) also asserts that it would probably be difficult for students to review and assess their groups in their own time, and therefore suggests that time for assessment should be scheduled on the timetable. He also emphasises that the most important aspect of this type of evaluation is to identify existing problems within the group (Gibbs 1992b:26).

Assessment or evaluation can take place before, during or after group-work sessions. Before sessions, it can be used to determine whether students have prepared for the sessions and what their expectations are of the session (Cramer 1994:73). During sessions, the intention should be to determine whether effective learning is taking place and whether the group process is effective. After group-work sessions, reflection should take place to determine whether or not, and in which way, the experience could be improved (Leypoldt 1967:117). Assessment and evaluation of the different aspects of group work should therefore be an ongoing process, although a few authors warn against too frequent assessments of especially the group process, since it could inhibit the development of groups (cf. Crosby 1997:28-29).

4.6.7 Assigning marks for the assessment of group work

"There are important objections to using learning or project teams, which are concerned with assessment. It is argued that individuals, not teams, are awarded qualifications, and so somehow marks need to be awarded to individuals. However, if everyone in a team simply

obtains the team's grade this encourages and allows backsliding by some team members who can get the team grade without doing any work or learning anything. Outstanding students can be dragged down by poor or lazy colleagues and some mechanism needs to be introduced to compensate for this" (Gibbs 1992b:28). Awarding marks for group work is therefore a real issue and needs discussion: "[G]roups tend to produce better work than individuals, and so group work tends to produce higher average marks than individual work. Also the effect of putting mixed students together in groups is to make groups less varied than individuals – producing a narrower spread of marks between groups than between individuals" (Gibbs 1995a:25). The common outcome of group work is therefore "a high mean and a low standard deviation with no fails" (:25).

Research on co-operative learning has shown the importance of rewards and individual accountability for the successful outcome of group work (cf. 2.3.1.2.5). Individual accountability can be created, either by giving group members each an individual task to complete, or by making the group mark the average of individual performances. Students' achievement would be enhanced because fellow group members would encourage their peers to perform well (Slavin 1983:442).

There are several principles for the awarding of marks to groups and group members during assessment of either the group process or the group task. The most important ones include the following (Center for Teaching and Learning (Stanford University) 1999:4; Davis 1993:153, 283; Felder & Brent 1994:10; Gibbs 1992b:28; Gibbs 1995a:15, 24-25; Grant 1994:132; Gregory & Thorley 1994b:182-184; Jaques 2000:229; Willis et al 2002:496):

- Ground rules should exist for peer-assessment and the awarding of marks for group work, and should include strategies for absent members.
- Facilitators should have the authority to intervene if they think that a particular member of a group has been unfairly disadvantaged.
- Students should know beforehand how marks will be allocated.
- Marks should be allocated fairly to individual group members, since assessment influences students' choice of groups (if they had a choice), and also their degree of competition or co-operation.

- Either the same mark can be allocated to the different members of a group, or members can receive marks according to their individual contributions. However, the latter could lead to competition in the group between the group members, and could affect the group process adversely. On the other hand, it might be easy for group members to rely on their peers for good marks if all received the same mark. Assigning a mark to a group would also not reward or punish unequal contributions amongst the group members. Davis (1993:153) suggests that, if all the group members receive the same mark, such a mark should only form a small part of the students' individual marks for a module or subject.
- Individual contributions are usually better assessed by peers, although it would be advisable for facilitators to have the final control over the awarding of these marks.
- The final mark for group work should include both the mark for the product, as well as the group's own assessment of its operation during the completion of the task (i.e., the group process).
- Marks should not be assigned on a curve (i.e., comparing individual performances to one another), but students should rather be encouraged to help one another. "If students are guaranteed a given grade if they meet a specified standard... they have everything to gain and nothing to lose by cooperating"(Felder & Brent 1994:10). Credit should also be given to groups who have steadily improved over a period of time.
- Marks should be allocated on the basis of students' mastery of knowledge and skills, and students should be informed about their progress on a regular basis.
- Marks should not be overemphasised, and mark allocation methods that cause competition amongst students should be avoided.
- A hybrid combination of assessment methods should be used in order to limit the possibility of unfairness against students, and of bias amongst the assessors. A wider range of knowledge and skills could also be assessed by using different methods. The total mark of a student could then consist of different percentages obtained from different assessments that have taken place, and it may even be considered to choose the best few assessments from all the assessments that have taken place.
- Trials can be run for assessing peers as well as the outcome of group work, before marks are allocated which contribute to students' grades.

- Peer feedback should be an essential part of any type of assessment, even if marks are allocated to students.

There are also several methods for allocating marks to groups and individual group members, including the following (Brown et al 1997:175; Cramer 1994:77; Falchikov 1988:328; Felder & Brent 1994:14; Gibbs 1992b:28-30; Gibbs, Gregory & Moore 1997:39-40; Gibbs & Habeshaw 1989:39-40; Jaques 2000:225-230; Pressnell 1994:125; Race 2000:119-129):

- Shared group mark: Group members can either all receive the same mark for an assignment (if only the group task is assessed), or they can adjust the mark according to the contributions of the members. Groups are often in the best position to assess the relative contribution of each member. They could, for example, multiply the group mark (allocated by the facilitator) by the number of members in the group and then decide for themselves how the total marks should be divided amongst the different members. However, students should specify the criteria which they used to divide the marks, so as to hold them accountable for their decisions.
- Peer assessment of contribution to the group: Members could receive the group mark plus or minus 5-10% according to their relative contributions, provided that the average of the members' scores is the same as the original mark. The group therefore is responsible for moderating the group mark according to individual members' contributions.
- Limiting the emphasis on the group mark: By limiting the emphasis on the group mark in terms of the percentage it will form of the final mark, students are still encouraged to take responsibility for their own learning and the outcome thereof. Gibbs et al (1997:39) argue that the group mark should not count more than 40% of the total mark of individual students, whereas Jaques (2000:230) suggests a mark division of 80/20 for the group mark and individual mark respectively.
- Dividing up the group mark: The mark for a group-work session can also be divided up into an individual mark and a group mark, which could then both count a percentage of the total mark.
- Individual vivas: Students could be asked questions individually about the group assignment and the lecturer or facilitator could moderate the student's marks up or down with a maximum of 10%, according to their impression of the student's involvement. Students should know beforehand what would be expected from them in the viva.

However, it is possible to get skewed impressions, and this approach is also time-consuming.

- Project exam questions: To avoid the danger of students opting out of group work so as to prepare for exams, questions on the group assignment could be included in the exam. Students would then be assessed individually on their involvement in, and knowledge of, the group assignment.
- Assessing subtasks: The group task can also be divided up into smaller subtasks for each member, or pair of members, and individuals could receive marks for their contributions to the group task. If members work in pairs, the composition of the pairs should change for each assignment. However, it may be difficult to divide a task equally into subtasks and contracts should be signed beforehand, which contain the agreed-upon division of labour. This approach would also increase the marking time of students' work and is more appropriate if only the group task, and not the group process, is assessed.
- Assessing selected group members: To prevent students from relying on their fellow group member for good marks, a whole group could receive a mark based on a selected student's performance or response. This should encourage all group members to contribute and participate fully during group-work sessions.
- Adding a contribution mark. Students could receive a group mark for the group task, and an additional mark could be awarded for individual members' contributions through peer-assessment.
- A portfolio: This could be used in addition to individual and group assessments such as a group presentation of the project, e.g., the portfolio could count 30% of the total mark. Peer assessment forms a prominent part of the assessment, but the facilitator or lecturer should have final control over the marks. However, group members can easily fake the outcome of a portfolio.

It is thus important to find a fine balance between the common goal of the group and the individual accountability of group members as far as the assigning of marks for group work is concerned.

4.6.8 Problems and difficulties with the assessment of group work

"There can be real problems in assessing an individual's contribution to a group effort, in terms of the outcome, the content learned, the process skills of achieving the task and the interpersonal skills used within the group" (Gregory & Thorley 1994b:182).

Students might be uncertain about the specific aspect of group work which is to be assessed. Assessment criteria should therefore be made known to students beforehand, especially in order to inform them whether the group task or -product, or the group process will be given precedence. In spite of many attempts to deal with the issue of assessing individuals' contributions to the group effort, this remains a difficult problem to solve. "There is a basic inconsistency which needs to be recognized, between requiring good team-work and assessing individual performance" (Gregory & Thorley 1994b:182).

Some other realities about group assessment also exist, e.g., the fact that performance of students is inhibited when they are being assessed, that talkative students tend to receive better marks and that, if the facilitator and the assessor are the same person, divided attention could make the assessment process difficult (Ledingham & Crosby 2001:82; Nias 1993:155).

If a group mark is allocated to all the members of the group, it is easy for students to rely on their fellow group members for good marks (Gibbs et al 1997:39). Weak students are therefore carried by strong students and groups might develop a highly competitive and critical atmosphere amongst them if individual members are assessed separately by their peers (Felder & Brent 1994:8). One solution to the problem of weak students is for them to be put under probation by the group. A contract can be compiled to get these members off probation again, which could include specific behavioural outcomes and deadlines as prerequisites for returning to the group. Failure to meet these deadlines could then result in a predetermined consequence, e.g., not receiving marks for the particular assignment (Cramer 1994:79). Cramer (1994:80) argues that "a combination of individual grades and group grades can achieve the goals of collaboration without sacrificing individual accountability."

Furthermore, students often do not comment on weak or poor contributions of group members out of fear that the group might reject them. If this is the case, it is the responsibility of the

facilitator to do so in an appropriate way. This should encourage students to be more honest with the evaluation of themselves and their peers (Barrows 1992:41).

Students also tend to feel used or pushed around by dominating members when a group mark is assigned to the entire group for a specific assignment. However, this is often a reflection of the real world in working circumstances (Martin 1996:1). It could therefore provide an opportunity for members of a group to be assertive, to reflect on their own values and to attempt to enhance collaboration amongst group members. However, students should still be supported in this regard.

Individual students eventually receive marks and have to pass courses, and not groups. However, individual marking takes time and therefore it is necessary to use assessment methods that distinguish individuals' contributions to a group without increasing the marking time (Gibbs et al 1997:39) (cf. 4.6.7).

Students' complaints about the assessment of group work could be minimised by ensuring that they know from the beginning which techniques will be used for assessment, what the assessment criteria will be, and how the marks will be allocated (Gibbs 1995a:24). "[W]ithout special additional assessment features the assessment of groups is normally considered thoroughly unsatisfactory" (Gibbs 1995a:9). This approach can protect the hard working students from those who plan to ride on the backs of their fellow group members (Gibbs 1992b:28).

Feedback on the assessment of group work regarding the students' skills and contributions is also necessary, and students themselves should be encouraged to reflect on this feedback and modify their practice of group work accordingly. "Practice alone does not make perfect" (Gibbs 1995a:31). One way to engage students in this process is to encourage self-evaluation. However, students need support in developing their group-work skills effectively.

4.7 QUALITY ASSURANCE OF GROUP WORK

Quality assurance can be defined as "evaluation with the purpose of determining the value, worth, goodness, effectiveness and impact of a performance, a process, an event or a product with the view to maintaining and enhancing quality" (Matiru, Mwangi & Schlette cited in Division of Educational Development: Faculty of Health Sciences (University of the Free State) 2000:14).

In order to ensure successful and effective group work at a higher education institution or medical school, it is necessary to take active steps to plan, implement and monitor the process properly. Planning and implementation are inseparable elements of management (Stone 1994:61). Not only do the students, lecturers and facilitators involved with group work need to evaluate themselves, their peers and the group-work sessions, but the involved institution needs to draw up a plan of action in order to ensure the quality of group work. The specific institution should also evaluate itself regarding its approach towards group work. The WFME provided standards for undergraduate medical education during the World Conference on Medical Education in Copenhagen in 2003 (World Federation for Medical Education 2003). Although these standards were determined for medical education in general, the particular institution could include its approach towards group work in the self-evaluation.

"Many group programs are like a merry-go-round. There is action, excitement, and fun, but the participants get off right where they got on.... To prevent programs from becoming merry-go-rounds, there needs to be clearly stated, measurable goals and regular assessment of movement toward these goals" (Dimock 1987:141).

Performance and excellence should be evaluated according to certain criteria, including the context, content, process and outcome. Stone (1994:59) argues that management is central to all these elements of assessment. Three modes of management exist, viz., the hierarchical mode, where the managers alone make decisions about group work (decision by direction); a co-operative mode, where collaboration exists between the managers and the role-players in group work for making decisions (decision by negotiation); and also an autonomous mode where the authority for making decisions is delegated to the role-players in group work

(decision by delegation). Heron (1993:111) agues that the latter is not an abdication of authority, but rather the creation of conditions for individuals to fulfil their needs and meet the requirements of the task at hand. It is imperative that faculties realise that co-operation amongst staff in the faculty is essential for successful group work. This does not only apply for the planning and design of group work, but also for its implementation (Kaufman et al 1997:62). This approach to management therefore implies that a group-work team or committee could be selected to oversee the implementation and monitoring of group work. Holcomb (1996:32), in her turn, also suggests a "think, pair, share" approach to addressing critical questions regarding an innovative process. This also implies that more than one person should be involved in such a process.

The basic function of the group-work committee should be to assure the quality of group work. This implies that the following issues need to be addressed when monitoring group work (Heron 1993:130):

- Membership issues: They should provide guidelines, and could even determine the composition of groups.
- Task demarcation issues: Guidelines are necessary for determining the objectives and outcomes of the specific course, since this could directly influence the planning of group-work sessions. They should also provide guidelines for the structure and format of group-work sessions.
- Boundary issues: These issues include roles and rules within groups, and should therefore receive attention during the training of students and staff.
- Control issues: The institution has the responsibility of devising a plan of management and monitoring group work. This could also include providing guidelines and instruments for the assessment and evaluation of group work.

Since group work is an instructional innovation, the whole process of changing from traditional curricula to curricula encouraging student-directed learning could pose a huge challenge to the specific institution. "Innovation will invariably breed tensions and give rise to problems of management" (Rudduck 1976:7).

Five actions are needed to sustain change and thus the process which has been implemented, including (Holcomb 1996:87):

- Continue training and coaching: Two types of training should take place, viz., basic training for new staff on a regular basis, and advanced training (also on a regular basis) to stimulate persons involved and keep the process going.
- Cope with conflict: Although it will not always be possible to resolve conflict, effective ways of managing conflict should be implemented.
- Engage in sustained inquiry: This involves action research through which planning and implementation are constantly analysed and evaluated.
- Refocus and reaffirm organisational values: These values often keep an institution going and dedicated to the different processes which have been implemented.
- Support leaders and followers: "Organizations don't change as whole entities. They change as the people within them do, and those people don't change all at the same time" (Holcomb 1996:107). Group work, as an educational innovation, would necessarily need changes in students' and staff members' approaches to learning, although they would need support in this mind-set changing process.

Critical questions need to be asked in an attempt to assure the quality of a process such as the implementation of group work. Some of these questions include the following (Holcomb 1996:8):

- Where are we now?
- Where do we want to go?
- How will we get there?
- How will we know we are there?
- How can we keep it going? Or: How will we sustain the focus and momentum?

These five questions appear in various models of change, e.g. the RPTIM model of Wood, which suggests the following stages for any change that might occur (Holcomb 1996:10):

- Readiness: This implies identifying problems and developing goals.

- Planning: This means the planning and practising of activities according to the goals.
- Training: All persons involved in the process should receive training and should have opportunities for development.
- Implementation: Resources should be provided to put the plans into action.
- Maintenance: The process should be supervised and monitored and improvements should be made according to feedback.

A more simplified version of this model is the PDCA cycle which means that any process should have a planning, doing, checking, and acting stage (Holcomb 1996:11).

The persons involved with assuring the quality of group work, whether those in authority or a group work committee, should draw up, and follow, a plan of action which should provide for the following dimensions of management (Heron 1993:109):

- An operating dimension: This implies that the implementation of group work is closely monitored.
- A planning dimension: This involves determining and integrating the goals of group work into the programme.
- A confronting dimension: This provides for the identification and handling of problems which could occur with group work.
- A meaning dimension: Here the question should be asked as to what learning is necessary and how group work may be made meaningful.
- A valuing dimension: This provides for creating a culture with core values for group work to take place.
- A feeling dimension: This dimension is about fulfilling the needs and interests of the people involved with group work.

Those involved with quality assurance should monitor different aspects of group work. The most important aspects include the success of group-work sessions, as well as of the assessment approach towards the different aspects of group work, the success of the training of students and staff, and also of the provision of resources and support to those involved with group work.

Evaluation of group-work sessions should include students' experiences of the sessions. Many checklists are available which could be used for this purpose, such as those described by Rudduck (1978:80-83). Feedback from students could take place in the form of interviews, questionnaires, students' exam performances, and even student representation on committees involved with quality assurance. The feedback should collect information on group work as an instructional process, the learning environment and students' experiences of group work (Race & Brown 1998:180). The responses to these evaluations should preferably be scheduled. If this is done regularly, students will receive the message that attempts are being made to improve group-work sessions according to their expectations, "otherwise students will see it as an empty ritual" (Rudduck 1978:84). However, regular feedback sessions such as these could take up valuable time which was intended for the covering of the syllabus.

The assessment of group work should also be overseen by those responsible for quality assurance: Speck (2000:178) argues that assessment should be a team effort amongst several role-players, so as to ensure that teaching performance is properly translated into learning performance. However, he warns that the design of assessment instruments should be approached carefully, and that, "[f]or the team to agree on appropriate assessment instruments,... the team first has to agree on learning outcomes and the most appropriate method to achieve those outcomes" (Speck 2000:181). Feedback on students' impressions of the policies for awarding marks can also be obtained though questionnaires (Davis 1993:286). This can provide valuable information regarding the effectiveness of the various assessment techniques used to assess group work.

Furthermore, students and staff should continuously evaluate the outcome of the group process and task (cf. 4.6.4.2 and 4.6.4.3) (Rudduck 1978:84). Students, facilitators and lecturers should evaluate themselves, and be evaluated by their peers and other role-players, so as to scrutinise their roles and responsibilities during group-work sessions.

The persons involved with monitoring group work should also pay attention to the outcome of the evaluations of these different aspects of group work and use the information to improve its quality. Programme and operation records can also be used as part of reviewing group work and reflecting on the current situation at a particular institution (Dimock 1987:149). However,

the "[m]onitoring of group work is not recommended as a persistent preoccupation. Analysis is at most an occasional regimen" (Rudduck 1978:71).

4.8 CONCLUDING REMARKS

Several aspects of group work could influence its effectiveness. Aspects immediately related to the group itself include the group structure, process and task, although the group task is also an integral part of group-work sessions. The group structure entails the size, composition and lifetime of groups, as well as the roles and responsibilities of the group members, and it appears as if small, heterogeneous groups that exist for a term or a semester, are the most effective ones. Group work may also be defined in terms of the group process and the group task. The group process refers to the internal workings and interpersonal mechanisms of the group, and defines how the group functions as a social entity (e.g., patterns of communication, handling conflict, relating and working together effectively, etc.). Formal groups such as learning groups are characterised by clearly defined group rules and contracts, which delimit and give scope to the intangible social mechanisms according to which groups function. The group task refers to the group's output – the product it generates. As such, the group task relates to a number of more easily quantifiable factors, such as the resources the group has at is disposal, the goal set for the group (i.e., the output it is required to generate). In formal learning groups, the group task usually is defined in terms of knowledge, skills and attitudes which must be fostered in the group members.

The students, lecturers and facilitators each have their specific roles to play during group-work sessions where the actual group work takes place. Effective group work is also dependent on other factors such as training, support, evaluation or assessment, and quality assurance. These factors have a great influence on the success of group work and should therefore be considered for inclusion in a group-work model. Training refers to the basic foundational skills which need to be inculcated in the role players, without which they cannot effectively conduct the exercise of group work. Support entails the provision and maintenance (on an ongoing basis) of external factors without which group work cannot function properly. Evaluation and assessment refer to the way in which the group is appraised, and basically entail measures of how well the group is functioning (evaluation and assessment of the group process), and what the quality of its output

is (evaluation and assessment of the group task). Quality assurance acts as an umbrella, in that it is the encompassing environment of continuous control which ensures that each of the aforementioned aspects continues to function properly in its relation to the enterprise of group work. As such, group work could very easily take place without quality assurance, but the continuous implementation of successful group work in a formal environment such as is found at an academic institution, is unimaginable without quality assurance.

This chapter was aimed at exploring the factors which could be regarded as indicators for a group-work model, in order to realise how the different aspects influence the success of group work, and also to investigate what effective group work entails. The factors identified provide a useful framework for a group-work model. However, it was necessary to determine the importance of these indicators scientifically through this study. The opinions of experts in group work were also considered necessary, and the Delphi method was regarded as being appropriate for this purpose. The next chapter provides a description of the Delphi method as a research technique.

CHAPTER 5
THE DELPHI METHOD

> *[The] Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem*
>
> (Linstone & Turoff 1975a:3)

Several different judgment methods are used in research which are all based on interaction between groups of people. These could be structured or unstructured, and provide for direct or indirect interaction. Apart from the Delphi technique, other consensus methods of research are also described, viz., the nominal group technique, cross impact analysis and the interacting group method (Clayton 1997:375; Jones & Hunter 1995:377; Ziglio 1996:11-12). Of all the different methods, the Delphi technique is regarded as the most accurate judgment method, being a structured, indirect interaction method (Woudenberg 1991:131). It is a useful research method, but should be applied for specific purposes, and since it was considered appropriate for this study, a brief overview of the technique, referring to the aspects which make it a unique research method, is in order. A description of how it should be applied in practice is also necessary as a background for its application in this study.

5.1 DEFINITION

The Delphi technique is a consensus method of research through which the opinion of experts on a specific topic is obtained by using a series of questionnaires. Respondents usually respond to open-ended questions during the first round by offering their opinions on the topic under study. Responses from the first round are analysed and feedback is given in the form of a newly compiled questionnaire in which experts have to reconsider their responses during a following round. This process is repeated until consensus has been reached or responses have reached stability (Burns & Grove 1993:368; Critcher & Galdstone 1998:432; Dajani, Sincoff & Talley 1979:83).

According to Goodman (1987:729), it is a survey method of research to structure discussion and group opinion. No face-to-face interaction takes place and respondents usually are anonymous to one another. It is therefore an indirect interaction method which is structured by the researcher (Woudenberg 1991:131).

The definition of the Delphi has become more and more liberal over the years as the technique was modified for specific needs and purposes (Crisp et al 1997:116). This is not really such a good thing, as it has exposed the technique to critique. A few extensive critiques have indeed been raised by different authors, of whom Sackman is probably the best known (see 5.3, 5.8, 5.9.1, 5.9.7 and 5.9.8 for discussion).

5.2 ORIGIN

The Delphi technique was developed during the 1950's by Dalkey and Helmer for the Rand Corporation in the United States of America (USA). The very first application was to estimate the probable effects of a massive atomic bombing attack on the USA. It was initially a tool for forecasting military priorities with the intention of constructing a tool to improve group decision-making without face-to-face interaction (Helmer 1975:xix; Murry & Hammons 1995:423). Since its origin, it has been widely accepted and applied in various forms of research (Goldschmidt 1975:196).

The name Delphi originates from the Greek myth of the "Delphi oracle," which refers to the "chosen one" on the island Delphi who had the ability and authority to predict the future. It was therefore originally used as a method to forecast the future, especially as far as technological developments were concerned (Clayton 1997:376; Ziglio 1996:5).

5.3 RATIONALE FOR USE IN RESEARCH

The Delphi technique rests on two assumptions: Firstly, group decisions are more valid than the decisions made by a single person (especially when these persons are experts in the field of

study), and secondly, face-to-face group interaction may be affected by domineering members or group bias (Murry & Hammons 1995:426).

The Delphi technique is very useful for shedding light on a particular topic under discussion, especially when no previous research has been done on the specific topic, or when an extensive exploration of a topic is needed (Rowe, Wright & Bolger 1991:236; Williams & Webb 1994:180). The Delphi technique therefore lends itself to complex decision making, because a systematic approach is followed in order to obtain the pooled wisdom of several experts on a topic. Although Sackman questioned the Delphi's claim of superiority above individual opinion, enough evidence exists in the literature that the quality of a group's opinion outweighs that of an individual's (Clayton 1997:373; Murry & Hammons 1995:426; Rowe et al 1991:235; Woudenberg 1991:131). Since the decision-making is rarely left to a single person, the success and credibility, as well as the validity of this process are increased (Clayton 1997:373). However, some authors warn that it should only be an aid in the decision-making process and cannot replace it (Critcher & Galdstone 1998:443).

According to Linstone and Turoff (1975a:4), the Delphi technique is also useful when "[t]he problem does not lend itself to precise analytical techniques but can benefit from subjective judgments on a collective basis." They also mention a few other reasons for its application, e.g., when more participants are needed than can effectively interact in face-to-face meetings, when the time and cost of frequent face-to-face meetings make this kind of interaction not feasible, and also when the heterogeneity of the respondents has to be preserved so as to ensure a valid study (e.g., to avoid domination of strong personalities or quantity). The Delphi technique therefore allows a wide range of experts from different backgrounds to participate equally in the communication process (Critcher & Galdstone 1998:432).

The Delphi process attempts to arrive at consensus between participants, both in terms of the extent of agreement between the participants (consensus measurement), as well as the resolving of disagreements (consensus development) (Jones & Hunter 1995:377). However, consensus is not the ultimate goal of a Delphi study. According to Turoff (1975:86), "[i]ts goal in this function is... not so much to obtain consensus as to expose all the differing positions advocated and the principal pro and con arguments for those positions." The goal is therefore rather to

ensure that all the options have been explored, to estimate the consequences of a particular option and to examine its acceptability (Turoff 1975:87).

The Delphi technique thus has a definite, but specific place in research and has proved to be especially useful for garnering the opinions of a group of geographically separated experts on a specific topic.

5.4 CHARACTERISTICS

There are quite a few characteristics of the Delphi technique which distinguish it from other group techniques (Crisp et al 1997:117; Dils & Ziatz 2000:90; Goodman 1987:729; Woudenberg 1991:133), viz.:

- Anonymity;
- Expert input;
- Physical separation of participants;
- Iteration;
- Statistical analysis of responses; and
- Controlled feedback.

5.4.1 Anonymity

According to Linstone and Turoff (1975b:490), anonymity is not as crucial to the definition of the Delphi as the fact that a structure for human communication is designed. However, anonymity ensures that the disadvantages of face-to-face interaction are excluded (cf. 5.7, 5.9.1).

5.4.2 Expert input

The panel of experts who participate is usually chosen on the grounds of each person's experience and knowledge of the particular field of study (Clayton 1997:377). The concept of expertise is, however, still unresolved, regardless of the many attempts to define it – and this despite Brockhoff's (1975:320) argument that "[i]t is important to employ and develop better methods for the determination of expertise" (cf. 5.9.1).

5.4.3 Physical separation

Respondents do not interact directly and therefore the difficulties with a face-to-face meeting are eliminated and the anonymity of the participants is ensured (cf. 5.7)

5.4.4 Iteration

The process of obtaining the opinions of the expert participants in the Delphi study takes place over a number of rounds, during which a new questionnaire, containing the feedback from the previous round, is compiled for each round. The number of rounds usually depends on the time it takes to reach consensus or stability of responses amongst the participants (Goodman 1987:730; Woudenberg 1991:133) (cf. 5.9.4).

5.4.5 Statistical analysis of responses

The panellists' responses from each round are analysed statistically so as to indicate the median score, as well as the group mean. This may also be accompanied by a measure of dispersion. This provides an opportunity for each participant to see where his/her own opinion lies in comparison to the rest of the respondent group (Clayton 1997:385; Crisp et al 1997:117; Goodman 1987:730) (cf. 5.9.5). However, open-ended questions cannot normally be analysed statistically, and responses to these questions need to be summarised carefully by the researcher (cf. 5.8).

5.4.6 Controlled feedback

After each round, the responses of the participants for that particular round are analysed and feedback on the group score, as well as the individual score, is given to each respondent during the next round (Clayton 1997:385). The origin of each response is not made known and the feedback is therefore anonymous (Scheele 1975:70). Although this process facilitates a group opinion amongst the panellists, it is essentially a democratic process because each respondent has the opportunity during a following round of the Delphi to reconsider and amend his/her opinion according to the findings of the previous round (Goodman 1987:730) (cf. 5.9.6).

5.5 TYPES OF DELPHI STUDIES

Several different types of Delphi techniques are also described in the literature, e.g., the conventional (classical) Delphi, the policy Delphi, the decision Delphi, the real-time Delphi and the modified Delphi technique. The classical Delphi is typically the Delphi technique as described thus far (i.e., the first questionnaire contains only open-ended questions). The policy Delphi provides for interaction between participants to differentiate and define views, in order to develop a clear understanding of the plurality of viewpoints, and implies therefore that a consensus-oriented approach is not followed. The decision Delphi is aimed at making decisions through the analysis of responses from the participants who are not necessarily anonymous to one another (Crisp et al 1997:116). The real-time Delphi, on the other hand, is a conference during which questionnaires are used to obtain the opinions of the participants anonymously (Goodman 1987:731).

The computer Delphi is another variant of the Delphi technique which is receiving increasingly more attention because of advanced technology and the rapid way in which communication can take place. It therefore saves a lot in terms of time and productivity and is ideal for geographically dispersed groups of participants (Price 1975:497-516).

A modified Delphi technique could also be used where one skips the usual first round during which the expert panellists have to generate ideas and respond freely to the topic under study. To save time and to help the panellists to focus immediately on the relevant issues, a structured

questionnaire is already used during the first round (Murry & Hammons 1995:430). To provide for more opinions and comments, ample opportunities for comments and suggestions are still provided in the form of open-ended questions during the first round of such a study.

5.6 APPLICATIONS

The Delphi technique has been used for many studies in several different fields of application. It does not only provide quantitative information about the subject of study, but also qualitative information because definitions and solutions to problems, related to the topic under discussion, are provided by the participants. Critcher and Gladstone (1998:433) are correct in saying: "Delphi straddles the divide between qualitative and quantitative methodologies." Jones and Hunter (1995:376) regard the consensus methods of research, like the Delphi, as "primarily concerned with deriving quantitative estimates through qualitative approaches." Adler and Sainsbury (1996:189) note that "[a] big attraction of the Delphi Method is that it combines both quantitative and qualitative elements." However, some researchers state that the Delphi technique might not be suitable for quantitative applications (Woudenberg 1991:146).

One of the most important uses of the Delphi technique is for studies where critical decisions have to be made and wrong decisions might lead to irreparable and costly damage (e.g., the impact of an atomic bomb attack on the USA for which the Delphi was used for the first time). A few fields that need such reliable information are corporate planning, governmental issues and institutions (e.g., educational institutions) where important decisions that require accurate information (such as personnel affairs and resource allocation), are made on an ongoing basis (Clayton 1997:374).

Another focus of the Delphi technique lies in situations where there is no unanimity of opinion due to the lack of, or contradictory, scientific evidence (Jones & Hunter 1995:376).

During the early years of its existence, the Delphi technique was mainly used for the technological forecasting of future events (Murry & Hammons 1995:425). It has also been used widely in health research for technology assessment, clinical practice and education and training (Jones & Hunter 1995:377). In the field of educational research, the Delphi technique has been

used for many purposes, e.g., curriculum development, nurse education, the future of adult education, strategic institutional planning, distance education, identifying competencies, teacher effectiveness, etc. (Clayton 1997:376; Murry & Hammons 1995:425). The Delphi technique has also been used in several medical education and health care studies (Broomfield & Humphris 2001; Milman et al 1997; cf. Ziglio 1996:5).

In summary, a few application areas, to name but a few, where the Delphi technique might be of use, include the following (Linstone & Turoff 1975a:4):

- Gathering information (current or historical) which is not known or not available;
- Planning university campus or curriculum development;
- Compiling the structure of a model;
- Identifying pros and cons associated with policy making; and
- Examining the significance of historical events

The Delphi technique thus has specific indications for its use in research.

5.7 ADVANTAGES

One of the reasons why the Delphi technique has been used so widely for so many different fields of study, is because of the many advantages associated with this technique. It is a fast and cost-effective way of obtaining information from a group of people without the usual problems and difficulties associated with face-to-face interactions (Linstone & Turoff 1975a:4). These problems may include dominant individuals who influence the rest of the group, problems with diminished objectivity and integrity of participating individuals due to fear of exposure, the possibility of an irrelevant or biased discussion due to personal interests of the participants, and also the effect of acquiescence, which implies that individuals might be pressured by the group to conform to decisions or suggestions, purely for the sake of agreement (Clayton 1997:376). The Delphi technique is also useful when anonymity of the participants has to be assured and when the heterogeneity of the participants must be preserved (Ziglio 1996:6). It is also feasible when the groups of respondents are too large for an effective face-to-face discussion (Mitchell

1992:5). The participants can therefore respond to the questionnaires (after careful consideration) in writing, and because they are anonymous to one another, they can reconsider and change their opinions between the different rounds without having to fear exposure or rejection (Critcher & Galdstone 1998:437; Rotondi & Gustafson 1996:42). The Delphi technique is convenient for obtaining opinions from experts who are geographically separated because it causes minimal inconvenience to the respondents (Murry & Hammons 1995:426; Rotondi & Gustafson 1996:42). Although their responses can be analysed statistically to determine the means, distributions and standard deviations (Murry & Hammons 1995:430), the Delphi technique is also appropriate for studies where precise statistical analysis of responses is not possible, especially responses to open-ended questions (Linstone & Turoff 1975a:4). It is thus clear that there are many advantages associated with this technique, although the indications for its use are quite specific.

5.8 LIMITATIONS

Nevertheless, there are also quite a few limitations involved with the Delphi technique: Certainly, the most important limitation of this study is the difficulty of selecting the expert group to participate in the study. A great deal of bias could be involved with the selection of the participants because it is, to a great extent, a subjective exercise (Jones & Hunter 1995:378). The danger of purposive sampling exists when the researcher chooses experts whom he/she knows might have a certain way of thinking, and which would suit a particular thought process the researcher intends for the study. Due to the different backgrounds and areas of expertise, as well as the constraints imposed by the panel selection, the results of the Delphi are hardly ever all-inclusive (Clayton 1997:381). Goldschmidt (1975:200-201) notes Sackman's argument against the concept of experts and the "valid" opinion they offer in a Delphi study (which Sackman thinks is not scientific). Goldschmidt, however, refers to the fact that experts are people who are regarded knowledgeable in a certain area of study, and since most Delphi studies are conducted to obtain information which is usually non-existent (e.g., predicting future events), no better person can be asked than an expert on the specific topic. He agrees that Sackman's comments on the possibility of bias in selecting experts for a study are grounded, but regards this as an ethical issue, rather than a scientific one.

Furthermore, experts are also prone to the response effect of social desirability, which could affect the reliability and validity of a Delphi study (Woudenberg 1991:139). The anonymity of the respondents may be a disadvantage because the credibility of their responses might be affected by this (Linstone 1975:585) (cf. 5.9.1). When a heterogeneous group of respondents participate in the study, it might have a "flaming potential" because of extreme viewpoints between the different participants, especially when they are anonymous to one another. This could cause unexpected developments in the study (Using Delphi technique in assessing needs for VTET [s.a.]:5).

The Delphi technique is also vulnerable to attrition effects. Due to the repetition of rounds, participants might get bored or dissatisfied and drop out of the study (cf. 5.9.4). This happens especially when the researcher fails to take disagreements and differing opinions into account, causing experts to feel that they are not receiving the necessary recognition for their inputs (although they are anonymous to the other participants) (Using Delphi technique in assessing needs for VTET [s.a.]:5). Williams and Webb (1994:184) argue that "the relatively high attrition rate is likely to introduce response bias." Lack of participants' motivation can also influence participant retention during the different rounds of the Delphi, especially when the different participants have many other professional and personal obligations (Clayton 1997:381). The reality of losing experts is especially problematic when the size of the expert panel is small, but on the other hand, it is more likely to happen when many experts participate in a study.

One of the pitfalls of the Delphi technique mentioned by Linstone is a "sloppy execution" of the study. This could include a poor selection of participants, poorly designed questionnaires which could contain trivial, repetitious and superficially unrelated statements, and also a superficial analysis of the responses by the researcher. Even the participants could make themselves guilty of this unacceptable standard of execution by being impatient to "get the job over with" and providing quick answers to the statements in the questionnaires without giving them proper thought (Linstone 1975:582). The possibility of snap judgments or responses, which could affect the accuracy of a Delphi study, is also emphasised by Fazio (1985:150). Mitchell (1992:6) also indicates that a lack of honesty amongst the participants in their responses could reduce the validity of the Delphi study. Acquiescence, although limited due to the physical separation of the respondents, might be another limitation because of the pressure to conform in

order to reach consensus when respondents review their responses in comparison with those of the panel (Clayton 1997:381). A definite chance for bias exists in the formulation of statements in the questionnaires used for the different rounds, because the wording of the questions could provide cues to responses or could be interpreted in more ways than one (Using Delphi technique in assessing needs for VTET [s.a.]:5) (cf. 5.9.3). It could sometimes also be difficult to determine the balance between open-ended and closed questions in the questionnaire and to determine the exact time it would take to complete the questionnaire (Critcher & Galdstone 1998:437).

Another very important limitation of the Delphi technique is the potential for bias and subjectivity in the analysis and processing of the responses of the participants between the different rounds. Turoff (1975:101) notes that the way in which comments from participants are edited, the organisation of the results, as well as neglect of items, are factors which could contribute to a biased exercise. The results of the study could therefore be "open to distortion due to manipulation of opinions," which could deceive the participants (Williams & Webb 1994:182). Even though Sackman was concerned about the fact that the results from Delphi studies are only collections of the results from the different questionnaires used, Goldschmidt (1975:207) correctly argues that, even though some researchers might not make much effort to interpret responses in an integrative way, this critique is not "an indictment of the technique itself, but only of certain applications of the technique." Crisp et al (1997:118) contend that the way of dealing with large quantities of qualitative and quantitative material for feedback in an attempt to improve the credibility of the Delphi technique, could lead to a reduction in the quantity, as well as the quality of the feedback which is given to the respondents (cf. 5.9.5).

The length of time needed to complete the Delphi process might be a negative factor because it may discourage participants and influence their level of commitment (Clayton 1997:381; Murry & Hammons 1995:433). Lack of clear guidelines for ending a Delphi study could lead to researchers forcing consensus amongst panellists (cf. 5.9.7). Finally, the danger of "overselling" the Delphi technique exists with the unfortunate consequence of improper applications of the technique. It is therefore of the utmost importance that the researcher should clearly identify the nature of the problem he/she is planning to address and should decide whether the Delphi technique would indeed be the most appropriate research method (Linstone 1975:584).

5.9 DESIGN AND PROCEDURES

5.9.1 Panel selection

According to Clayton (1997:377), "[e]xpertise... is the desired goal for panel selection and it is this feature which sets *Delphi* apart from other general forms of survey research." Before selecting experts to participate in a Delphi study, it is therefore necessary to have a thorough definition of an expert. Many researchers have attempted to define this concept in their Delphi studies: Simon (in Brockhoff 1975:295) defines expertise as "a possible basis of authority or as a form of authority." Brockhoff (1975:295), in his turn, regards expertise as "expert knowledge upon which professional authority can be founded." According to him, the expertise can either be demonstrated by the persons themselves or could be confirmed by a third party. Murry and Hammons (1995:428) regard an expert as a person who possesses more knowledge about the subject under study than most other people, who has a certain level of work experience, and who is a member of a relevant professional association. Ziglio (1996:14) regards expertise as "the acquisition of experience, special skill in or knowledge of a particular subject." Raskin (1994:78) regards the number of publications of the specific person in the particular field of study, in addition to the number of years of work experience, as important indicators of expertise. As far as the number of years experience required to be regarded as an expert is concerned, no clear guidelines are given in the literature. Several studies have indicated a range of two to fifteen years of experience minimum in the field of study as an indication of expertise (Des Marchais 1999:505; Raskin 1994:78; Williams & Webb 1994:185). Experts could also be regarded as internal (experts through experience) and/or external experts (experts through research) (Day 1975:175).

Another way of determining the expertise of the specific panellists who are invited to participate in a Delphi study, is to ask them to rate themselves on a scale, according to the level of expertise they regard themselves to have on the particular subject of the study. Brockhoff (1975:296, 312) regards a 5-point scale to be useful, with the lowest numbers indicating lower levels of expertise. However, he emphasises that not only individual ratings of members must be taken into consideration, but also the overall rating of the panel group as a whole, as well as the number of years of experience in the field of study of each participant (as a means to determine

the level of expertise objectively). Critcher and Gladstone (1998:435) emphasise that these self-ratings by experts must be confidential in order to encourage frank responses. Welty (1972:121-122) argues that the problem of identifying the levels of expertise amongst experts is not resolved yet, because self-assessment techniques that have been used for this purpose, showed equivocal findings in several studies. It is thus clear that, as Welty rightly states, more research is necessary to examine the exact place of self-assessment in determining the expertise of probable panellists for a Delphi study. Rowe, Wright, and Bolger (1991:241) also raise the concern that self-rating might not be a true reflector of actual expertise, since the "experts" might only be "those who believe themselves to be expert." Several studies have also examined the relation between the accuracy of Delphi studies and self-ratings of expertise by the participants. Both negative and positive correlations were found, although a definite positive correlation seems to exist for panels larger than six people (Woudenberg 1991:139).

As mentioned earlier, there is a potential for bias in the selection of experts. It is therefore of the utmost importance to select the panel of participants for a Delphi study with great care. Goodman (1987:731) notes that the content validity of a study can be assumed only if the sample of participants is representative. However, in many Delphi studies the experts are selected on the basis of their knowledge, experience and superiority in a particular field. Therefore she argues that the selection procedure of the experts for a particular study must be properly justified. Ziglio (1996:14) also emphasises that explicit criteria should exist for the selection of experts for a specific Delphi study. Critcher and Gladstone (1998:435) describe two types of experts who may be involved in a Delphi study, viz., advocates – those experts who are knowledgeable in the specific topic under study and who have special interest in the specific study, and referees – the "disinterested" experts such as academics who do not necessarily have vested interests in the outcome of the study. According to them, it is important to include both types of experts to avoid uniformity of response. Scheele (1975:68) refers to three kinds of panellists, viz., stakeholders, who are directly affected by the outcome of the study (comparable to the advocates described by Critcher and Gladstone); experts, who have the experience and speciality with regard to the topic under study, but who do not necessarily benefit from the study (comparable to the referees mentioned by Critcher and Gladstone); and, finally, facilitators, who have skills in clarifying and synthesising, and who may provide additional insights from a cultural and social point of view. By including these different types of participants to form an independent panel, the possibility of bias due to experts who intend to protect their special interests, is decreased.

Only a few authors address gender and cultural composition of the panel. Scheele (1975:68) deplores the lack of "general rules... for creating panels" noting that there are almost never enough women who form part of the panels for Delphi studies. As a proof of the uncertainty about these aspects of the panellists, Linstone and Turoff (1975c:234) question the amount of influence that age, education and cultural background may have on the responses of the different panellists. Therefore, there are no clear guidelines in the literature about the composition of panels regarding gender, age and cultural aspects.

The panel of experts can be selected randomly, in which case the criterion for selection is a representative panel (Clayton 1997:377), or can be selected specifically to yield better responses (purposive sampling) (Babbie 1999:174; Goodman 1987:731). Williams and Webb (1994:182) refer to Reid's study of 13 published Delphi studies, in which only one used an actual random sample of experts. They also note the few studies that actually mention criteria for the selection of panellists for a Delphi study. In a study conducted by Goldstein (1975:210), panellists are also not chosen randomly, but carefully selected. Rowe et al (1991:243) support the principle of premeditated selection of experts since it would ensure a panel with varied backgrounds and increase the knowledge base of the participants: "[T]he ideal of Delphi recommends the use of *experts* with *differing* realms of knowledge." In many other studies the principle of sub-panels from various professions or different social statuses is followed with the selection of panellists to ensure that all interest groups were represented (cf. Niero & Robertson 1996).

When the participants are anonymous to one another, they are allowed to express their honest opinions without being influenced by peer pressure or other external factors (Goodman 1987:730). They can therefore consider their ideas on the basis of merit alone (Rowe et al 1991:237). Sackman queries the anonymity of experts in a Delphi study by arguing that it tends to produce unaccountability amongst the experts and anonymity might also cause a feeling of lack of responsibility and a low compliance amongst the respondents (Clayton 1997:380). The richness of non-verbal communication is also lost when participants offer their opinions in privacy (Woudenberg 1991:139). Clayton (1997:380), on the other hand, supports the findings of many studies by stating that external factors (such as a face-to-face meeting) might influence an individual's judgment. Goodman (1987:730) argues that the experts are recruited for a Delphi study on the basis of recognition of their expertise, as well as their willingness to participate in the study, and therefore it is unlikely that the problem of lack of accountability

will occur. Rotondi and Gustafson (1996:38), on the other hand, suggest that reduced participant anonymity could enhance in-depth conversation amongst the participants. They warn, however, that this should be done carefully.

It is also important to motivate the participants to continue participating throughout the entire Delphi study. This could be done by ensuring them that the study is not just an academic exercise and that there is a potential for personal and professional growth through participation, and also by acknowledging their expertise and ability to contribute to the study (Rotondi & Gustafson 1996:39).

It is thus clear that there are no hard and fast rules for the selection of experts for a Delphi study. Perhaps the statement of Clayton (1997:377) is the best criterion for the selection of experts: "The critical issue in all of this is to identify the 'expert' qualifications of panel members."

5.9.2 Panel size

Woudenberg (1991:137) states that the size of the group of respondents might have a profound effect on the accuracy of a Delphi study, but does not mention specifically how it could influence the accuracy. Dils and Ziatz (2000:91) correctly indicate that there is no indication in the literature of the ideal size for the panel of a Delphi study that would increase the accuracy of the study. Determining the ideal size is therefore problematic, since panels from as few as five to as many as 1685 have already been used in previous studies (Brockhoff 1975:307; Williams & Webb 1994:182). Cochran's research (cf. Murry & Hammons 1995:428) indicates that, as the size of the panel increases, the reliability of the Delphi study is increased. A panel of 25-30 people is regarded as the optimal size.

Clayton (1997:378) indicates that the size of the panel should depend on the purpose of the study, as well as the complexity and the level of expertise required. He suggests a panel size of 5-10 people for a heterogeneous group of experts who come from different professional or social stratifications (such as university academics). For a homogeneous panel, which implies that all the experts at least come from the same discipline, he suggests a group of 15-30 people. This appears to be the best guideline for selecting a panel size that this researcher could find in

the literature. The panel size should therefore be determined by the nature and purpose of the study, as well as the method of selection of experts.

5.9.3 Questionnaires used in Delphi studies

The principles for the compilation of questionnaires for a Delphi study are the same as for any questionnaire used in research. Clear instructions could increase the reliability of the participants' responses (Preece 1994:125). Special care must be taken with the wording of the different items of the questionnaires to prevent ambiguity (Using Delphi technique in assessing needs for VTET [s.a.]:5; Day 1975:174; Goldstein 1975:226). Linstone and Turoff (1975c:232) also indicate from a study conducted by Salancik, Wenger and Helfer that medium-length statements (of 20-25 words) produce the highest consensus (unlike a low or high number of words). They also note that care should be taken not to include too many elements in a statement, which is a possibility when statements are too lengthy. The questionnaire must not only consist of closed questions, but opportunity should be provided for the experts to make additional comments in the form of open-ended questions (Critcher & Galdstone 1998:434). Goodman (1987:732) warns against the danger of not encouraging in-depth analysis and proper consideration amongst experts before they offer their opinion, which may result in "hasty, ill considered [sic] judgements." The importance of a pilot study with the questionnaire to be used, has been emphasised by many researchers such as Goldschmidt (1975:198), and Critcher and Gladstone (1998:435). The latter also indicate the need to limit the length of the questionnaire by suggesting a time limit of 30 minutes, although they do refer to other researchers whose questionnaires took much longer to complete. Although it appears that the exact time to complete a questionnaire is not the most important aspect of the questionnaire, it is true that the motivation of participants will be optimal if questionnaires are not too long and unspecific.

The first-round questionnaire could be unstructured and may consist of only open-ended questions to which the panellist must make suggestions (the classical Delphi), or it could be a structured questionnaire which contains a combination of closed and open-ended questions (the modified Delphi) (Dils & Ziatz 2000:92; Murry & Hammons 1995:424). The more refined the statements in the questionnaire are, the more rapidly interpretable results can be produced (Critcher & Galdstone 1998:436).

In most of the studies, the statements in the questionnaires have to be judged on a scale by the participants according to four criteria which include their desirability, feasibility, confidence in making a judgment, and/or importance. Usually not more than two of these criteria should be included in a questionnaire. Precise definitions are necessary for each point of the scale to rule out any ambiguity (Critcher & Galdstone 1998:436). A few suggestions have been made in the literature for the scaling of the responses: Three types of scaling could be used, including simple ranking, Likert-type rating and pair-comparison. However, pair-comparison is too complex and time-consuming, whereas ranking is fairly easy, although the latter could make it difficult to keep track with the entire list of items in the questionnaire. Respondents might also feel uncomfortable when there are two items which they would prefer to rank equally. Therefore, when used cautiously, the Likert-type rating is the easiest and most feasible way of scaling. Participants are generally comfortable with this method of scaling because they only have to rate one item at a time (Scheibe, Skutsch & Schofer 1975:272). There are, however, no clear guidelines regarding the amount of points on the Likert scale which is best. Most studies use Likert scales with points ranging from five to nine, e.g., (Des Marchais 1999; Larson & Wissman 2000; McKnight et al 1991; cf. Putnam, Spiegel & Bruininks 1995; Scheibe et al 1975). Turoff (1975:90) recommends that "no judgment" should be the only option for neutral answers and should be allowed on any question. However, he was specifically referring to a policy Delphi study.

There are therefore many different variations in the format of Delphi questionnaires, and the scaling used mainly depends on the nature and purpose of the specific study, and also on whether it is a classical or a modified Delphi study.

5.9.4 Rounds of a Delphi study

One of the characteristics of the Delphi technique is its iterative nature. The purpose of the different rounds is to provide feedback to the participants between the different rounds and therefore create the opportunity for them to reconsider and amend their responses if necessary. The principle of the different rounds is basically to analyse the responses to the first round and then to develop a new, more focused questionnaire which contains feedback on the responses of that round. The newly compiled questionnaire is again sent to the participants and the entire process is repeated until consensus, or at least convergence of opinions, has been reached. The

positive outcomes of each round include identified areas of agreement and disagreement and areas that need clarification, but also the development of better understanding and dialogue amongst the participants (Ziglio 1996:10).

The number of rounds depends on the complexity of the issue under study. Generally, two to five rounds are sufficient (Brockhoff 1975:320; Critcher & Galdstone 1998:432; Linstone & Turoff 1975c:229; Mitchell 1992:7; Murry & Hammons 1995:429; Putnam et al 1995:556). One voice of dissent to this general opinion is raised by Crisp et al (1997:117) who note that the number of rounds depends on the consensus criteria for the specific study, and therefore argue that this number should not be determined beforehand, because this cannot be regarded as achieving consensus. However, most studies show that most of the improvement in the accuracy of a Delphi study takes place during the first and second rounds, but this improvement cannot be evaluated without taking the quality of the feedback that respondents receive into consideration. Many critics argue that iteration leads to frustration and boredom amongst the participants (Woudenberg 1991:140) (cf. 5.8). It is therefore important to limit the number of rounds of a Delphi to as few as possible, without forcing the respondents to achieve consensus.

5.9.5 Analysis of responses

To a great extent, the accuracy of the responses from the panellists relies very much on their understanding of the aims of the specific study, as well as their commitment to participate in the study (Goodman 1987:732). Goldschmidt (1975:202) also refers to a study conducted by McGregor and notes that the participants' responses depend on the amount of information they possess on the specific issue, as well as the value they place on the outcome of the issue under study.

In a classical Delphi study, the researcher must analyse and synthesise the responses of the participants by summarising them into clear and concise statements. This must form the basis of the second questionnaire (Using Delphi technique in assessing needs for VTET [s.a.]:3). It implies that opinions with the same meaning may be collapsed into one statement (Clayton 1997:385). However, bias may exist when researchers intend to protect their own interests while analysing the responses of the participants (Jones 1975:167). Clayton (1997:381) warns that the interpretation of the results by the researcher might not be the only interpretation

possible, and that some distortions in the interpretation may occur. Linstone and Turoff (1975d:385) indicate that the problem of "reduction" of the items in a questionnaire occurs repeatedly in Delphi studies. A few techniques are mentioned to deal with this problem, viz., cross-impact analysis, cluster analysis and multi-dimensional scaling. The problems associated with the summarising and reducing of statements occur especially with a classical Delphi study, and are not as common with the modified Delphi technique where a structured questionnaire is already used during the first round. According to Des Marchais (1999:505), the role of the researcher should be "to edit and collapse criteria, not to influence or impact on their content." Goldstein (1975:226) recommends that the researcher should attempt to preserve the original intent of the comments made by the respondents. McKnight et al (1991:56), however, note that the Delphi may be regarded as its own control, because incorrect interpretations of responses made by the researcher can be dealt with in the subsequent round.

Although some authors such as Clayton (1997:381) recommend that the items on which consensus has been reached should be eliminated from the questionnaire of the next round, it could be useful to retain them in the questionnaire as part of the feedback to the participants. The researcher could also indicate to each individual respondent the rating of the group's mean, as well as the specific respondent's individual rating of the specific item. A list of all the comments made by the different respondents, as well as new items suggested, must also be included, but without indicating the origin of responses, so as to maintain anonymity and confidentiality (Murry & Hammons 1995:429). Scheele (1975:69-70) suggests that any divergence and consensus amongst respondents on a specific item should be highlighted and that it could be useful to report any "nil findings, omissions, and ignored items."

During the second round, each participant is given the opportunity to reconsider his/her opinion according to the feedback from the first round. It is important to inform participants that they should not feel compelled to conform to the group's rating, just for the sake of consensus, but that if their opinion is markedly different from that of the group, they should explain the reason/s for their specific rating (Clayton 1997:386).

A few techniques for analysing the responses from the participants in a Delphi study have been suggested in the literature: The most common technique suggested is to determine the mean value and the standard deviation of the responses for each item of the questionnaire (Linstone &

Turoff 1975c:230). Murry and Hammons (1995:432) based their Delphi study on the recommendations of Brooks by giving a statistical summary of the distribution of the responses from their Delphi panel and using mean and standard deviations as statistical descriptors. The measure of central tendency and the variance could also be determined (Crisp et al 1997:117; Woudenberg 1991:133). Burns and Grove (1993:368), however, warn that "the traditional analysis using means and medians may mask the responses of those who are resistant to the consensus." Scheibe et al (1975:267) used histograms and distributional statistics to analyse the data from their study, and frequency distributions of each item of the questionnaire were presented to their respondents in the subsequent round. Clayton (1997:378) used the mean, median and interquartile ranges as a measure of central tendency of the responses in his study. This is made possible by using a Likert scale with zero as the midpoint (which implies a neutral value).

When a respondent does not respond to a particular question, the general tendency is not include the particular response (rather, lack of response), in the computation of the results (i.e., means, standard deviations, etc.) (Murry & Hammons 1995:432). Goldstein (1975:217) regards absence of a response as "no judgment," but the latter is a specific point on the Likert scale she used for her study and therefore this action might not be appropriate for studies in which no such scale point exists. Goldstein's choice is itself questionable.

Once again, the exact approach followed when analysing the responses of a Delphi study depends on the purpose of the study, although care should be taken not to be biased when doing so – especially with the first round of a classical Delphi study. Descriptive statistics are usually sufficient for the analyses.

5.9.6 Feedback on responses

As noted before, the purpose of the feedback to the participants between the different rounds of the Delphi is, first of all to inform all the participants about the group's opinion on each item of the questionnaire, for them to reconsider their own opinion. Secondly, it also creates involvement amongst the panellists, generates interest in the study and provides the opportunity for interaction, even though it remains an anonymous process. However, feedback must be provided without influencing the respondents in their subsequent responses (Scheele 1975:70).

All members are also allowed to provide inputs, rather than the domineering participants alone (Rowe et al 1991:237). The feedback, especially to the first round of a classical Delphi, must basically be a summary of all the responses in the form of concise statements (Clayton 1997:378). Linstone and Turoff (1975b:495) mention a few important "characteristics" indicative of proper feedback, which include the fact that the feedback may be positive or negative, that it is not competitive, but rather symbiotic, and that qualitative input should also be incorporated. Any additional comments or suggestions made by panellists should also be included in the feedback, without identifying the persons who made the comments (Ludlow 1975:121). The analysis of responses is usually given in the form of descriptive statistics (as described in 5.9.5).

It is important to be aware of the possible effect that feedback might have on the respondents when they reconsider their opinions. Scheibe et al (1975:270, 272) sent false feedback to participants to determine the exact effect it had on the respondents. Their finding was that participants did acknowledge the feedback and moved their votes towards the mean, even though it was false. They therefore concluded that respondents are sensitive to the feedback given in successive rounds of the Delphi and that they are "both interested in the opinions of the other members of the group and desirous of moving closer to the perceived consensus." They also note that the format of the feedback influences the development of consensus and warn that care should be taken not to force irrational consensus (Scheibe et al 1975:277). Unless the experts "are allowed to exchange... information in an effective way... their valuable knowledge becomes useless" (Rowe et al 1991:244).

It is therefore of the utmost importance for every researcher to attempt to give as accurate feedback as possible and in an objective manner, since feedback could have a great influence on the responses of participants.

5.9.7 Ending the Delphi study

A Delphi study could be ended on the basis of either consensus or stability of responses to the items in the questionnaire. Once stability or consensus has been reached on all the items, no further rounds should take place and a final report should be compiled on the outcome of the Delphi study.

5.9.7.1 Consensus

The entire purpose of the iteration in a Delphi study is to reach consensus amongst the participants on each item of the questionnaire used in the particular study. A few authors have attempted to define consensus, but no clear theoretical basis has been laid down for the exact meaning of consensus in a Delphi study. Murry and Hammons (1995:429) refer to Brooks' definition of consensus and regard it as individual responses grouped around a median response with very little divergence. Dajani et al (1979:83) suggest a definition of consensus, which implies that "consensus is assumed to have been achieved when a certain percentage of the responses fall within a prescribed range for the value being estimated." Referring to consensus methods of research, Jones and Hunter define (1995:376) two types of agreement, viz., "the extent to which each respondent agrees with the issue under consideration... and, secondly, the extent to which respondents agree with each other." The Oxford Advanced Learner's Dictionary defines consensus as "agreement in opinion" or "collective opinion" (Hornby 1989:248).

However, very different definitions of consensus have been used in different Delphi studies. Scheibe et al (1975:277) define consensus as being "achieved when a certain percentage of votes fall within a prescribed range." Raskin (1994:78) regards a quartile deviation of 1.00 or less as indicative of consensus amongst the group of respondents. Murry and Hammons (1995:432) regard consensus as a minimum of 75% agreement on any particular item of the questionnaire. They argue that this value should be determined in advance and not after the responses have been analysed. In Larson and Wissman's (2000:45) study to determine critical academic skills for Kansas community college graduates, consensus was obtained when the median score of a skill equalled nine and when 80% or more of the respondents rated a specific item in the upper third of the nine-point Likert scale which they use in their study (i.e. ratings of 7,8, or 9). McKnight et al (1991:56) distinguish between weak and strong consensus, depending on the value of the standard deviation – a large standard deviation implying a weaker consensus than a smaller one. Scott and Black (1991:35) found that a relaxed definition of consensus enables one to distinguish between partial agreement and disagreement, and argue that it is therefore to be favoured over a strict definition. According to them, a relaxed definition implies that all ratings fall in any 3-point range of a 9-point Likert scale as opposed to a strict definition that determines that all ratings have to fall in a particular 3-point range (e.g.,

that of Larson and Wissman). Scott and Black also argue that ratings furthest away from the median should be eliminated, but they use a 9-point scale and had two large panels that participated in their study. It would therefore be risky to follow their recommendations in studies in which a scale with fewer points is used and when the panel size is relatively small.

Sackman regarded the consensus obtained during Delphi studies as specious, with a lack of authenticity, but Goldschmidt (1975:204) argues that Sackman did not define properly what he meant with consensus, because it could mean anything from "a group opinion" to "group solidarity." Clayton (1997:380) asserts that the consensus reached in a Delphi study is through interaction and feedback, rather than conforming for the sake of consensus. Coates (1975:194) also argues that the researcher who conducts a Delphi study "may have to challenge his own assumptions on seeing the diversity of opinion brought forward by others." He therefore suggests that more attention should be given to divergence, rather than convergence, of opinion in Delphi studies, and notes that many researchers use the Delphi to obtain consensus judgment, purely to reinforce a central point of view. Goodman (1987:733) also supports the fact that attention should be given to disagreements, and thus the distribution of responses, rather than the group's agreement alone. This is indeed a challenge to every researcher involved with a Delphi study.

5.9.7.2 Stability

The problem with the definitions of consensus is that the distribution of a group of responses is not necessarily a strict measure of consensus, because the level of stability of the responses is not taken into consideration (Dajani et al 1979:83). Using consensus as a stopping criterion for the Delphi, is to ignore non-consensus responses, even though these responses might be stable between successive rounds. Dajani et al (1979:84) argue that dropping these responses from a Delphi study is an arbitrary and a subjective act by the researcher. It is therefore necessary to distinguish between agreement and stability. Dajani et al define stability as "the consistency of responses between successive rounds of a study. It occurs when the responses obtained in two successive rounds are shown statistically to be not significantly different from each other, irrespective of whether a convergence of opinion occurs" (:84). They regard agreement as a convergence of opinion, of which the particular level can only be determined after stability in opinion on the particular item has been reached. Therefore, when no stability is reached

amongst the opinions of the different respondents on a particular item, more rounds should be attempted because an unstable answer does not have any value in the final analysis. They subsequently (Dajani et al 1979:85) mention different stopping criteria (in hierarchical order) for Delphi studies, viz., consensus, majority (more than 50% respondents exhibit consistence), bipolarity (an equal division over an issue), plurality (when the larger portion, but less than 50%, of respondents reach agreement) and disagreement (when independent views exist amongst the respondents).

Dajani et al (1979:86-89) also describe different ways of measuring stability of opinions amongst the respondents, but criticise most of them. They refer to the coefficient of variation (standard deviation divided by the mean), the *F*-test on two variances, the χ^2 test of stability, and determining the proportion of respondents at each scale point from the mode which moves towards the mode during a particular round of a Delphi study. They suggest that the χ^2 test of stability is probably the most efficient way of determining stability of responses. However, many other authors use the percentage of change in votes between two rounds to determine stability of responses. Scheibe et al (1975:278) assert that "at any point in time a certain amount of oscillatory movement and change within a group is inevitable" and therefore they regard 15% change as the level which represents stability. In their study, they determined the percentage of change between rounds by dividing the net changes by the number of participants. However, they note that an acceptable theory which poses a reasonable cut-off point for regarding a response as "unchanged," has not yet been proposed. They mention, however, a few reasons why their method is useful, including the fact that this measure of stability is easy to calculate and that it has greater validity and power than parametric tests of variance. This method also preserves well-defined disagreements, which, with other measures, might be disregarded, and they thus regard it as a valuable stopping criterion for the Delphi method (Scheibe et al 1975:278-280). Murry and Hammons (1995:433) determine a shift of 20% or less in the panel's response distribution as stability of responses. Dajani et al (1979:87) on the other hand, regard the determination of such levels as subjective and arbitrary.

It is therefore quite clear that consensus is not the sole objective of a Delphi study, but rather the mixture of convergence and divergence of opinions. When no consensus can be reached on a particular item in the questionnaire, there is no reason to drop the specific item from the questionnaire. An attempt can be made to rephrase the specific item in order to invite different

opinions from the respondents (an attempt for convergence of opinions), but eventually it might be necessary to accept divergence of opinions, provided that stability has been reached amongst the responses.

After it has been decided not to proceed with another round of the Delphi (i.e., consensus or stability in opinions has been reached), the final results should be reported to the panellists (Raskin 1994:78).

5.9.8 Reliability and validity of the Delphi technique

The reliability and validity of the Delphi technique have been criticised by several authors of whom Sackman is probably the best known. However, his critique has been addressed by many authors (Clayton 1997; Coates 1975; cf. Goldschmidt 1975). Goldschmidt (1975:195) responds to Sackman's critique of the Delphi technique (in 1974) by asserting that "Sackman makes the fundamental mistake of equating the multitudinous applications of the Delphi technique with the Delphi technique itself." For example, Sackman criticised the questionnaires used in Delphi studies for being ambiguous and not being pre-tested, even though this does not constitute an evaluation of the technique itself (Goldschmidt 1975:198). Goldschmidt, however, agrees with Sackman that the applications of the Delphi have expanded to the extent that many of them are virtually indistinguishable from the originally described technique. He therefore argues that researchers should know what the application of a certain technique constitutes and what does it not (:196-197). Mitchell (1992:6) also regards the Delphi as "primarily a tool of enrichment to be used in conjunction with other methods and techniques." He refers to many researchers who have argued that the Delphi should not be used independently, but in conjunction with other formal research methods. Other authors are convinced that the Delphi method is a very useful research method because of its many advantages. Ziglio (1996:13) notes that "[t]here is no reason why the Delphi Method should be less methodologically robust than techniques such as interviewing, case study analysis or behavioural simulations." Jillson (1975:222) asserts that "[o]ne simply cannot assume that the technique is worthless because there have been poorly developed applications of the technique." Murry and Hammons (1995:433) conclude their study by noting that their "professional experience verifies the usefulness of Delphi as a qualitative research method." Lang (in Using Delphi technique in assessing needs for VTET [s.a.]:2) also argues that it is "the best known qualitative, structured and indirect interaction...

method in use today." Although it is indeed difficult to determine the reliability and validity of a Delphi study because of person- and situation-specific biases, these could be increased by careful design and application of the Delphi technique (Crisp et al 1997:117; Williams & Webb 1994:182; Woudenberg 1991:133,142-145).

Sackman's critique, however, should make researchers aware of the potential pitfalls in conducting a Delphi study, and encourage them to use better research design and techniques (Goldschmidt 1975:212). The reliability of the Delphi technique is increased by conducting a pilot study beforehand and the repeated use of questionnaires in the study, and also the careful selection of the panellists (Woudenberg 1991:145). The validity is increased by expert opinions on statements concerning the subject under study (face validity), and the fact that the "experts themselves have both identified and agreed upon" the statements (concurrent validity) (Williams & Webb 1994:182). Linstone and Turoff (1975c:234) assert that the selection of subgroups of experts increases the accuracy of a Delphi study more than feedback or iteration does.

Researchers should therefore be aware of the many pitfalls when conducting a Delphi study and should attempt to ensure optimal reliability and validity of the technique.

5.10 CONCLUDING REMARKS

In this chapter, the Delphi method as a research technique was described and its application was explained. It was thus attempted to outline its appropriateness for use in this research study. In the next chapter, the research design and methods used in the different stages of this study are discussed.

CHAPTER 6
RESEARCH DESIGN, METHODS AND TECHNIQUES

"One of the main strengths of qualitative research is the comprehensiveness of perspective it gives researchers"

(Babbie & Mouton 2001:309)

This study is mainly an empirical, qualitative study, although it does contain a quantitative component in the statistical analysis of the questionnaires. The approach followed was that of a case study. The study was conducted in several stages: A literature study, a survey of the opinions of students and staff at the University of the Free State (UFS) regarding the importance of indicators for a group-work model, and a Delphi study amongst experts in medical education and group work on the contents of a framework for a group-work model. During the fourth and final stage, a group-work model was designed according to the findings of the first three stages of the study. The research design followed during the study, as well as the different stages in which the study was conducted are discussed in this chapter.

6.1 RESEARCH DESIGN

An empirical study addresses real-life problems (Babbie & Mouton 2001:75), and this research study is mainly aimed at addressing exploratory and descriptive questions about group work in Phases I and II of the M.B.,Ch.B.-learning programme at the UFS.

Qualitative research is a research approach in which the point of departure is an insider's perspective. The goal of such a research study is thus to describe and understand, rather than explain and predict the particular aspect under study (Babbie & Mouton 2001:53). "Qualitative methods attempt to capture and understand individual definitions, descriptions and meanings of

events. Quantitative methods, on the other hand, count and measure occurrences" (Burns 2000:388).

Certain key characteristics distinguish qualitative and quantitative research from each other: Qualitative research is conducted in the natural context of the problem under investigation, it focuses on the process and not the outcome, the aim is in-depth understanding and description of actions and events while the "insiders'" perspectives are important, and the researcher forms the "main instrument" of the research process (Babbie & Mouton 2001:270). It is thus clear that the role of the researcher is of utmost importance, not only because researchers have to strive for unbiased descriptions and interpretations, but also because they have to develop a thorough insight into the experiences of the participants (:273). A qualitative research process is also most commonly inductive, i.e., new theories or hypotheses result from these studies (:270). In this study, a model was developed through an attempt to understand the needs and attitudes of the students and staff involved with group work in Phases I and II of the undergraduate medical curriculum at the UFS.

A very important aspect of qualitative research is the validity and reliability of such a study. One useful way of enhancing these aspects of research is through triangulation. This implies the use of several methods and/or investigators in a particular study, to "collect information about different events and relationships from different points of view" (Babbie & Mouton 2001:277). If these different data sets produce the same results, it is likely that the information obtained is valid (Burns 2000:390). The validity and reliability of this research study were enhanced by using different research methods (i.e., an opinion survey and a Delphi study).

The case study design is a particular type of qualitative research which shares the general features of a qualitative study, but which is focused on a clearly delineated entity or unit of analysis (Babbie & Mouton 2001:279). A case can be regarded as "a phenomenon of some sort occurring in a bounded context" (Punch 1998:152). A case study is thus "an intensive investigation of a single unit.... The interaction of the unit of study with its context, is a significant part of the investigation" (Babbie & Mouton 2001:281). Case studies are therefore used to "gain in-depth understanding replete with meaning for the subject, focusing on process rather than outcome, on discovery rather than confirmation" (Burns 2000:460).

Case studies are meant to study research problems intensively, could contribute to theory building, and the conclusions drawn from these studies are instrumental rather than terminal (Burns 2000:461). The sampling method most often applied for case studies involves non-probability sampling (e.g., purposive sampling). This implies that the researcher chooses the participants with a specific goal in mind, and in order to gain understanding into the specific phenomenon chosen to investigate (:465), as was the case in this research study. Although case studies do not provide much evidence for scientific or statistical generalisation, they are generalisable to theoretical propositions and therefore serve to promote theory development. Case studies therefore often provide propositions which could and should be tested through further research (Burns 2000:474; Punch 1998:153-156).

There are a few principles associated with the design of a case study, which include the following (Babbie & Mouton 2001:272, 282-283; Punch 1998:150-153):

- Conceptualisation: This does not only include the stating of the purpose of the research and the research questions, but also defining concepts and sharing the reasoning which preceded the research questions. Therefore, a thorough literature review and the researcher's own experience are important components of such a study, resulting in the formulation of new hypotheses or theories.
- Contextual detail: The entity under investigation is usually affected by factors from the environment and may thus seldom be separated from its environment.
- Multiple sources of data: This implies using more than one method to collect information (triangulation) and describing the product of research "thickly," i.e., a detailed description of the entity in its context which is understandable to the participants themselves.
- Analytical strategies: The organisation of the findings from the investigation is important for developing a clear understanding of the findings, which could serve as a basis for theory development.

The features of a case study, as outlined above, seemed best suitable for the purpose of this research study and the nature of the problem under investigation. Since the model for group work was developed specifically for the situation at the UFS, the context of the entity on which the research had been conducted, could not be ignored. Furthermore, two data sources were involved, viz., the opinion survey at the UFS and the Delphi study, which enhanced the validity

and reliability of this research study. The outcome of the research, i.e., the results of the data collected and the model eventually designed by considering these results together with the literature study, are also discussed in much detail to ensure that the students and staff at the UFS understand the findings of the study (cf. Chapter 8 and Chapter 9).

6.2 THE LITERATURE STUDY

A literature study was conducted in order to determine indicators for a group-work model. A search was done to find appropriate articles or books on group work, using especially the ERIC, Medline, Academic Search and Kovsiedex databases. Due to the fact that the key words "group work" and "small groups" were too broad and included information on groups in social work, management, psychology, etc., the search was narrowed down to group learning in education, using key words such as "small-group learning," "group-based learning," and "group work in medical education." However, the majority of the literature on group work in medical education focuses on problem-based learning (PBL), and therefore it was necessary to include group work in general higher education as well. Nevertheless, a brief overview of PBL and co-operative learning was considered necessary in this study, and a search was done on these topics as well. Group work at specific medical schools was also taken note of, since the approaches of the different medical schools provided useful information for developing a model for group work.

Several sources were consulted as part of the literature study, including books, journal articles, papers or posters presented at conferences, previous dissertations, world wide web pages, monographs of professional boards of different countries, audiovisual material, as well as unpublished works, e.g., study guides or notes for staff development sessions on group work. Governmental documents (including the Government Gazette – the newspaper of the South African government) and documents that resulted from World Federation for Medical Education (WFME) and World Health Organisation (WHO) conferences were also consulted as far as the issue of group work in medical education is concerned. The journals consulted included the most important journals on medical education, viz., Academic Medicine, Advances in Health Sciences Education, Medical Education, Medical Teacher, and Teaching and Learning in Medicine. A few other journals on higher education included, amongst others, Educational

Research, Educational Leadership, Higher Education, South African Journal of Higher Education and Curriculum Review. The audiovisual material included a video on small-group learning and a game to develop group-work skills. A computer program which helps form groups for group work was also examined (cf. 4.1.2.4).

Although it was attempted to concentrate on the most recent studies available in the literature, it was necessary to include a few classic studies on the topic of group work, especially in a learning set-up, as well. Without them, this study would not have been complete.

Indicators or guidelines for a group-work model were derived from the literature and served as a basis for the questionnaires which were designed for use in both the second and the third stages of the study. The findings of the literature study were taken into consideration when the inclusion of a particular indicator was considered for the questionnaire formulation, but also for the design of the final group-work model.

Due to the fact that the Delphi method was considered appropriate for obtaining the opinions of experts on the framework of the group-work model, it was necessary to investigate the Delphi method as a research technique (cf. Chapter 5), and, therefore, a literature search was also done to find appropriate sources. The journal Technological Forecasting and Social Change delivered several appropriate articles discussing the Delphi method, although other journals, books and world wide web pages were also consulted.

6.3 THE OPINION SURVEY: STUDENTS AND STAFF AT THE UFS

The second stage of this study entailed a survey of the opinions of the staff and students at the UFS involved with Phases I and II of the M.B.,Ch.B.-learning programme, on the importance of the indicators for a group-work model. The indicators derived from the literature study were framed as statements in a questionnaire. This stage was included in the study in order to garner the opinions of the students and staff in the setting for which the group-work model was designed. This would not only reveal their opinions on the importance of the indicators

identified for the model, but would also point out their needs and problems regarding group work – hence the inclusion of the open-ended categorised questions in the questionnaire. This information was regarded essential for the design of an appropriate model for group work at the UFS.

6.3.1 Sample

The sample for this stage of the study included the staff involved with Phases I and II of the new M.B.,Ch.B.-learning programme at the UFS during the year 2001 (cf. 3.4), as well as the entire population of first and second year medical students only, since only the first two years of the programme (i.e. Phase I and year one of Phase II) were running at that time. The sample included students from all the different cultural and gender groups, who were part of both the Afrikaans and English tuition groups.

The students were requested to complete the questionnaire after they had completed a specific group-work session (arranged with the lecturer or facilitator concerned). This was done to obtain as many completed questionnaires as possible. A total of 131 first year students (72 in the Afrikaans class and 59 in the English class), and 79 second year students (57 in the Afrikaans class and 22 in the English class) were given questionnaires (pilot study included) (cf. Table 6.1).

The staff group included all the module leaders, lecturers (i.e., group-work session presenters) and group-work facilitators who were involved with the first two years of the learning programme. The Phase chairpersons were contacted in order to determine who the module leaders were for the core modules of the first two years of the programme (19 modules in total). Thereafter, the names of all the different persons involved in all the sessions of a particular module were obtained from the module leaders. Individual departments were also contacted to ensure that all the facilitators for the different sessions of these modules were included in the study. All guest speakers or -facilitators for the modules were also included in this study. However, the clinical skills module, which stands separate from the other modules and also has a different approach to the instruction of the students, was not included in this study (cf. 1.7). Phase III was also excluded for reasons discussed in Chapter 1 (cf. 1.7).

The questionnaires for the staff were delivered by hand to the specific persons, apart from one questionnaire that was posted to a person who acted as a guest speaker for one of the modules. The staff were requested to complete the questionnaire and return it to this researcher by internal mail. A stamped addressed envelope was included with the questionnaire sent to the guest speaker. In total, 60 members of staff (five of whom were English-speaking) received questionnaires, of whom 16 were module leaders of either one or two modules (pilot study excluded) (cf. Table 6.2).

6.3.2 Measuring instrument

6.3.2.1 Format of the questionnaire

The measuring instrument for this stage of the study was a questionnaire that contained possible indicators for a group-work model, as derived from the literature. Each statement in the questionnaire represented a specific indicator. Respondents (i.e., the students and staff involved with Phase I and the first year of Phase II), had to indicate on a 5-point Likert scale (from very important to not important at all), the importance of each indicator for a group-work model in their opinion. The purpose of the study was explained, the criteria for the different points of the scale were clearly defined beforehand and clear instructions for the completion of the questionnaire were given on the first page of the questionnaire (Patten 2001:14, 65). Any words used in the questionnaire that could be misunderstood were also defined. The importance of a feasible group-work model for the situation at the UFS was emphasised and respondents were asked to respond to the questionnaire accordingly. The questionnaire was made available in Afrikaans and English so that students and staff could complete it in the language of their choice.

The responses were made anonymously, so as to ensure that respondents offered their opinions on the different items of the questionnaire as honestly as possible. However, demographic information was asked in order to adequately describe the sample, and for selected subgroup comparisons (cf. 6.3.4).

The items of the questionnaire were divided into six sections, which represented different aspects of group work, viz., composition of groups, training, group-work sessions, support,

assessment and guidelines for the implementation of group work. Apart from the closed questions in a Likert scale format (which represented possible indicators for a group-work model, e.g., "Groups must consist of a specific number of members"), opportunity for additional comments or suggestions was provided in two ways: At the end of each section of the questionnaire, open-ended questions were asked to which respondents could answer in their own words (e.g., "Are there any additional comments that you would like to make regarding the composition of groups?") (Oppenheim 1992:113). Furthermore, some open-ended categorised questions also presented various alternatives from which one had to be selected (e.g., "How many members do you think must be in a group?"). Although these questions did not represent possible indicators for a group-work model, the intention was to obtain valuable additional information regarding group work. Second year students (because they had been through Phase I) and staff who were involved with both Phases I and II, were also given the opportunity at the end of each section to distinguish between Phases I and II as far as indicators for the group-work model were concerned. The questionnaires for the students (Appendix C) and staff (Appendix D) differed only in terms of the demographic section and some of the open-ended categorised questions. These questions were only asked to that group of respondents (i.e., students or staff) to whom it was applicable. For example, only students were asked whether they would prefer to choose their roles within a group, and only staff were asked whether they knew how to compile a group task which enhances co-operation.

6.3.2.2 Reliability and validity of the questionnaires

The reliability of a measuring instrument can be defined as "the extent to which... [the] different scores provide consistent information about whatever the instrument is measuring" (Huysamen 1989:7). Oppenheim (1992:144) refers to reliability as "the purity and consistency of a measure,... repeatability,... the probability of obtaining the same results again if the measure were to be duplicated." Validity implies "[t]he extent to which a measuring instrument provides information which is appropriate for its intended use" (Huysamen 1989:7). According to Oppenheim (1992:144-145), validity, "tells us whether the question, item or score measures what it is supposed to measure."

To ensure that a measuring instrument is reliable and valid, possible measurement errors should be avoided and excluded as far as possible. If a new questionnaire is compiled, care should be

taken to avoid these errors. Certainly one of the most common errors of a questionnaire is that of ambiguous or unclear wording (Oppenheim 1992:120; Preece 1994:108). This will affect both the reliability and the face validity of a questionnaire. Face validity can be defined as "the extent to which it *appears*, on the basis of subjective evaluation, to serve its intended purpose" (Huysamen 1989:145). To prevent ambiguous wording in the questionnaires used in this study, care was taken to make the statements of the different items as short as possible and to ensure that not more than one statement was included in any specific item (Patten 2001:12; Preece 1994:108). A pilot study for both the questionnaires (for students and staff) was conducted in order to increase the validity and reliability of the questionnaires. This was done to rule out the presence of items which were ambiguous and/or unclear, thus ensuring that the design and instructions of the questionnaires were understandable. The pilot also helped determine how long it would take to complete the questionnaires. Two students (one male and one female) from each language group of each study year and three Afrikaans and two English members of staff (involved with the M.B.,Ch.B.-learning programme) were chosen randomly to participate in the pilot study. Therefore, both the Afrikaans and the English questionnaires for both groups of respondents (students and staff) were tested in the pilot study. A few changes were made to the questionnaires according to the outcome of the pilot study, e.g., changes were made to the wording of some of the items, and the instructions for completion of the questionnaires and outline of some of the questions were also changed. A few of the open-ended questions, which were regarded as duplications, were left out (cf. 6.3.2.1).

Another measurement error that may occur frequently in the use of questionnaires, is that of social desirability. This can be defined as "the tendency to give those responses which are believed to be regarded as socially acceptable irrespective of whether these responses are in agreement with one's true feelings or behaviour" (Huysamen 1989:166). Due to the fact that the questionnaires were completed anonymously by the staff and students and that they were assured that all responses would be handled confidentially, this error was excluded to a large extent, because respondents could complete the questionnaire without fear of exposure or discrimination against them.

6.3.3 Responses

Table 6.1 presents a summary of the number of students who participated in the study and the pilot study, as well as those who did not complete questionnaires, with the subsequent response rate for each group of respondents. The number of questionnaires rejected (due to huge portions of the questionnaire which were left out) and the number analysed, are also indicated in the last two columns of the table respectively. The response rate was calculated on the number of students who returned questionnaires, irrespective whether it was possible to analyse the questionnaires or not (i.e., the total number of students minus those who participated in the pilot study and those who did not complete questionnaires).

Table 6.1 Questionnaire completion amongst the students

Study year	Language	n	Pilot study	Did not complete questionnaire	Response rate	Rejected	Analysed
1	Afrikaans	72	2	4	91.7%	1	65
	English	59	2	1	94.9%	3	53
2	Afrikaans	57	2	1	94.7%	0	54
	English	22	2	0	90.9%	1	19

Table 6.2 presents a summary of the number of staff members who completed questionnaires, the response rate, as well as the number of questionnaires rejected and analysed.

Table 6.2 Questionnaire completion amongst the staff

n	Did not complete questionnaire	Response rate	Questionnaires rejected	Questionnaires analysed
60	30	50%	0	30

6.3.4 Analysis of responses

The responses from the students and staff were analysed with the aid of a bio-statistician from the Department of Biostatistics, UFS, using the SAS system, and entailed mainly descriptive statistics. Each item was analysed individually and the frequencies were calculated for each point of the scale. The mode was used to determine the particular point of the scale which represented the chosen importance of the particular item. Because it was very difficult to determine the mode for many items due to a fairly equal distribution of responses between the different points of the scale, it was decided to group the first and second points of the Likert

scale to indicate "not important" indicators and also the fourth and fifth points of the scale to indicate "very important" indicators for the group-work model (cf. Babbie 1999:355). For some of the items, the percentage of respondents whose votes fell in any two ranges of the scale was very similar, and then it was deemed to indicate that no consensus had been reached on the item for the particular respondent group. It was also regarded as no consensus for a particular item, when the opinions of the three respondent groups were not the same, e.g., the staff did not regard an item as important, but both the first and second years did. The results of these analyses are presented in Chapter 7 (cf. 7.1.2).

Responses to the open-ended questions were analysed and categorised in order to determine the full range of the different opinions of the respondents (Preece 1994:109). Frequencies were also calculated for the open-ended categorised questions and again the mode was used to indicate the option most frequently chosen by the respondents. These results are also presented in Chapter 7 (cf. 7.1.2), in between the indicators, in the same order in which they appeared in the questionnaire.

The analyses were done separately for the first and second year students, as well as for the staff. This was done so as to enable this researcher to compare the responses of the different groups with one another. The demographic information of the students (i.e., population group, gender, age and language of instruction), was used to compare the different groups of students with one another regarding their preferences for the composition of groups (cf. 7.1.2.1).

Since it was realised that none of the students and staff was an "expert" in group work, a further stage, viz., the Delphi method, was essential in this study in order to ensure a scientifically designed model for group work. For this reason, the information obtained from the questionnaires completed by the students and staff was taken into consideration, but was also compared with the results from the Delphi study and the literature, and thus, no other statistical analyses of the questionnaires, other than descriptive statistics, were regarded as necessary in this research study.

6.4 *THE DELPHI STUDY*

Due to the fact that not much literature exists specifically on group work in a hybrid medical curriculum, it was necessary to obtain the opinions of experts on group work in medical education on the importance of indicators for a group-work model in an objective and scientific manner through a Delphi study, which represents the third stage of this research study.

The Delphi technique in this study has therefore been applied in the field of medical education and curriculum development with the specific purpose of designing a model for group work (cf. 5.6). A modified Delphi technique was used, because the indicators for the group-work model had already been identified from the literature and used in the questionnaires for the opinion survey amongst students and staff at the UFS (first and second stages of the study respectively). These indicators were thus included in the first questionnaire of the Delphi study as different items, rather than asking the participants to identify the indicators (in the form of open-ended questions), as in a classical Delphi study (Murry & Hammons 1995:430) (cf. also 5.5).

The Delphi technique was used in this study for the following reasons (Critcher & Galdstone 1998:432-433; Linstone & Turoff 1975a:4; cf. Murry & Hammons 1995:426; Williams & Webb 1994:180):

- It was a fast and cost-effective method of garnering expert opinions;
- Both national and international experts were invited to participate in the study because group work in medical education is a relatively new concept of teaching and learning in South Africa. Much could therefore be learned from international experts, and thus, the panellists were geographically separated;
- The difficulties and problems with a face-to face discussion were overcome through a Delphi study;
- This study did not lend itself to precise analytical techniques and therefore could benefit from the subjective judgments of appropriate experts, although a scientific approach was followed. As Broomfield and Humphris (2001:930) assert, the Delphi technique provides "a systematic and structured approach to collating data in relation to the question under

investigation, where the only available alternative is an anecdotal or an entirely subjective approach";

- The study allowed a range of experts from vastly different backgrounds to participate equally in the communication process;
- Since this study was aimed at designing a model for group work, extensive exploration was necessary on the topic of group work;
- Through the use of questionnaires, rather than interviews or face-to-face discussions, participants had the opportunity to consider their responses carefully in their own time; and
- This study needed both a qualitative and a quantitative approach and the Delphi technique was therefore regarded as the most suitable research method.

A few amendments were made to the questionnaire used during the opinion survey, based on suggestions made by the respondents from the UFS. A pilot study was conducted beforehand and four people, who it was believed would provide good feedback, and who were all involved with medical education and group work at the UFS, were requested to complete the amended questionnaire. They were instructed to identify ambiguous wording, unclear instructions, spelling mistakes, etc. It was noted how long it took them to complete the questionnaire. A pilot study would increase the face validity of the questionnaire (Huysamen 1989:145). A few amendments were made according to suggestions which resulted from the pilot study. These implied mainly the wording of some items, the order of a few items in the "assessment" section, as well as the wording of two definitions and some instructions. Since the questionnaires would be sent electronically to the participants, one participant in the pilot study completed the questionnaire electronically and made some suggestions on improving the clarity of the questionnaire on the computer screen.

In this study, the reliability of the Delphi technique was ensured by conducting a pilot study beforehand, by the repeated use and refinement of the questionnaire which was used in the study, and also by using strict criteria to select the panel of experts who participated in the study. The validity was ensured by selecting knowledgeable experts on group work to participate and by careful analysis of the responses in order to obtain a true account of the opinions of the respondents (cf. 5.9.8).

6.4.1 Sample

Seven experts were invited to participate in this study, of whom four were national and three international experts. In this study the panel of experts was carefully selected according to strict criteria, so as to ensure an independent and heterogeneous panel from different academic stratifications. These experts were invited on the basis of their proven record of expertise in medical education and group work, and all of them were recommended by colleagues, which can be regarded as a proof of their experience and expertise (cf. Brockhoff 1975:295) (cf. also 5.9.1). Although the participants were requested to describe the nature of their expertise and their involvement in group work, they were not asked to rate themselves in terms of their level of expertise in medical education and group work (cf. Welty 1972:121). The following selection criteria were used to select the experts (cf. Brockhoff 1975:295; Murry & Hammons 1995:428; Raskin 1994:78; Williams & Webb 1994:185):

- They had to be medically qualified, with preferably a post-graduate qualification in their speciality or in higher education;
- They had to be involved with medical education at a higher education institution for at least five years;
- They had to be involved with group work in some way;
- Diversity amongst the panellists in terms of experience, expertise and interests was necessary (cf. Bijl 1996:144). Specifically also, in terms of the nature of their involvement in medical education and group work;
- They had to be recommended by at least one colleague;
- They had to be involved with different higher education institutions; and
- They had to be independent from the institution where this study was conducted.

Only seven panellists were invited because they represented a heterogeneous sample group, due to the fact that they came from different educational stratifications (cf. Clayton 1997:378) (cf. also 5.9.2). Because a heterogeneous group of both national and international experts was needed and selected according to strict selection criteria, the sample was not chosen randomly, but rather chosen carefully to avoid possible bias in the selection of the respondents (cf. Goodman 1987:731; Ziglio 1996:14). The four participants from South Africa who were

invited, were all from different higher education institutions, of which one institution can be regarded as a previously disadvantaged institution. One participant was a member of staff at an institution where a problem-based approach to medical education (with small-group learning as the main means of instruction) is being followed. The participants were all involved in group work in different ways: One participant was involved with staff development sessions on small-group work (amongst others) and acted regularly as a facilitator for small-group sessions, and one person was a member of the undergraduate curriculum committee and was actively involved with general higher education innovation strategies at the particular institution. Another participant was actively involved in group work with students, with a special interest in medical education innovations, and one participant did not only teach students by making use of small groups, but was also the director of the undergraduate medical curriculum and the director of health personnel training. One participant was also a member of the accreditation panel which visited the Faculty of Health Sciences of the UFS in April 2002 for accreditation of the new M.B.,Ch.B.-learning programme and two participants were members of the Undergraduate Education and Training Committee of the Medical and Dental Professions Board of the Health Professions Council of South Africa (HPCSA). One of the participants was recommended by a colleague who was himself first approached to take part in the study. As the colleague felt that this participant was more knowledgeable in group work than himself (and therefore more suitable to participate in this study), he recommended him to this researcher.

Of the three international participants, two were members of staff at two different universities in the United Kingdom (UK) and one was a member of staff at a university in the Netherlands. Since the new medical learning programme at the UFS is based on a curricular model of a university in the UK, it was considered necessary to include one participant from this particular university, in this study. The other participant from the UK was also from a university where group work forms a central part of their learning and teaching activities. Group work also plays a central role in medical education at the university of which the participant from the Netherlands is a member of staff. One of these international participants was the sub-dean of the particular medical school and was actively involved with both participating in and organising small-group activities at the medical school. Another participant was not only involved in group work as a means of instructing medical students, but also in staff development sessions on group work. The third international participant was a member of the medical curriculum committee, was a course coordinator and also actively made use of group work in the instruction of medical students.

Group work played a central role in the instruction of medical students at all the institutions represented by an expert in this study. However, only one national institution followed a problem-based approach, while a hybrid tuition system was followed at all the other institutions, which consisted of a mixture of group work and lectures (the amount of lectures at each institution varied from one to four lectures per week). It appears as if most of these institutions have attempted to keep the amount of lectures to a minimum. The composition of groups varied between the different institutions: At some of these institutions, no clear guidelines existed for composing groups and the composition varied from one session to the other. The average group size at the different institutions varied between six and ten members per group. Feedback and assessment of group work also varied between the different institutions involved, although most of the institutions only made use of formative assessment (evaluation) of group work.

The seven participants were contacted by electronic mail and, after the purpose of the study and the nature of the M.B.,Ch.B.-learning programme at the UFS were briefly described to them, they were requested to participate in the study. The Delphi technique was also explained to them and the reasons for using it for this study were outlined (cf. Appendix E). They were also informed that they had been nominated by colleagues to participate in the study (Brockhoff 1975:295). Six of the participants were male and all seven had between 10 and 30 years of experience in medical education. One participant was African, one was Indian (both of these were South African respondents), and the others were White. All participants preferred to receive the questionnaires by electronic mail. These participants were anonymous to one another during the entire course of the study and therefore correspondence with each individual was handled separately.

Five rounds were necessary before the Delphi study could be ended, and these rounds are discussed separately:

6.4.2 First round of the Delphi study

6.4.2.1 Measuring instrument

The questionnaire developed in the pilot study was accompanied by a document which explained the background and rationale of the M.B.,Ch.B.-learning programme at the UFS, as well as the way in which group work features in this learning programme (cf. Appendix F). This served as background to the participants when completing the questionnaire. Since the group-work model would be designed specifically for the UFS, it was important that the participants be well-informed regarding the situation at the UFS. "Creating a common understanding is particularly important when the composition of the panels is diverse" (Bijl 1996:146).

The participants in the Delphi study also had to indicate the importance of these indicators for a group-work model on a 5-point Likert scale (from very important to not important at all). The different points of the scale were defined clearly and any words in the questionnaire that could possibly be ambiguous, were clearly defined. Clear instructions for the completion of the questionnaire were also given on the first page of the questionnaire (cf. 5.9.3, Appendix G). The second page of the questionnaire also contained a section for demographic information, but this information was only used by this researcher to develop a better understanding of the nature of each participant's expertise and involvement with group work.

As with the questionnaires used during the first stage of the study, the items of the questionnaire (i.e., indicators) were divided into six sections which represented different aspects of group work (viz., composition of groups, training, group-work sessions, support, assessment and quality assurance). Some items which appeared in the "composition of groups" section of the questionnaire used during the opinion survey at the UFS, were moved to the "group-work sessions" section for the Delphi questionnaire, as suggested by one of the persons involved in the pilot study for the Delphi technique. The suggestion was followed because the involved items did actually fit better in the "group-work sessions" section of the questionnaire. The heading of the final section was also changed to "quality assurance" (from "guidelines for the implementation of group work") since it was regarded more appropriate for the Delphi study.

Opportunity for additional comments or suggestions was provided in the questionnaire in the following ways: Firstly, the last column of the table (in which the items were presented) provided opportunity for each participant to comment on any specific item of the questionnaire. Secondly, at the end of each section, open-ended questions were asked on the particular section, to which participants could answer in their own words. Thirdly, a few open-ended categorised questions were asked where participants had to choose one option. Participants were also allowed to suggest additional indicators for the group-work model.

Attempts were made to minimise the following response effects: To prevent the possible measurement error caused by ambiguous wording, the questionnaire was carefully designed and attempts were made not to include more than one idea in a statement (cf. Preece 1994:108). Due to the fact that participants were anonymous to one another and because all information was handled confidentially, the error of social desirability (cf. Huysamen 1989:166) was eliminated to a great extent. A 5-point Likert scale was used because the possible response effect of central tendency was not regarded as a major problem, as the respondents had agreed to participate in the study, which was regarded as an indication of their motivation to participate. The possibility of a neutral answer was also regarded as necessary in the Delphi study (Huysamen 1989:168').

The questionnaires were mailed electronically to each participant individually and participants were requested to return the questionnaires electronically. A deadline was given to the participants for completion of the questionnaires and follow-up reminders were sent to those respondents who had not replied by the deadline. Responses from all the participants were eventually received, although it took 39 days to receive them all. Five respondents returned their responses electronically and two sent their responses by fax. Goldschmidt (1996:126) notes that the response rate in a Delphi study is important because high response rates indicate that participants believe the study is worthwhile.

6.4.2.2 Analysis of responses

The responses from the first round were analysed manually with the assistance of a Biostatistician, by indicating, for each item of the questionnaire, the frequency of responses for each point of the Likert scale. Three participants were contacted individually via electronic

mail to clarify some of their responses to the first questionnaire. This was done to ensure that this researcher interpreted their responses correctly.

For the purpose of this study, consensus was defined as being reached when 80% of the participants' votes fell in any of the following three ranges of the 5-point Likert scale (cf. 5.9.7.1):

- 4-5
- 3
- 1-2

This implied that at least six of the seven responses had to fall in one of these ranges. If one participant did not respond to a particular item, consensus was regarded as being reached when five of the six responses (83%) fell in any of the ranges mentioned above. All items on which consensus had been reached during the first round were subsequently excluded from the questionnaire during the second round (cf. 7.2). Since the final report contained the responses to all the items of the initial questionnaire (as well as new items suggested by participants during the first round), it was not considered necessary to include the items on which consensus had been reached in subsequent questionnaires.

6.4.3 Second round of the Delphi study

After analysis of the responses from the first round, a second questionnaire was compiled for the second round of the Delphi study.

6.4.3.1 Sample

The response rate during the first round, as well as all the subsequent rounds, was 100% and none of the participants indicated that he/she was not willing to proceed with the study during any of the rounds. Therefore, all seven participants participated in the second round and also every round thereafter, of this Delphi study.

6.4.3.2 Measuring instrument

A second questionnaire was compiled which contained only those items (i.e., the possible indicators for a group-work model) on which consensus had not been reached during the first round of the study. Feedback was given to the participants on the different responses of the participants to these remaining items, by indicating (underneath the specific point of the scale) the number of participants who chose that particular point of the scale. However, the identity of responses was not made known in the feedback. For each of the participants, his/her response to the particular item during the first round was also indicated in an underlined number in red (cf. Clayton 1997:385). This provided each participant with the opportunity of reconsidering his/her opinion in the light of the other participants' responses. Participants were requested to indicate their reconsidered opinion for each item with a cross underneath the specific point of the Likert scale (cf. 5.9.6). The wording of a few items was changed on the basis of comments and suggestions made by the participants during the first round (cf. Appendix H).

The open-ended questions were all included again in the second questionnaire, with the various comments made by the different participants during the first round. Feedback on the open-ended questions comprised the exact wording of the different respondents in an attempt to provide feedback as accurately and objectively as possible. The feedback was anonymous and participants could again add new comments if they considered it necessary. Feedback was also provided to all the open-ended categorised questions. It was made clear to the participants that, although these questions, with the different responses of the participants, were included, the purpose of these categorised questions was not to reach consensus, but rather to obtain additional information on group work when designing the group-work model. However, participants were given the opportunity to change their opinions on these questions if they regarded it as appropriate.

A few new indicators for a group-work model were suggested by the respondents during the first round. These suggestions were included in the second questionnaire as new items and participants were requested to indicate their opinion of the importance of these indicators for a group-work model on the Likert scale as well.

Clear instructions, with examples for completion of the second questionnaire were given to the participants on the first two pages of the questionnaire (cf. Appendix H). The definitions of words used in the questionnaire were included again in the second questionnaire. Additional explanations were added to one of the instructions (the section on training of students, lecturers and facilitators), due to some uncertainty that had existed amongst the participants regarding the role of the lecturer in group work during the first round. Although the role of the lecturer in group work was referred to in the background information document which the participants had received during the first round of the study (Appendix F), it appeared as if it was insufficiently explained. A definition of "lecturer," explaining the role of the lecturer in group work at the UFS, was therefore added to the list of definitions for the questionnaire.

The questionnaires were again forwarded by electronic mail, to all but one of the respondents, who preferred to receive it by fax. A deadline was given again and reminders were sent to those participants who did not return their questionnaires in time. Five respondents returned their completed questionnaires by electronic mail and two did so by fax. The second round took 16 days to complete.

6.4.3.3 Analysis of responses

The responses from the second round were analysed in the same way as before. All items on which 80% consensus (cf. 6.4.2.2) or stability between the first and the second round were reached, were eliminated from the third round. Responses were regarded as being stable when less than 15% change in responses took place in two successive rounds (cf. Scheibe et al 1975:280) (cf. also 5.9.7.2). This implied that only one respondent could change his/her opinion between two successive rounds (14% change), for an item to be regarded as stable. If more than one participant changed his/her opinion between rounds, the item was thus regarded as unstable and was included again in the third questionnaire (cf. 7.2).

6.4.4 Third round of the Delphi study

A third questionnaire was compiled according to the responses of the second round and was sent to the participants during the third round of the Delphi study.

6.4.4.1 Measuring instrument

All the items of the second questionnaire on which consensus or stability of responses had not been reached, were again included in the third questionnaire. The feedback on the responses was given in the same way as before (cf. 6.4.3.2). No new items were suggested and all the open-ended categorised questions were eliminated in this questionnaire, regardless of whether consensus had been reached on them or not. Only new comments or suggestions made by participants during the second round were included as anonymous feedback in the third questionnaire. One additional open-ended question was included at the end of the questionnaire to provide an opportunity for participants to add any additional comments on group work (cf. Appendix I).

Clear instructions, very similar to those of the second questionnaire, were included at the beginning of the questionnaire and only the definitions that were relevant to the third questionnaire were retained.

Six questionnaires were sent by electronic mail and one by fax and a deadline was again determined for the completion and returning of the questionnaires. The third round took eight days to complete.

6.4.4.2 Analysis of responses

The responses were again analysed manually by indicating the frequency of responses for each point of the scale (cf. 7.2). All the items on which 80% consensus, or stability of responses (less that 15% change in votes), had been reached, were eliminated from the questionnaire for the fourth round. Only three items remained to be included in the fourth questionnaire.

6.4.5 Fourth round of the Delphi study

The remaining items in the questionnaire were sent again to the participants as a fourth round of the Delphi study.

6.4.5.1 Measuring instrument

The questionnaire for the fourth round contained only three items (i.e., indicators for a group-work model) which participants had to re-rate on the 5-point Likert scale. Feedback to these items from the previous round was given in the same way as in the previous rounds. Only one open-ended question, to which new comments were made during the third round, was included as feedback in this questionnaire. An additional open-ended question was again included at the end of the questionnaire for comments. Clear instructions for completion, very similar to those of the second and third rounds, were included on the first page of the questionnaire and only one definition, which was appropriate for the items in the fourth questionnaire, was included under the list of definitions (cf. Appendix J). The questionnaire was mailed electronically to six participants and faxed to one participant and a deadline was again given for completion of the questionnaire. The fourth round took seven days to complete.

6.4.5.2 Analysis of responses

The responses from the fourth round were analysed manually by again determining the frequency of responses for each point of the scale for a particular item. Two items could be eliminated on the basis of stability of responses. The responses to the remaining item had been very unstable (one respondent did not respond to this item again after round one, three respondents changed their votes during round three and two changed their votes during round four), and therefore a fifth round was attempted to reach at least stability of responses to this particular item (cf. 7.2).

6.4.6 Fifth round of the Delphi study

Only one item remained in the questionnaire and this was mailed electronically to all the participants to provide another opportunity for them to reconsider their votes and re-rate the item. Feedback from the fourth round was again included, as in the previous rounds (cf. Appendix K). One participant never responded to this item from the first round, one participant only responded to it during the first round and therefore, only five respondents have been responding to this item since the second round of the Delphi study. However, all seven participants had the opportunity to respond to the item in all five the rounds. During the fifth

and final round of this study, 80% of the votes (i.e., four of the five participants who did respond) fell within the scale range between 4-5, and therefore it could be regarded that consensus has been reached on this item (cf. 7.2). It took two days to complete the fifth round of the study. It was thus possible to end the Delphi study after five rounds on the basis of either consensus or stability of responses on each item in the questionnaire. The fact that five rounds were necessary before the Delphi study could be ended could be explained by the fact that the experts were confident in their ratings of the items: "[T]he more knowledgeable members perhaps... [are] more confident in their knowledge and hence... [feel] less temptation to move to the norm" (Rowe et al 1991:243).

A final report of the Delphi study was mailed electronically to all the participants afterwards (cf. Appendix L). This report contained the final outcome of every item in the questionnaire, i.e., the round in which the item was excluded from the study, whether consensus or stability was reached, and the different votes of the participants on the 5-point Likert scale. The responses to the open-ended, categorised questions were also indicated for rounds one and two (those questions had all been excluded after round two), but the responses to the open-ended questions were not included again, since the participants had already received feedback on these questions during the different rounds.

For the final results of the responses, points 4 and 5, as well as points 1 and 2 were combined respectively. Therefore, items were regarded important if the majority of the votes fell in the 4-5 point range of the Likert scale, even if consensus was not reached (i.e., a stable item). The same applied for points 1 and 2 of the scale and not important items. Items were regarded "neutral" if the majority of votes indicated point 3 of the scale. Those items which had no majority vote, were regarded as "no consensus" items. Although no consensus was reached on these items, the votes on them were stable between two different rounds, and since there was little chance that the votes would change after a further round, they were not included in the subsequent questionnaires on the basis of stability of votes. The results of the responses from the Delphi study are presented in Chapter 7 (cf. 7.2).

6.5 A MODEL FOR GROUP WORK

The fourth stage of this study entailed the design of a model for group-work for Phases I and II of the M.B.,Ch.B.-learning programme at the UFS. The design was based on the findings of the opinion survey at the UFS, as well as the Delphi study, compared to the literature study. The model is multi-dimensional, since various aspects of group work need to be taken into consideration. The model is discussed in Chapter 9.

6.6 CONCLUDING REMARKS

The four stages in which this study was conducted, have been described in this chapter. The approach followed for the literature study was explained and the method of the opinion survey at the UFS was outlined. The rationale for using the Delphi method was explained and the way in which it was conducted has been described. The criteria for selecting participants for the Delphi study were outlined, and the five rounds of the study were discussed in turn. The fourth stage of this research study, i.e., the design of the group-work model, was briefly referred to, although it is discussed in detail in Chapter 9. The results of the opinion survey and the Delphi study are presented in the following chapter.

CHAPTER 7
RESULTS AND FINDINGS

The results of this study are presented according to the stages in which the study took place. The results of the opinion survey amongst students and staff at the University of the Free State (UFS), therefore appear first, followed by the results of the Delphi study. These results are compared and discussed in Chapter 8.

7.1 THE OPINION SURVEY AMONGST THE STUDENTS AND STAFF AT THE UFS

7.1.1 Demographic information

7.1.1.1 Demographic information of the staff members

Although 30 members of staff participated in the study, only 29 (96.7%) indicated whether they were involved with Phase I and/or Phase II: Fifteen persons (50%) were involved with Phase I, eight persons (26.7%) with Phase II and six persons (20%) were involved with both Phases I and II. The group had equal proportions (15 each) of male and female staff members.

Figure 7.1 presents a summary of the involvement of the staff in group work at the time of the study. At the UFS a session presenter refers to a lecturer, i.e., the person who designs the group-work session and group tasks and who presents the lecture. From the figure, it is clear that the majority of the staff members were module leaders for at least one module, session presenters and facilitators.

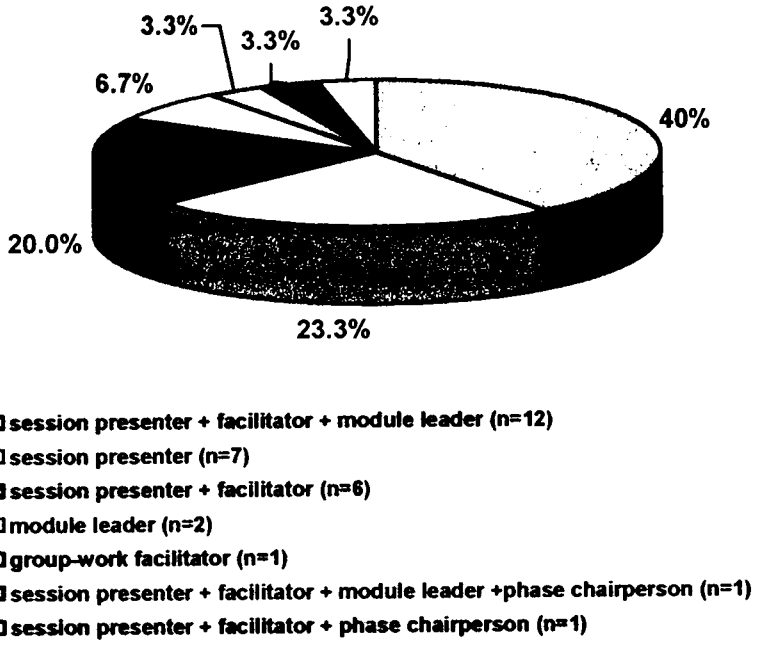


Figure 7.1 Roles of the staff in group work in the M.B.,Ch.B.-learning programme

7.1.1.2 Demographic information of the students

The group of students who responded to the questionnaires included 118 first year and 73 second year students. Of the first years, 53 (44.9%) were male and 65 (55.1%) female, and there were 35 (47.9%) male and 38 (52.1%) female students in the second year class. The Afrikaans classes had the majority of students – 65 (55.1%) first year and 54 (74%) second year students. There were thus 53 (44.9%) and 19 (26%) students in the first and second year English classes respectively. More second year students, (79.2%) had been group leaders by the time of the study, compared with the first years (45.7%).

Figure 7.2 presents a summary of the ages for the first and second year students. Most of the first year students (48.3%) were 19 years of age and 75.4% of the whole class were under the age of 20. Amongst the second years, most students (65.8%) were 20 years old, and 80.8% were under the age of 21. It is interesting to note that there were more students above 21 years in the first year (n=15) than the second year group (n=10).

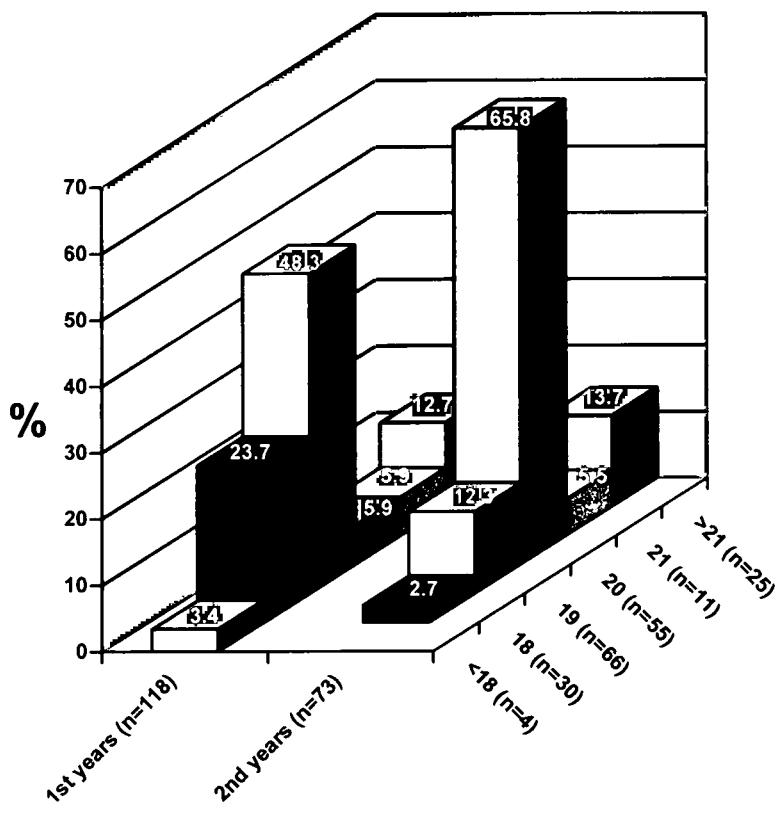


Figure 7.2 Ages of first and second year students

Figure 7.3 presents an overview of the home languages of the first and second years. The "other languages" group of students included the following: In the first year class, there was one Mandarin, Greek, Portuguese and Sepedi student each, two Tsonga-speaking students, and also two students whose home language included both Afrikaans and English (i.e., bilingual). In the second year class, there was one Sepedi, and one Tsonga student, and two bilingual students. The majority of the both the first and the second years were Afrikaans speaking (58.5% and 75.3% respectively).

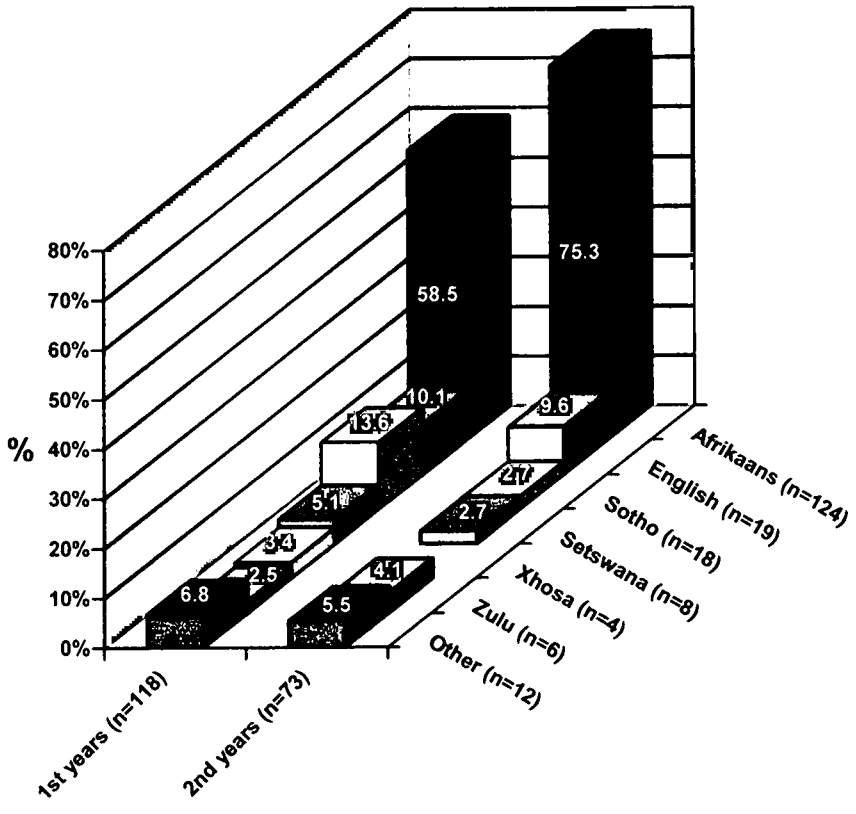


Figure 7.3 Home language of first and second year students

Figure 7.4 presents a summary of the population groups in the two classes. The majority of students in both the first and second year classes were White (61.9% and 79.5% respectively). However, the ratio between the different population groups amongst the students is changing each year, since the Faculty of Health Sciences of the UFS ("the Faculty") aims at selecting proportions of students representative of the population group sizes in South Africa, which implies that the majority of students should be of the African group. This can already be seen in the difference between the first and second years at the time of the study. However, this change in the approach towards selecting medical students at the UFS will take place over a number of years, and thus the ratios between the population groups in this study is not yet representative of the population groups in South Africa.

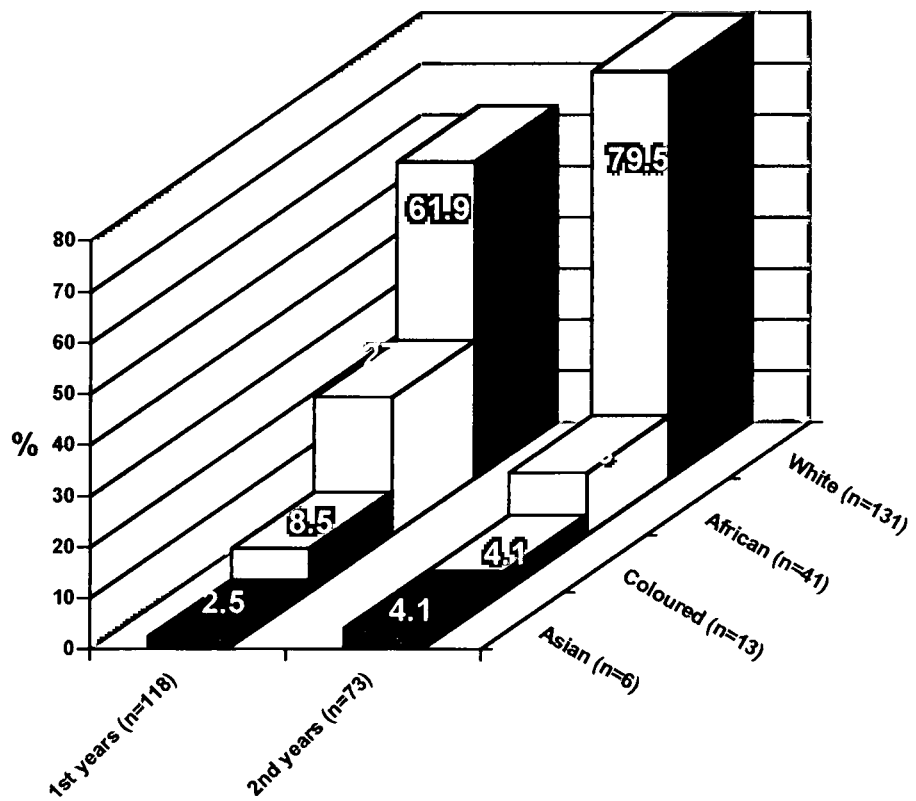


Figure 7.4 Population group of first and second year students

7.1.2 Results of the questionnaires

The responses of the students and staff at the UFS to the questionnaires used in the opinion survey are summarised as follows: The combined (cf. 6.3.4) ranges of the scale (i.e., 4-5, 3, or 1-2), in which the highest frequency of responses on a specific item occurred, are indicated for the first years, second years and staff respectively. These ranges were used to determine the importance of the specific item in the opinion of the three respondent groups (cf. 6.3.4). The results of the responses from the first and second year students, as well as the staff, are presented together in a table in order to allow comparison between the three groups of respondents. The total number of respondents from each group who responded to the particular question (n), is also indicated. In each instance, the most-endorsed of the above-mentioned combined values (4-5, 3 or 1-2) is shown for each of these three groups, together with the percentage of those participants who did respond who selected those values. The result (e.g., very important, important, not important or no consensus), is also indicated for each response.

Responses to the open-ended, categorised questions are presented in a similar way. However, the actual options with the highest frequency, as chosen by the different groups of respondents, are indicated for each group. If the question was not applicable to a group of respondents, it is indicated accordingly (e.g., staff were not asked whether they wanted to determine their roles as group members themselves).

Summaries of the comments made to the open-ended questions are presented, as well as the number of respondents who made each specific comment. The total number of respondents from each group who responded to the particular question (n), is also indicated below the responses, although this number does not necessarily correlate with the number of responses to the item for the particular group, since some respondents made more than one comment to some of the questions.

Where appropriate, relevant aspects of the responses are highlighted, and a brief discussion of, or explanation for, the responses to a particular item, appears underneath the specific table. The results for each of the six categories in the questionnaire are discussed in turn (cf. 6.3.2.1).

7.1.2.1 Composition of groups

Table 7.3 The importance of a specific size for groups (item 1)

	n	Most-endorsed option	%	Result
1st year students	107	4-5	72.9	Very important
2nd year students	71	4-5	76.1	Very important
Staff	27	4-5	59.3	Very important

A few first year students did not express their opinions on the importance of a specific size for groups, for unknown reasons. Overall, the respondents regarded it as very important that groups should consist of a specific number of members (Table 7.3).

Table 7.4 The preferred number of members in a group (item 1b)

	n	Most-endorsed option	%
1st year students	117	five to six	45.3
2nd year students	72	four or fewer	40.3
Staff	29	five to six	48.3

Respondents were given the opportunity to express their preference for the size of groups, and it is interesting to note that the second years preferred a smaller group. This could probably be explained by the fact that the existing groups, consisting of 7-8 members, in any case subdivide into groups of 3-4 members. The initial group size was also four members per group, and therefore, the second years had first-hand experience of working in groups of four and eight members (Table 7.4).

Table 7.5 The importance of even or odd numbered groups (item 2)

	n	Most-endorsed option	%	Result
1st year students	105	1-2	42.9	Not important
2nd year students	71	1-2 4-5	40.9 42.3	No consensus
Staff	27	1-2	66.7	Not important

Both the first years and the staff did not regard it as important to have specifically even or odd numbered groups, although more staff members did so. Not all the first year students responded to this item, once again for unknown reasons (Table 7.5).

Table 7.6 The preference for even or odd numbered groups (item 2b)

	n	Most-endorsed option	%
1st year students	113	even	85.0
2nd year students	71	even	91.6
Staff	26	even	69.2

All three groups of respondents preferred groups with an even number of members, which could be explained by the fact that the groups often split into two smaller groups, (which would be easier with an even number of members) (Table 7.6). Although more than 90% of the second years preferred even numbered groups, they did not reach consensus on the importance of even or odd numbered groups (cf. Table 7.5).

Table 7.7 The importance of language of instruction for the composition of groups (item 3.1)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	83.1	Very important
2nd year students	73	4-5	87.7	Very important
Staff	29	4-5	93.1	Very important

The respondents' high rating of the importance of the language of instruction for the composition of groups (Table 7.7) is supported by their strong feelings about the fact that groups should only consist of the particular language in which they receive instruction (cf. Table 7.8).

Table 7.8 The preference for group composition regarding language of instruction (item 3a)

	n	Most-endorsed option	%
1st year students	117	Only Afrikaans or English	82.1
2nd year students	72	Only Afrikaans or English	87.5
Staff	30	Only Afrikaans or English	70.0

The respondents preferred the status quo at the UFS, i.e., separate groups for the two languages of instruction (Table 7.8). The responses from the Afrikaans and English classes to this item were compared and are summarised in Table 7.9.

Table 7.9 The preferences of the Afrikaans and English classes for group composition according to language

Language of instructions and composition of groups	Afrikaans (n=116)	%	English (n=73)	%
Same language groups	98	84.5	61	83.6
Mixed language groups	18	15.5	12	16.4

The responses to item 3a (cf. Table 7.8) and the demographic information from the questionnaires were used to determine students' preferences for groups regarding the language of instruction. Most students, whether in the Afrikaans or English class, still preferred groups with the same language of instruction (Table 7.9).

Table 7.10 The importance of gender for the composition of groups (item 3.2)

	n	Most-endorsed option	%	Result
1st year students	118	1-2 4-5	43.6 38.5	No consensus
2nd year students	73	1-2	63.0	Not important
Staff	30	1-2	70.0	Not important

Although it appears from the respondents' opinions on the importance of gender for the composition of groups (Table 7.10), that students and staff did not care about the gender composition of groups, the majority of students and 100% of the staff preferred mixed gender groups (cf. Table 7.11).

Table 7.11 The preference for group composition regarding gender (item 3b)

	n	Most-endorsed option	%
1st year students	118	Mixed gender groups	94.9
2nd year students	72	Mixed gender groups	97.2
Staff	30	Mixed gender groups	100

The vast majority of respondents preferred mixed gender groups (Table 7.11). The preferences of the male and female students regarding this aspect are compared in Table 7.12.

Table 7.12 The preferences of the male and female students for group composition according to gender

Gender and composition of groups	male (n=88)	%	female (n=102)	%
Same gender groups	7	8.0	1	1.0
Mixed gender groups	81	92.0	101	99.0

The gender of the students (first and second years), was used to determine how male and female students preferred groups in terms of gender composition, using the demographic information and the responses to item 3b (cf. Table 7.11). The majority of both the male and female students preferred mixed gender groups (Table 7.12).

Table 7.13 The importance of population group/culture for the composition of groups (item 3.3)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	47.5	Very important
2nd year students	73	4-5	48.0	Very important
Staff	30	1-2 4-5	43.3 43.3	No consensus

Although no consensus was reached amongst the staff members on this item, the students regarded it as very important (Table 7.13), but with mixed intentions: The White students

overall preferred groups with the same race, whereas the other population group students preferred groups with mixed races (cf. Table 7.15). The staff probably had different opinions about this aspect due to the fact that cultural differences is a sensitive issue. In spite of their lack of consensus on the importance of this item, the majority of the staff members preferred mixed population groups (cf. Table 7.14).

Table 7.14 The preference for group composition regarding population group/culture (item 3c)

	n	Most-endorsed option	%
1st year students	116	Mixed population groups	62.1
2nd year students	70	Groups of only same population group	52.9
Staff	29	Mixed population groups	89.7

The first years preferred mixed population groups and the second years the same population group. Although the staff did not reach consensus on whether population groups should be important for the composition of groups, the majority preferred mixed population groups (Table 7.14).

Table 7.15 The preferences of the different population groups of students for group composition according to population group

Population group and composition of groups	African (n=40)	%	Asian (n=6)	%	Coloured (n=13)	%	White (n=127)	%
Same population groups	4	10.0	1	16.7	0	0.0	76	59.8
Mixed population groups	36	90.0	5	83.3	13	100	51	40.2

The preferences of the African, Asian, Coloured and White students for the type of groups regarding population group/culture were determined, using the demographic information of the questionnaire and the responses to item 3c (cf. Table 7.14). Their responses are indicated in Table 7.15. The students from the different population groups all preferred mixed groups, apart form the White students – who preferred groups with members from the same population group. It is therefore interesting to note that, although 61.9% of the first year students were White, the majority of the first years preferred mixed population groups. The majority of the second year students probably preferred groups with the same population group because 79.5% of the students were White (cf. Figure 7.4 and Table 7.14).

Table 7.16 The importance of age for the composition of groups (item 3.4)

	n	Most-endorsed option	%	Result
1st year students	118	1-2	58.5	Not important
2nd year students	73	1-2	64.4	Not important
Staff	30	1-2	60.0	Not important

Most of the respondents did not think that age is an important factor to consider when forming groups (Table 7.16).

Table 7.17 The preference for group composition regarding age (item 3d)

	n	Most-endorsed option	%
1st year students	117	Older students in different groups	88.0
2nd year students	73	Older students in different groups	84.9
Staff	30	Older students in different groups	80.0

Most respondents preferred that older students should be divided into different groups instead of being put into groups of their own (Table 7.17). The same applies for the different age groups amongst the students (cf. Table 7.18).

Table 7.18 The preferences of the different age groups of students for group composition according age

Age and composition of groups	<18-20 (n=154)	%	≥21 (n=36)	%
Older students in one group	17	11.0	8	22.2
Older students in different groups	137	89.0	28	77.8

Using the demographic information in the questionnaire, the students were grouped into two according to their ages and students older than 20 years were regarded as older students. The opinions of the older and the younger students were compared regarding their opinions on groups with older students (cf. Table 7.17). Most students, including the older students above 20 years of age, preferred that older students should be divided into different groups and not form their own separate groups (Table 7.18).

Table 7.19 The importance of using a specific method to divide students into groups (item 4)

	n	Most-endorsed option	%	Result
1st year students	108	4-5	48.2	Very important
2nd year students	71	4-5	43.7	Very important
Staff	25	4-5	44.0	Very important

The majority, although relatively few, respondents regarded it as very important to use a specific method to form groups (Table 7.19).

Table 7.20 The preferred method of dividing students into groups (item 4b)

	n	Most-endorsed option	%
1st year students	108	Students must choose	44.4
2nd year students	68	Students must choose	48.5
Staff	29	Randomly	48.3

It is not surprising that both the student groups preferred that students choose their groups themselves. The staff were probably more realistic in this regard, and chose the random option (Table 7.20).

Table 7.21 The importance of taking students' needs into consideration when forming groups (item 5)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	74.6	Very important
2nd year students	72	4-5	68.1	Very important
Staff	29	4-5	62.1	Very important

All the respondent groups regarded it as very important to take students' needs into consideration when forming groups (Table 7.21).

Table 7.22 The importance of allowing groups to choose a name for their group (item 6)

	n	Most-endorsed option	%	Result
1st year students	117	1-2 4-5	43.6 38.5	No consensus
2nd year students	73	1-2	58.9	Not important
Staff	30	1-2	46.7	Not important

Groups do not get the opportunity to choose names for themselves at the moment. It was thus probably difficult for respondents to relate to the importance of choosing a name for the group, and this could explain the low rating and ambivalence regarding this indicator (Table 7.22).

Table 7.23 The importance of a specific lifetime for groups (item 7)

	n	Most-endorsed option	%	Result
1st year students	116	1-2	40.5	Not important
2nd year students	72	1-2	47.2	Not important
Staff	27	1-2 4-5	44.4 44.4	No consensus

One would have expected the students to feel strongly about the importance of a specific lifetime for groups, especially those who were in dysfunctional or well functioning groups at the time. Ironically, none of the two groups of students regarded this as important. One would also have expected the staff to think that groups should change often for students to get to work with different peers, but they had mixed opinions regarding the importance of a specific lifetime for groups (Table 7.23).

Table 7.24 The preferred lifetime for groups (item 7b)

	n	Most-endorsed option	%
1st year students	117	For 1 year	43.6
2nd year students	73	For duration of course	42.5
Staff	29	For 1 year	48.3

The second year students had probably sorted out themselves and their groups by the time this study was conducted, and thus their opinion that groups should remain the same for the duration of the course. The first years probably experienced some problems in the different groups and therefore wished to change groups after the first year and thus their choice to change groups each year. The staff most likely accepted the current way of doing things, which could explain their preference for the lifetime of groups (Table 7.24).

Table 7.25 The importance of appropriate venues for group work (item 8)

	n	Most-endorsed option	%	Result
1st year students	115	4-5	56.5	Very important
2nd year students	73	4-5	53.4	Very important
Staff	30	4-5	83.3	Very important

It is interesting that relatively more staff members than students regarded it as very important to have appropriate venues for group work. They probably did so from experience and realised that the traditional lecture halls would not be suitable for group work (Table 7.25).

Table 7.26 Respondents' satisfaction with the current venues/set-up for group work (item 8b)

	n	Most-endorsed option	%
1st year students	117	Yes	73.5
2nd year students	73	Yes	82.2
Staff	28	Yes	89.3

In response to the question of whether respondents were satisfied with the current set-up for group work, all three groups answered in the affirmative (Table 7.26). This is reassuring, since the Faculty went to a lot of trouble to ensure proper venues and furniture for group work.

Table 7.27 The importance of furniture arrangement for group work (item 9)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	67.0	Very important
2nd year students	73	4-5	68.5	Very important
Staff	30	4-5	80.0	Very important

Although it is possible to arrange the furniture in such a way after the lectures, it is not always done, although the majority of students and staff regarded it as very important (Table 7.27).

Table 7.28 The importance of sufficient resources for group work (item 10)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	97.4	Very important
2nd year students	73	4-5	94.5	Very important
Staff	29	4-5	86.2	Very important

A very high percentage of all the different respondent groups regarded the sufficiency of resources as very important (Table 7.28), and therefore the Faculty should take note and ensure sufficient resources at all times.

Table 7.29 The sufficiency of resources for group work at the UFS (item 10b)

	N	Most-endorsed option	%
1st year students	117	No	55.6
2nd year students	73	Yes	53.4
Staff	27	No	59.3

In response to the question as to whether the current resources for group work were sufficient, all groups except the second years answered negatively. However, the second years' response implies that 46.6% of the class did not think that resources are sufficient, which is almost half of the class. The staff members were probably also frustrated with the lack of resources (e.g., asking groups to do computer tests), and their response to this item reflects this frustration (Table 7.29)(cf. also Table 7.30).

Table 7.30 The resources which are not sufficient for group work (item 10c)

	1st years (n=57)	2nd years (n=32)	Staff (n=20)
Computers	34	23	13
Internet	24	11	4
Books:			
unspecified	5	8	2
reference	4	1	6
textbooks	3	1	-
dictionaries	1	-	-
atlases	-	-	1
Journals	3	-	1
Newspapers	1	-	-
Colour printing	1	-	-
Photocopy facilities	1	2	-
Anatomy models	-	-	1
Arrangement of tables	1	-	-
Everything	1	-	-

Almost 50% of the first years mentioned at least one type of resource which they did not regard sufficient (Table 7.30). This compares well with the 55.6% of them who said that resources were not sufficient (cf. Table 7.29). The same applies for the second years, because 43.8% named at least one type of resource which is insufficient in response to this item. On the other hand, 59.3% of the staff regarded the resources for group work as not being sufficient, but only 33.3% responded to this item. From the responses to items on the resources for group work (Table 7.28 to Table 7.30), it is very clear that most students and staff regarded the available resources for group work as insufficient.

Table 7.31 The importance of providing opportunities for groups to work with students from other year groups of the same course (item 11)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	40.2	Very important
2nd year students	73	1-2 4-5	34.3 37.0	No consensus
Staff	30	1-2	50.0	Not important

The second year students were the first group of the new M.B.,Ch.B.-learning programme, and therefore probably found it difficult to relate to working with other year groups, whereas the first years probably felt that they could learn a lot from their second year colleagues (Table 7.31).

Table 7.32 The importance of providing opportunities for groups to work with students from other courses (e.g. nursing students) (item 12)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	44.9	Very important
2nd year students	70	4-5	45.7	Very important
Staff	28	1-2	42.9	Not important

Being a competent member of a multi-professional health care team is one of the objectives of group work and of the medical curriculum at the UFS (cf. 1.2) and it is therefore promising that students regarded the option to work with students from other allied health professions as important. The staff probably thought of the logistic implications of such a set-up, which could explain their lack of enthusiasm to support this indicator (Table 7.32).

Table 7.33 The importance of group leaders for groups (item 13)

	n	Most-endorsed option	%	Result
1st year students	116	4-5	58.6	Very important
2nd year students	71	4-5	74.7	Very important
Staff	29	4-5	62.1	Very important

Although all groups of respondents regarded it as very important for groups to have group leaders, it is interesting to note that many more second year students regarded it as very important than first years (Table 7.33). This could possibly be explained by the fact that 79.2% of the second years, compared with the 45.7% of the first years, had already been a group leader at some stage (cf. 7.1.1.2). More second years therefore probably realised the importance of having and being group leaders.

Table 7.34 The preferred way to appoint group leaders (item 13b)

	n	Most-endorsed option	%
1st year students	117	Group must choose	88.9
2nd year students	73	Group must choose	98.6
Staff	30	Group must choose	96.7

It is not surprising that most students preferred to choose the group leaders themselves. The staff also probably accepted the current way of doing things, which could explain their choice (Table 7.34).

Table 7.35 The preferred period of time for persons to act as group leaders (item 13c)

	n	Most-endorsed option	%
1st year students	111	Different leaders for each module	39.6
2nd year students	72	Another leader each week	29.2
Staff	30	Different leaders for each module	36.7

The low percentage that represents the highest frequency of votes for the second years, indicates that there were many different opinions on the period for which group leaders should act. Overall, there were no vast majorities of votes indicating a strong preference for a particular option amongst any of the respondent groups (Table 7.35). A few first years did not offer choices, probably for the reasons explained under Table 7.33.

Table 7.36 The importance of ice-breakers for group work (item 14)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	63.6	Very important
2nd year students	73	1-2	45.2	Not important
Staff	30	1-2 3 4-5	33.3 33.3 33.3	No consensus

The second year students probably forgot that they did not know each other when they first started the course and thus did not regard ice-breakers as important, whereas the first years probably still remembered how difficult group work was without knowing one another. However, if the second years understood the question to mean that the ice-breakers should take place in their current year of study (i.e., the second year), one could understand their opinion, since ice-breaker would not be needed then for students to get to know one another. The staff members' responses truly reflect a lack of consensus about the use of ice-breakers (Table 7.36).

Table 7.37 The importance of appointing roles to group members (item 15)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	46.2	Very important
2nd year students	73	1-2 4-5	39.7 38.4	No consensus
Staff	30	1-2	53.3	Not important

The respondents did not reach consensus on the importance of appointing roles to group members (Table 7.37). Due to an inability to attend staff development sessions (due to time constraints), the staff were probably not aware of all the different roles which members could play in a group, and thus they did not regard this as important. For the second years, the orientation to group work, during which they were made aware of the different roles, took place in their first year. They were probably never reminded again about the different roles of group members, and this could explain their lack of consensus on this item. The fact that the second years were also not practically applying all the various group roles in their group work (barring for that of group leader) at the time of completing the questionnaires, probably led them to view these roles as being unimportant. The first year students had their orientation still fresh in their

minds, and probably still realised the impact that different roles could have on the functioning of a group, and thus regarded roles as very important.

Table 7.38 The importance of appointing specific tasks to group members (item 16)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	61.5	Very important
2nd year students	73	4-5	56.2	Very important
Staff	30	4-5	46.7	Very important

Relatively few staff members regarded it as very important to assign specific tasks to group members, when compared to the students (Table 7.38). This could be explained by the fact that they probably thought tasks should be done by the entire group and not be divided amongst the different group members.

Table 7.39 The importance of ground rules for the functioning of groups (item 17)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	72.0	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	76.7	Very important

Although the majority of respondents regarded ground rules as very important, relatively fewer second years did so (Table 7.39). However, it is encouraging that most respondents realised the importance of ground rules for a group.

Table 7.40 Students' preference for determining ground rules themselves (item 17b)

	n	Most-endorsed option	%
1st year students	116	Yes	82.8
2nd year students	73	Yes	87.7
Staff	n/a	n/a	n/a

In response to the question whether group members would prefer to determine ground rules themselves, the majority of both the student groups answered in the affirmative (Table 7.40).

Table 7.41 The importance of a contract between group members (item 18)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	57.6	Very important
2nd year students	73	1-2 4-5	38.4 38.4	No consensus
Staff	30	4-5	56.7	Very important

It is debatable whether the second year students still used and applied a contract by the time this study was conducted and thus the lack of consensus within this group of students on the importance of using a contact between group members (Table 7.41).

Table 7.42 Additional comments on the composition of groups (item 19)

	1st years (n=28)	2nd years (n=10)	Staff (n=12)
Group size:			
smaller groups (4-5)	7	1	1
size must be 7-8 per group	1	-	-
Forming of groups:			
students must not choose group	1	-	1
students must choose group	6	3	-
students must be randomly divided into groups	1	-	-
members of same objectives/performance must be in a group	-	2	-
same personalities in group	1	-	-
same language of instruction	-	1	-
mixed gender groups	3	-	-
mixed population groups	6	-	1
other factors must be taken into consideration, e.g. students in same hostel	-	-	1
different groups for different modules	-	-	1
no herding/clustering allowed	1	-	-
Lifetime of groups:			
groups must not change	6	2	2
must change composition if necessary	3	-	-
groups should first exist for trial period before final groups are formed	-	-	1
Functioning of groups:			
groups must determine own rules	3	-	3
a contract is a waste of time	2	-	-
ice-breakers before divided into groups	1	-	-
all must have a specific role	-	-	1
members must have opportunity to talk	-	1	-
members should be committed	1	-	-
all must contribute to task	-	-	1
non-contributing or dysfunctional members should be excluded	1	-	2
students must accept that group will not function optimally at first	-	-	1

Most of the comments added to the general question about group work, confirmed the opinions that were already expressed with some of the indicators, such as the size, composition and lifetime of the groups. The comments about the functioning of groups also reflect a need amongst some of the respondents for better group dynamics (item 19). This should be addressed during training sessions on group work.

Although many respondents made remarks in response to the opportunity to comment on the composition of groups, various different opinions exist amongst the students and staff regarding the composition of groups – some of which are contrasting, e.g., whether students must choose their own group or not (Table 7.42). This could be explained by the fact that respondents had their own preconceived ideas about how groups should be formed. Although many of the comments were related to some of the indicators in the questionnaire (e.g., how groups should be formed), a few could be regarded as additional indicators. These comments include the following:

- The performance of students should be taken into consideration when forming groups;
- The personalities of students should be taken into consideration with the composition of groups; and
- Students from the same hostel should be in a group to allow after-hours co-operation.

Table 7.43 Differences between Phases I and II regarding group composition (item 20)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	72	No	83.3
Staff	7	No	85.7

The second years and staff (who were involved with both Phases I and II) were given the opportunity of distinguishing between Phases I and II regarding the composition of groups (Table 7.43). Although the majority said that there should be no differences between the two Phases, a few differences between the opinions of first and second year students on other items about the composition of groups can be noted: For example, the first years felt that working with other year groups, ice-breakers, appointing roles to members and a group contract are all very important aspects of group work (items 11, 14, 15 and 18 respectively), whereas no consensus was reached amongst the second years on these items, barring ice-breakers, which they felt were not important. There was also a difference in the opinions on the lifetime of groups (cf. Table 7.24).

Table 7.44 Reasons for preferring differences between Phase I and II regarding group composition (item 20b)

	1st years (n=6)	2nd years (n=10)	Staff (n=2)
Groups should be smaller in Phase II	-	3	-
Groups should be larger in Phase II	-	3	-
Students must choose groups themselves in Phase II	1	1	-
Students must not choose groups themselves in Phase I	1	-	-
Groups must change if necessary	4	1	1
Groups must not change	-	3	-
Need guidance regarding the composition of groups in Phase I	-	-	1

Respondents were asked to specify the differences between Phases I and II if they indicated that there should be differences (Table 7.44). Although this question was not applicable to the first year students, a few did provide comments to this question. A few second year students indicated that the size should be different between Phase I and II. However, they had contrasting opinions, not only about this aspect, but also regarding the method of composition and the lifetime of groups, as is clear from Table 7.44. However, relatively few students commented on the possible differences between Phase I and II, and therefore one could accept the majority votes of the first and second years respectively for the involved items (cf. Table 7.4 (size of groups), Table 7.20 (method to form groups) and Table 7.24 (lifetime of groups)). The comment of the staff member about the need for guidance regarding the composition of groups for Phase I should be addressed by the outcome of this research study.

7.1.2.2 Training on group work

Table 7.45 The importance of student orientation for group work (item 21)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	50.9	Very important
2nd year students	73	4-5	56.2	Very important
Staff	30	4-5	86.7	Very important

All respondents regarded it as very important that students should be orientated for group work (Table 7.45). It is, however, surprising that only just more than 50% of the students for both groups regarded this as very important.

Table 7.46 The importance of training for lecturers and facilitators for group work (item 22)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	65.3	Very important
2nd year students	73	4-5	86.3	Very important
Staff	30	4-5	73.3	Very important

Again, it is not surprising that all the groups regarded it as very important to train staff for group work (Table 7.46). However, it is interesting to note that many more students thought that training for staff is very important than orientation of students (cf. Table 7.45).

Table 7.47 The importance of training for students and staff which is in line with each other (item 23)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	70.9	Very important
2nd year students	73	4-5	80.8	Very important
Staff	29	4-5	75.9	Very important

All three groups of respondents agreed that training would be useless if the contents for students and staff did not correlate (Table 7.47).

Table 7.48 The importance of training mentors regarding the group process (item 24)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	59.3	Very important
2nd year students	73	4-5	57.5	Very important
Staff	30	4-5	63.3	Very important

Although all three groups again agreed that training of mentors is very important (Table 7.48), the percentage of respondents who rated this item as very important, is markedly lower than those who did so for training of students, lecturers and facilitators (cf. Table 7.45 and Table 7.46).

Table 7.49 The importance of having a complete guide on group work available (item 25)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	43.2	Very important
2nd year students	73	1-2	42.5	Not important
Staff	30	4-5	70.0	Very important

Although the first years regarded it as very important to have a guide on group work available, less than 50% of them chose points four or five of the Likert scale. It is therefore clear that many did not regard this item as very important, and the same applies for the second years (Table 7.49). This is surprising because one would think that students would want to have a

reference source regarding group work to consult when necessary. The students probably felt that nobody would read it (as one student commented on item 57). The staff probably felt that they could use such a reference source since none exists at the moment, and many members of staff have not yet had the opportunity to attend training sessions due to time constraints.

Table 7.50 The importance of repeating certain aspects in the training of students (item 26)

	n	Most-endorsed option	%	Result
1st year students	118	1-2	44.9	Not important
2nd year students	73	1-2	50.7	Not important
Staff	29	4-5	62.1	Very important

It is interesting to note that both the student groups thought that it is not important to repeat aspects of their training, whereas the staff thought it very important (Table 7.50).

Table 7.51 The preferred time to repeat aspects in the training of students (item 26b)

	n	Most-endorsed option	%
1st year students	79	Beginning of each study year	43.0
2nd year students	48	Beginning of each study year	45.8
Staff	28	Beginning of each semester	46.4

It is also interesting to note that, in spite of the fact that the majority of students did not regard it as important that certain aspects in the training on group work should be repeated (cf. Table 7.50), almost two thirds of both groups responded to the question when these aspects should be repeated. Of those who did respond, almost 50% preferred it to happen at the beginning of each year (Table 7.51). The staff probably realised the need for more training, since the majority preferred it at the beginning of each semester.

Items 27-49 in the questionnaire provided the opportunity to distinguish between students, lecturers and facilitators regarding certain aspects (contents) of the training for group work. Therefore, for each item, the responses of the three respondent groups are indicated separately for the training of students, lecturers and facilitators.

Table 7.52 The importance of training in the significance and advantages of group work (item 27)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	61.0	Very important
2nd year students	73	4-5	69.9	Very important
Staff	30	4-5	73.3	Very important
	FOR LECTURERS			
1st year students	118	4-5	47.5	Very important
2nd year students	73	4-5	64.4	Very important
Staff	30	4-5	66.7	Very important
	FOR FACILITATORS			
1st year students	118	4-5	54.2	Very important
2nd year students	73	4-5	60.3	Very important
Staff	30	4-5	66.7	Very important

It is interesting to note that relatively more first year students regarded it as important for students to know the significance and advantages of group work, than for lecturers and facilitators (Table 7.52). They probably did not realise that these aspects of group work are not always obvious to staff members.

Table 7.53 The importance of training in the objectives of group work (item 28)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	117	4-5	77.8	Very important
2nd year students	73	4-5	80.8	Very important
Staff	30	4-5	76.7	Very important
	FOR LECTURERS			
1st year students	118	4-5	67.0	Very important
2nd year students	73	4-5	75.3	Very important
Staff	30	4-5	76.7	Very important
	FOR FACILITATORS			
1st year students	118	4-5	67.8	Very important
2nd year students	73	4-5	72.6	Very important
Staff	30	4-5	80.0	Very important

It is not surprising that all respondents regarded it as important for students, lecturers and facilitators to know the objectives of group work (Table 7.53), since group work would not be successful without the role-players knowing this.

Table 7.54 The importance of training in the principles and conditions for successful group work (item 29)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	69.5	Very important
2nd year students	73	4-5	64.4	Very important
Staff	30	4-5	73.3	Very important
	FOR LECTURERS			
1st year students	118	4-5	58.5	Very important
2nd year students	73	4-5	60.3	Very important
Staff	30	4-5	73.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	67.0	Very important
2nd year students	73	4-5	50.7	Very important
Staff	30	4-5	80.0	Very important

It is interesting to note that only just more than 50% of the second year students regarded training in the conditions and principles of group work as very important for facilitators. This does not really make sense, since the successful outcome of group work could be influenced to a great extent by the facilitators' input, as realised by the staff members and illustrated by the high percentage of them who rated this item as very important for facilitators (Table 7.54).

Table 7.55 The importance of training in group dynamics (item 30)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	68.6	Very important
2nd year students	73	4-5	61.6	Very important
Staff	30	4-5	60.0	Very important
	FOR LECTURERS			
1st year students	118	1-2 4-5	33.1 37.3	No consensus
2nd year students	73	4-5	41.1	Very important
Staff	30	4-5	53.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	44.1	Very important
2nd year students	73	4-5	42.5	Very important
Staff	30	4-5	63.3	Very important

More respondents indicated that training in group dynamics is very important for students than for staff (Table 7.55). Although one can understand their opinions regarding lecturers (since the main role of the lecturer is to design the group-work session and present the introductory lecture), one would have expected that, more students especially would regard this aspect of training as very important for facilitators. It is, after all, the facilitators who assist students personally with group work.

Table 7.56 The importance of training in effective communication and social skills (item 31)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	71.2	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	70.0	Very important
	FOR LECTURERS			
1st year students	118	4-5	56.8	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	63.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	59.3	Very important
2nd year students	73	4-5	65.8	Very important
Staff	30	4-5	63.3	Very important

It is encouraging that many students and staff said that lecturers and facilitators also need training in communication and social skills because staff members often lack these skills, and since group work involves more personal interaction between students and staff, the latter also need appropriate skills (Table 7.56).

Table 7.57 The importance of training in the ways to analyse interaction within a group (item 32)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	58.5	Very important
2nd year students	73	4-5	58.9	Very important
Staff	30	1-2 4-5	36.7 36.7	No consensus
	FOR LECTURERS			
1st year students	118	4-5	56.8	Very important
2nd year students	73	4-5	56.2	Very important
Staff	30	4-5	56.7	Very important
	FOR FACILITATORS			
1st year students	118	4-5	59.3	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	70.0	Very important

It is surprising to note that the staff members did not reach consensus regarding the importance of training students in the ways to analyse interaction in a group, whereas 70% thought it is important for facilitators to know this (Table 7.57). One would have expected them to regard it as important to involve students in evaluating the interaction in a group.

Table 7.58 *The importance of training in the ways to identify and handle problems in a group (item 33)*

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	82.2	Very important
2nd year students	73	4-5	76.7	Very important
Staff	30	4-5	56.7	Very important
	FOR LECTURERS			
1st year students	118	4-5	51.7	Very important
2nd year students	73	4-5	53.4	Very important
Staff	30	4-5	63.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	60.2	Very important
2nd year students	73	4-5	57.5	Very important
Staff	30	4-5	70.0	Very important

Relatively more students regarded it as important for students to know how to identify and address problems in a group, than for staff, and the opposite is true for the staff (Table 7.58). However, relatively fewer respondents rated this aspect of training as important for lecturers, in comparison with students and facilitators. One could probably accept that facilitators need this skill more than lecturers do, because they have more personal contact with the groups.

Table 7.59 *The importance of training in the value of maintaining the group process (item 34)*

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	117	4-5	71.8	Very important
2nd year students	73	4-5	76.7	Very important
Staff	29	4-5	67.0	Very important
	FOR LECTURERS			
1st year students	117	4-5	51.3	Very important
2nd year students	73	4-5	56.2	Very important
Staff	29	4-5	65.5	Very important
	FOR FACILITATORS			
1st year students	117	4-5	50.4	Very important
2nd year students	73	4-5	54.8	Very important
Staff	29	4-5	75.9	Very important

Again, more students regarded it as very important for students to receive training in the value of maintaining the group process, than for lecturers and facilitators (Table 7.59). They probably did not realise that they would often need assistance with maintaining the group process, and therefore, the relatively high percentage of staff members who rated this item very important for facilitators, is more relevant.

Table 7.60 The importance of training in the role and tasks of the group leader (item 35)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	70.3	Very important
2nd year students	73	4-5	67.1	Very important
Staff	30	4-5	63.3	Very important
	FOR LECTURERS			
1st year students	118	4-5	47.5	Very important
2nd year students	73	1-2 4-5	38.4 43.8	No consensus
Staff	30	4-5	50.0	Very important
	FOR FACILITATORS			
1st year students	118	4-5	48.3	Very important
2nd year students	73	1-2 4-5	39.7 42.5	No consensus
Staff	30	4-5	53.3	Very important

The fact that the second years did not reach consensus on the importance of training in the role and tasks of the group leader for lecturers and facilitators, could be explained by the fact that they probably thought that being group leader was a group affair which had nothing to do with the staff (Table 7.60).

Table 7.61 The importance of training in the different roles which group members may play (item 36)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	117	4-5	68.4	Very important
2nd year students	73	4-5	65.8	Very important
Staff	30	4-5	63.3	Very important
	FOR LECTURERS			
1st year students	117	4-5	37.6	Very important
2nd year students	73	1-2 4-5	38.4 42.5	No consensus
Staff	30	4-5	56.7	Very important
	FOR FACILITATORS			
1st year students	117	4-5	40.2	Very important
2nd year students	73	4-5	42.5	Very important
Staff	30	4-5	53.3	Very important

Fewer students again rated it very important for lecturers and facilitators to receive training on the roles of group members, while the second years did not even reach consensus on its importance for lecturers (Table 7.61). This is probably not such an issue for lecturers, but facilitators do need to understand the roles of group members in order to assist groups with the group process.

Table 7.62 Students' knowledge about their roles as group members (item 36b)

	n	Most-endorsed option	%
1st year students	117	Yes	51.3
2nd year students	73	Yes	68.5
Staff	n/a	n/a	n/a

The majority of both groups of students answered in the affirmative to the question of whether they knew what their roles as group members were, although it is somewhat of concern that the percentage of students who did so, was not larger (Table 7.62).

Table 7.63 Students' preference for determining their roles as group members (item 36c)

	n	Most-endorsed option	%
1st year students	116	Yes	80.2
2nd year students	72	Yes	83.3
Staff	n/a	n/a	n/a

It is not surprising that such a great percentage of students preferred to determine their roles as group members themselves, and one would even have expected even more students to do so (Table 7.63). However, it would have been interesting to know whether the students who did not want to determine their roles themselves, wanted their fellow group members or the staff to do it.

Table 7.64 The importance of training in the characteristics of effective and ineffective group members (item 37)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	66.1	Very important
2nd year students	73	4-5	67.1	Very important
Staff	30	4-5	56.7	Very important
	FOR LECTURERS			
1st year students	118	4-5	48.3	Very important
2nd year students	73	4-5	45.2	Very important
Staff	30	4-5	63.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	53.4	Very important
2nd year students	73	4-5	43.8	Very important
Staff	30	4-5	76.7	Very important

Not as many students regarded it as very important for lecturers and facilitators to know the characteristics of effective and ineffective groups than for themselves, while fewer staff members did so for students (Table 7.64). The latter response would probably be more of concern, since students would not be able to evaluate their group work properly without knowledge of effective and ineffective groups and group members.

Table 7.65 The importance of training in strategies to improve the effectiveness of a group (item 38)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	78.0	Very important
2nd year students	73	4-5	79.5	Very important
Staff	30	4-5	56.7	Very important
	FOR LECTURERS			
1st year students	117	4-5	55.6	Very important
2nd year students	73	4-5	58.9	Very important
Staff	30	4-5	70.0	Very important
	FOR FACILITATORS			
1st year students	117	4-5	59.8	Very important
2nd year students	73	4-5	61.6	Very important
Staff	30	4-5	83.3	Very important

More students regarded training in strategies to improve the effectiveness of a group as very important for themselves than for staff, but the opposite was true for the staff (Table 7.65). Only five staff members chose point 1 of the scale and none chose point 3 for the facilitators' training in this aspect. They obviously regarded this as very important for facilitators. It is not clear why more staff members did not rate this item as very important for students.

Table 7.66 The importance of training in the ways to plan and conduct a group-work session (item 39)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	62.7	Very important
2nd year students	73	4-5	61.6	Very important
Staff	30	1-2	50.0	Not important
	FOR LECTURERS			
1st year students	118	4-5	64.4	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	83.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	70.3	Very important
2nd year students	73	4-5	64.4	Very important
Staff	30	4-5	80.0	Very important

The fact that 50% of the staff thought that it is not important for students to know about ways to plan and conduct a group-work session, could suggest that the statement was unclear and that staff thought it was only applicable to lecturers and facilitators (Table 7.66). However, students also need to plan how they should do group work and actually do it (i.e., conducting a group-work session).

Table 7.67 *The importance of training in ways to plan and conduct a group task (item 40)*

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	86.4	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	66.7	Very important
	FOR LECTURERS			
1st year students	118	4-5	59.3	Very important
2nd year students	73	4-5	53.4	Very important
Staff	30	4-5	76.7	Very important
	FOR FACILITATORS			
1st year students	118	4-5	62.7	Very important
2nd year students	73	4-5	50.7	Very important
Staff	30	4-5	70.0	Very important

Not as many students regarded it as very important for lecturers and facilitators to know how to plan and conduct a group task than for themselves. Again, the opposite is true for the staff (Table 7.67). Although the students actually do the group tasks, lecturers design them and facilitators assist students with their tasks. The item was thus probably misleading, since it did not include the design of group tasks (item 51 was included in the questionnaire for this purpose).

Table 7.68 *The importance of training in the reasons why a variety of group-work methods should be used (item 41)*

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	62.7	Very important
2nd year students	73	4-5	56.2	Very important
Staff	30	1-2	43.3	Not important
	FOR LECTURERS			
1st year students	118	4-5	53.4	Very important
2nd year students	73	4-5	53.4	Very important
Staff	30	4-5	66.7	Very important
	FOR FACILITATORS			
1st year students	118	4-5	54.2	Very important
2nd year students	73	4-5	52.1	Very important
Staff	30	4-5	60.0	Very important

Although the staff regarded it as not important for students to know why a variety of group-work methods should be used, most students thought it is very important for themselves to know this (Table 7.68).

Table 7.69 The importance of training in the different methods which could be used for group work (item 42)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	58.5	Very important
2nd year students	73	4-5	50.7	Very important
Staff	30	1-2	46.7	Not important
	FOR LECTURERS			
1st year students	118	4-5	50.0	Very important
2nd year students	73	4-5	52.1	Very important
Staff	29	4-5	65.5	Very important
	FOR FACILITATORS			
1st year students	118	4-5	54.2	Very important
2nd year students	73	4-5	49.3	Very important
Staff	30	4-5	60.0	Very important

In spite of the fact that the majority of respondents thought that it is important to know why a variety of group-work methods should be used (cf. Table 7.68), and that the majority also indicated that it is important to know which methods could be used (Table 7.69), the numbers of respondents who did so are low. This could probably be imputed to the fact not many different methods are currently being used during group-work sessions, and that respondents therefore could not relate well to these items. It is also noteworthy that a large proportion of the staff though that it was not important for students to be trained in different group-work methods. This may be because lecturers normally choose the group-work method when designing the group-work session, and the type of group work method is thus "forced" on the students, obviating their need to make informed choices.

Table 7.70 The importance of training in the necessity of regular assessment of the group task (item 43)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	55.9	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	56.7	Very important
	FOR LECTURERS			
1st year students	118	4-5	55.1	Very important
2nd year students	73	4-5	57.5	Very important
Staff	30	4-5	63.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	55.1	Very important
2nd year students	73	4-5	54.8	Very important
Staff	30	4-5	60.0	Very important

Although the majority of respondents regarded it as very important for students, lecturers and facilitators to realise the necessity of assessing the group process (Table 7.70), the responses to the "assessment" section of the questionnaire (cf. 7.1.2.5) indicated that mixed feelings existed

amongst the respondents regarding the assessment of group tasks (cf. items 92, 95, 106, 112, 115 and 119).

Table 7.71 The importance of training in the necessity of regular assessment of the group process (item 44)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	50.9	Very important
2nd year students	73	4-5	50.7	Very important
Staff	30	4-5	50.0	Very important
	FOR LECTURERS			
1st year students	118	4-5	44.1	Very important
2nd year students	73	4-5	48.0	Very important
Staff	30	4-5	50.0	Very important
	FOR FACILITATORS			
1st year students	118	4-5	43.2	Very important
2nd year students	73	4-5	45.2	Very important
Staff	30	4-5	56.7	Very important

The responses to the importance of the need for assessing the group process (Table 7.71) could be regarded in the same light as those to the assessment of the group task (cf. Table 7.70). The opinions on items regarding the assessment of the group process in the "assessment" section (cf. items 92, 96, 97, 100, 107 and 119), indicated that no consensus existed amongst the respondents on the importance of assessment of the group process, although respondents regarded it as less important than the assessment of the group task (cf. 7.1.2.5).

Table 7.72 The importance of training in the different learning styles that students might possess (item 45)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	75.4	Very important
2nd year students	73	4-5	65.8	Very important
Staff	30	4-5	53.3	Very important
	FOR LECTURERS			
1st year students	118	4-5	62.7	Very important
2nd year students	73	4-5	46.6	Very important
Staff	30	4-5	56.7	Very important
	FOR FACILITATORS			
1st year students	118	4-5	57.6	Very important
2nd year students	73	4-5	41.1	Very important
Staff	30	4-5	56.7	Very important

Again more students regarded it as very important for themselves than for staff to receive training in the different learning styles that students might possess, although one would have at least expected more students to rate it very important for facilitators (Table 7.72). Furthermore,

the percentage of staff that regarded this item as very important for the different groups was relatively low.

Table 7.73 The importance training in the skills that students develop through doing group work (item 46)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	77.1	Very important
2nd year students	73	4-5	74.0	Very important
Staff	30	4-5	66.7	Very important
	FOR LECTURERS			
1st year students	118	4-5	53.4	Very important
2nd year students	73	4-5	52.1	Very important
Staff	30	4-5	60.0	Very important
	FOR FACILITATORS			
1st year students	118	4-5	52.5	Very important
2nd year students	73	4-5	49.3	Very important
Staff	30	4-5	63.3	Very important

Although rated as very important for all groups by the majority of respondents, one would have expected that more respondents (especially students) would do so for staff members, since lecturers need to be aware of the skills that students develop during group work, so as to design appropriate group-work sessions and group tasks, and facilitators have to assist students with developing these skills (Table 7.73).

Table 7.74 The importance of training in the advantages and conditions of co-operative learning (item 47)

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	83.9	Very important
2nd year students	73	4-5	72.6	Very important
Staff	30	4-5	63.3	Very important
	FOR LECTURERS			
1st year students	118	4-5	59.3	Very important
2nd year students	73	4-5	54.8	Very important
Staff	30	4-5	60.0	Very important
	FOR FACILITATORS			
1st year students	118	4-5	56.8	Very important
2nd year students	73	4-5	48.0	Very important
Staff	30	4-5	60.0	Very important

Although fewer students thought it is very important for staff to know the advantages and conditions of co-operative learning, than for themselves, it would probably be appropriate for staff members to be aware of these aspects, since this would assist them in understanding the rationale behind using group work as an instructional method. It is therefore encouraging that

the majority of staff members did rate this item as very important for themselves and for students (Table 7.74).

Table 7.75 *The importance of training in ways in which participation and discussion of members within a group could be improved (item 48)*

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	83.9	Very important
2nd year students	73	4-5	75.3	Very important
Staff	30	4-5	66.7	Very important
	FOR LECTURERS			
1st year students	118	4-5	57.6	Very important
2nd year students	73	4-5	54.8	Very important
Staff	30	4-5	63.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	64.4	Very important
2nd year students	73	4-5	56.2	Very important
Staff	30	4-5	60.0	Very important

One would, once again, have expected more respondents to regard it as very important for facilitators to know how participation and discussion in groups could be improved. It is also surprising that more staff members did not think it important for students to know how they could improve interaction in their groups (Table 7.75).

Table 7.76 *The importance of training in the need for a positive attitude during training (item 49)*

	n	Most-endorsed option	%	Result
	FOR STUDENTS			
1st year students	118	4-5	83.1	Very important
2nd year students	73	4-5	79.5	Very important
Staff	30	4-5	73.3	Very important
	FOR LECTURERS			
1st year students	118	4-5	66.1	Very important
2nd year students	73	4-5	68.5	Very important
Staff	30	4-5	73.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	67.8	Very important
2nd year students	73	4-5	74.0	Very important
Staff	30	4-5	70.0	Very important

It was regarded as very important for students, lecturers and facilitators to realise the need for a positive attitude towards group work (Table 7.76). The relatively high percentages of respondents from the different groups who did so, emphasis the importance of this aspect of training, especially in the light of the prevailing attitudes towards group work (cf. Table 7.77).

Table 7.77 The attitudes of the students and staff towards group work (item 49b)

	1st years n=114	2nd years n=70	Staff n=28
Positive	30	28	7
Positive on condition:			
groups must be smaller	2	3	-
must not evaluate group tasks	-	2	-
only if all co-operate	2	4	-
follow principles/conditions	1	-	2
appropriate assignments/tasks	-	5	-
if lecturers know how to use group work	1	2	-
if feedback is provided	1	1	-
must not be forced – students should decide when group work is done	1	1	1
only if allowed to choose own group	1	-	-
if subject is appropriate for group work	3	-	1
group work not yet optimal	1	1	1
not enough time available for group work	-	-	3
must not overemphasise group work	-	1	1
exclude negative members	1	1	-
if it serves a real purpose	1	-	-
if it is constructive or fun	1	-	-
only for some subjects	3	5	1
Neutral	2	2	-
Mixed feelings:			
not specified	1	3	2
sometimes helpful, sometimes frustrating	-	2	-
quasi-positive	2	-	1
sometimes works, sometimes not	-	2	-
has potential but does not work at the moment	-	1	-
students still work individually a lot	6	-	-
depends on students' attitudes	1	-	-
not enough facilitators available	-	-	1
not used to it, but may have potential	-	-	1
Negative	27	7	4
Negative with reason:			
each student still works on his own	4	-	-
groups are too large	7	1	-
not appropriate in certain modules	2	-	1
group work is a waste of time	3	2	-
no feedback is provided	2	3	-
no resources available	2	1	-
group work is boring	-	1	-
inappropriate tasks	1	1	-
dysfunctional groups	3	3	-
students must choose to do group work	-	1	1
members give wrong answers	1	-	-
one member does all the work	-	1	-
work better on my own	4	1	-

Looking at the different comments of the students and staff about their attitude towards group work (Table 7.77), it is very clear that a large percentage of them felt negative about group work.

One second year student, who said that a positive feeling towards group work is only experienced when appropriate tasks or assignments are given, suggested more discussion questions, and one argued that case studies work best in a group-work set-up. One of the staff members who had mixed feelings about group work, noted that the reason for this was that it is an unfamiliar instructional method. Two second year students who felt negative about group work commented on the structure of group work – one said there is too much structure and one said there is too little structure. One of the reasons provided for students still working on their own during group-work sessions, is that it takes longer to complete a task in the group. A few examples of dysfunctional groups were also mentioned as a reason for feeling negative about group work, including pride amongst group members, members who underestimate fellow members, and lack of communication in a group.

Since there was an almost 100% response rate amongst the students for the opinion survey, and nearly all responded to the question about their attitudes towards group work (Table 7.77), it is clear that many more students were negative about group work than were positive. Much the same can be said for the staff members. While only 30 of the 60 staff members involved in group work completed questionnaires, a full 28 of those responded to the opportunity to express their attitudes to group work, and it is clear that many of them also experienced negative feelings about group work in some or other way. These negative attitudes are confirmed by the results of the evaluation of implementation of the M.B.,Ch.B.-learning programme (cf. 1.2).

Table 7.78 A summary of the attitudes of the students and staff towards group work

	n	% Positive	% Positive on condition	% Mixed feelings	% Negative
1st years	114	26.3	16.7	10.5	49.1
2nd years	70	40.0	37.1	14.3	31.4
Staff	28	25.0	35.7	17.9	21.4

Table 7.78 presents a summary of the attitudes of students and staff towards group work. The students who felt neutral about group work were included in the "mixed feelings" category. It is clear that a great percentage of students and staff felt negative about group work.

Items 50-56 in the questionnaire provided the opportunity for respondents to rate the importance of the specific aspects (contents) in the training for lecturers and facilitators. The responses are thus indicated separately for lecturers and facilitators to allow comparison.

Table 7.79 *The importance of training in the choice of a group-work method for a group-work session (item 50)*

	n	Most-endorsed option	%	Result
	FOR LECTURERS			
1st year students	114	4-5	77.2	Very important
2nd year students	72	4-5	68.1	Very important
Staff	29	4-5	75.9	Very important
	FOR FACILITATORS			
1st year students	115	4-5	71.3	Very important
2nd year students	72	4-5	61.1	Very important
Staff	29	4-5	58.6	Very important

It is appropriate that relatively more respondents regarded it as very important for lecturers than for facilitators to be trained in the choice of a group-work method for the group-work session, since, at the UFS, it is the lecturers' duty to design group-work sessions and therefore to decide upon the specific method used during the sessions (Table 7.79).

Table 7.80 *The importance of training in the compilation and formulation of group tasks for group-work sessions (item 51)*

	n	Most-endorsed option	%	Result
	FOR LECTURERS			
1st year students	118	4-5	83.1	Very important
2nd year students	73	4-5	82.2	Very important
Staff	29	4-5	82.8	Very important
	FOR FACILITATORS			
1st year students	117	4-5	64.1	Very important
2nd year students	73	4-5	71.2	Very important
Staff	29	4-5	58.6	Very important

As for item 50 (cf. Table 7.79), more respondents appropriately regarded it as very important for lecturers than for facilitators to receive training in the compilation and formulation of tasks for group work, probably for similar reasons (Table 7.80).

Table 7.81 *The competency of the staff to compile group tasks without any further training (item 51b)*

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	n/a	n/a	n/a
Staff	30	No	63.3

Staff were asked whether they thought they were competent enough to compile tasks for group work without further training, and a high percentage of them answered negatively (Table 7.81). This is of concern and this aspect should receive urgent attention during training sessions.

Table 7.82 The importance of training in the necessity of regular feedback to students on group work (item 52)

	n	Most-endorsed option	%	Result
	FOR LECTURERS			
1st year students	118	4-5	89.8	Very important
2nd year students	73	4-5	94.5	Very important
Staff	30	4-5	73.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	76.3	Very important
2nd year students	73	4-5	91.8	Very important
Staff	30	4-5	80.0	Very important

Very high percentages of respondents regarded it as very important to address the necessity to provide feedback to students on group work, during the training of both lecturers and facilitators (Table 7.82).

Table 7.83 The provision of feedback to students by the staff (item 52b)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	n/a	n/a	n/a
Staff	30	Yes No	50.0 50.0

It is of concern that only 50% of the staff claimed that they provided feedback (Table 7.83), in spite of the fact that many respondents (including the staff) thought that it is very important for lecturers and facilitators to be aware of the importance of feedback (cf. Table 7.82). This aspect should therefore receive more attention during training of staff.

Table 7.84 The importance of training in appropriate assessment techniques (item 53)

	n	Most-endorsed option	%	Result
	FOR LECTURERS			
1st year students	118	4-5	76.3	Very important
2nd year students	73	4-5	69.9	Very important
Staff	30	4-5	76.7	Very important
	FOR FACILITATORS			
1st year students	118	4-5	66.1	Very important
2nd year students	73	4-5	67.1	Very important
Staff	30	4-5	70.0	Very important

Many respondents thought it is very important for lecturers and facilitators to be aware of the appropriate techniques with which to assess group work (Table 7.84). This is indeed necessary, since this assessment does not only involve assessing knowledge, but also skills and attitudes, and appropriate techniques are not always evident.

Table 7.85 The importance of training in the role of a group-work facilitator (item 54)

	n	Most-endorsed option	%	Result
	FOR LECTURERS			
1st year students	117	4-5	62.4	Very important
2nd year students	73	4-5	71.2	Very important
Staff	30	4-5	63.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	82.2	Very important
2nd year students	73	4-5	84.9	Very important
Staff	30	4-5	86.7	Very important

Appropriately, more respondents regarded it as very important for facilitators than for lecturers to receive training in the role of facilitators (Table 7.85). However, at the UFS most lecturers also act as facilitators for other lecturers, which implies that all staff members eventually should receive training in this regard.

Table 7.86 The importance of training in the skills necessary to facilitate groups effectively (item 55)

	n	Most-endorsed option	%	Result
	FOR LECTURERS			
1st year students	118	4-5	75.4	Very important
2nd year students	73	4-5	74.0	Very important
Staff	30	4-5	73.3	Very important
	FOR FACILITATORS			
1st year students	118	4-5	85.6	Very important
2nd year students	73	4-5	86.3	Very important
Staff	30	4-5	86.7	Very important

Again, more respondents regarded it as very important for facilitators than for lecturers to receive training in facilitation skills (Table 7.86). It is, however, interesting to note that more respondents thought that it very important for lecturers to receive training in facilitation skills than in the role of the facilitator (cf. Table 7.85).

Table 7.87 The importance of training in ways to assist students with self-assessment of the group process and task (item 56)

	n	Most-endorsed option	%	Result
	FOR LECTURERS			
1st year students	118	4-5	78.0	Very important
2nd year students	73	4-5	74.0	Very important
Staff	30	4-5	70.0	Very important
	FOR FACILITATORS			
1st year students	118	4-5	78.8	Very important
2nd year students	73	4-5	76.7	Very important
Staff	30	4-5	80.0	Very important

The majority of students and staff thought it very important for facilitators and lecturers to know how to assist groups with self-assessment (Table 7.87).

Table 7.88 Additional comments on the training of students and staff on group work (item 57)

FOR STUDENTS	1st years (n=27)	2nd years (n=14)	Staff (n=8)
Must be different for different modules	1	-	2
Less orientation – know basics already	1	1	-
Less orientation – learn through experience	4	-	1
No orientation necessary	2	2	-
Too much orientation	2	1	1
The orientation is not effective	-	-	1
The orientation must be more interesting	3	1	-
Students must be equipped to do group work themselves	-	-	1
Important aspects of orientation:			
the importance of group work	1	-	-
guidelines for functioning of group work	1	-	-
how to plan or conduct a group task	1	-	-
students must take responsibility for participation		-	1
attitude towards group work		1	-
FOR LECTURERS			
Must receive training from somebody who knows	-	-	1
Important aspects of training:			
how to formulate group tasks	-	2	1
how to make sessions effective and interesting	1	1	-
how to teach	1	1	-
the importance of feedback	3	6	-
their attitude/motivation towards group work	1	1	1
assessment of group work/the awarding of marks	-	-	1
how to allocate time for group work	-	-	1
FOR FACILITATORS			
They do not know enough	1	-	-
They must have better skills	1	-	-
They must focus on group as a whole	1	-	-
They must detect and help dysfunctional groups	1	-	-
OTHER ASPECTS			
A guide is unnecessary – nobody will read it	1	-	-
Feedback at the end of Phase I – to discuss what works and what not	-	1	2
Too many things happen simultaneously in the Faculty	-	-	1
All new students and lecturers must get full training on group work	-	-	1

Quite a few students indicated that they thought that the students received too much orientation (Table 7.88). However, the majority indicated that it is very important for students to be orientated regarding group work (cf. Table 7.45), although most of them thought that it is not

important to repeat some aspects of the orientation (Table 7.50). This could explain the comments about too much orientation. The comments mentioned on the orientation of students confirm the importance of items 27, 29, 40, 48 and 49 in the "training" section of the questionnaire. The comments about training for staff also confirm the importance of items 49, 50, 51, 52, 55 and 74. The remarks about the training for facilitators indicate that some respondents did not think that facilitators were well equipped for the job, and this should be taken note of by the Faculty and the persons responsible for training of staff.

Table 7.89 The sufficiency of the training of students and staff on group work (item 57b)

	n	Most-endorsed option	%
1st year students	114	Yes	69.3
2nd year students	69	Yes	88.4
Staff	28	No	71.4

Respondents were asked whether they thought that they had received sufficient training on group work and it is very interesting to note that most first and second year students thought that they did, whereas a high percentage of staff did not think so (Table 7.89). This could probably be explained by the fact that staff members often experience time constraints and can therefore not attend training sessions readily (as mentioned before) and there is thus a need for more training opportunities amongst the staff. There is also a possibility that the training sessions were not sufficient in addressing the various aspects of group work comprehensively. On the other hand, most students did not feel a need for repeating any aspects in their training (cf. Table 7.50).

Table 7.90 Suggested aspects to repeat in the training of students on group work (item 58)

	1st years (n=41)	2nd years (n=15)	Staff (n=14)
Introduction to group work:			
the importance of group work	6	1	2
the purpose of group work	2	-	2
advantages of group work	1	1	-
skills developed through group work	-	1	-
what is expected of groups	1	-	-
attitudes towards group work	-	2	-
Group members:			
opportunity to get to know group members	-	1	1
interaction between group members	1	2	-
equality between group members	2	-	-
allocation of tasks/roles to members	9	2	-
responsibilities of group members	1	1	-
functions of the group leader	-	1	-
Group process:			
group dynamics	-	-	1
maintaining the group process	-	-	1
effective functioning of groups	-	1	-
interpersonal relations	-	-	1
handling of conflict	1	1	2
how to cope with cultural differences	2	-	-
how to cope with people who do not have the same level of intelligence	1	-	-
group cohesion	2	-	-
the group contract	2	-	-
Group task: planning and conducting group-work sessions	7	-	1
how to stay focused during group work	1	-	-
learning styles of students	-	1	-
discussion/co-operation amongst group members	4	1	1
all members must contribute	2	2	1
communication skills	6	3	2
problem-solving	1	1	1
presentation skills	1	-	-
Other: evaluation of group performance	-	1	-
a short course on everything	1	-	1

Table 7.90 presents a summary of aspects that need to be repeated in the training of students on group work. Although most first and second year students did not regard it as important to repeat aspects of their training (cf. Table 7.50), quite a few responded to the opportunity to mention aspects which they thought should be repeated. Three first year students emphasised that students should be motivated to do group work by pointing out the importance of group work for their careers (confirming the importance of item 27). It is interesting to note that relatively many first years (34.7%) mentioned aspects of the training which should be repeated,

which appears as if they had the need for more training, although the majority indicated that they had received sufficient training (cf. Table 7.89).

Table 7.91 Differences between Phases I and II regarding training for group work (item 59)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	72	No	84.7
Staff	8	No	62.5

The majority of the respondents indicated that there should not be any differences in the training on group work between Phases I and II (Table 7.91), which was confirmed by the relatively few suggestions made on how training between the two Phases should differ (cf. Table 7.92). However, looking at the responses to item 58 (cf. Table 7.90), the first and second years suggested different aspects of training which they wanted to be repeated, which could reflect different needs amongst them.

Table 7.92 Reasons for preferring differences between Phase I and II regarding training for group work (item 59b)

	1st years (n=0)	2nd years (n=3)	Staff (n=1)
In Phase II, students should know how to tackle case studies	-	1	-
Group work in Phase II should be based on experience from Phase I	-	1	-
Students in Phase II need more training regarding group work	-	1	-
Group work in Phase II must be natural	-	-	1

The few respondents who commented on possible differences between Phases I and II regarding training for group work, could indicate that Phase I and II need not be different from each other regarding the training of students (Table 7.92). However, if only certain aspects of the training are repeated, training in Phase II will necessarily be different from that in Phase I (cf. Table 7.50).

7.1.2.3 Group-work sessions

Table 7.93 The importance of mechanisms to encourage students to prepare for group work (item 60)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	76.3	Very important
2nd year students	73	4-5	75.3	Very important
Staff	30	4-5	80.0	Very important

Lack of preparation is very often the reason why a group-work session is not successful, since no proper discussion can take place if students do not have background knowledge about the topic. It is therefore encouraging that so many respondents, especially students, regarded it as very important that students should be encouraged to prepare for group work (Table 7.93).

Table 7.94 The importance of lecturers knowing the types of assignments for group work, suitable for the different kinds of knowledge that students should acquire (item 61)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	94.1	Very important
2nd year students	73	4-5	95.9	Very important
Staff	30	4-5	93.3	Very important

It is very interesting to note that such high percentages of respondents regarded it as very important for lecturers to know the types of assignments which are suitable for the different kinds of knowledge that students should acquire (Table 7.94). It could indicate the need of both students and staff for appropriate group tasks to achieve the outcomes of group work.

Table 7.95 The importance of suitable assignments for the purpose of a group-work session (item 62)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	94.9	Very important
2nd year students	73	4-5	93.2	Very important
Staff	30	4-5	90.0	Very important

Once again the very high number of respondents who thought that suitable assignments for the purpose of group-work sessions are very important, could indicate the strong need for appropriate group tasks (Table 7.95). Of the second years, only five students chose point 3 of the scale and none chose points 1 and 2 for this item.

Table 7.96 The importance of clear assignments and outcomes for group work (item 63)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	97.5	Very important
2nd year students	73	4-5	98.6	Very important
Staff	30	4-5	86.7	Very important

The vast majority of respondents regarded clear assignments and outcomes for group work as very important, which could indicate the need, of especially the students, for clarity on what is expected from them during group work (Table 7.96). Only three of the first years and one of the second years chose point 3 of the scale, and none of the students chose points 1 and 2 of the scale for this item.

Table 7.97 The importance of tasks that enhance co-operation and discussion amongst group members (item 64)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	81.4	Very important
2nd year students	73	4-5	80.8	Very important
Staff	30	4-5	76.7	Very important

Although the importance of tasks that enhance co-operation amongst group members received a very high rating in terms of importance from most of the respondents (Table 7.97), it is interesting to note that not as many regarded it as very important to address the issue of improving participation and discussion within groups during training sessions (cf. Table 7.75).

Table 7.98 The knowledge of the staff regarding tasks that enhance co-operation amongst group members (item 64b)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	n/a	n/a	n/a
Staff	27	Yes	66.7

It is indeed interesting that the majority of staff claimed that they did know what tasks entail that enhance co-operation amongst group members (Table 7.98). The relatively negative attitudes of students towards group work (Table 7.77) could be an indication that, although the staff members probably did know what these tasks entail, they did not always succeed in designing such tasks successfully in practice (as they indicated in item 64c – cf. Table 7.99). This could also account for the fact that many students and staff did not regard group work as a useful instructional method (cf. 1.2). If the tasks were more appropriate, this researcher is of opinion that the students would have felt more positively about group work.

Table 7.99 The knowledge of staff about how tasks that enhance co-operation amongst group members should be compiled (item 64c)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	n/a	n/a	n/a
Staff	29	No	58.6

The fact that the majority of staff members admitted that they did not know how to compile tasks that enhance co-operation amongst group members (Table 7.99), is indeed a breakthrough in the problem that the Faculty experiences with group work. Furthermore, a very high percentage of respondents also regarded this aspect as very important in the training of lecturers (cf. Table 7.80). If lecturers could be trained properly on how to compile such tasks, some problems related to group work could be eliminated (cf. also comments on item 65, Table 7.100).

Table 7.100 The importance of realistic outcomes for group tasks (item 65)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	95.8	Very important
2nd year students	73	4-5	100.0	Very important
Staff	30	4-5	76.7	Very important

The fact that 100% of the second years and almost just as many first years rated realistic outcomes for group tasks as very important, cannot be ignored (Table 7.100). Especially the lecturers need to take note of this, since they are directly responsible for determining outcomes for group tasks. This could therefore be included as an additional aspect in the training of staff members.

Table 7.101 The importance of a group-work method which supports the purpose of a group-work session (item 66)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	83.9	Very important
2nd year students	73	4-5	89.0	Very important
Staff	30	4-5	80.0	Very important

Although a high percentage of respondents regarded it as very important that the group-work method supports the purpose of the group-work sessions (Table 7.101), not as many thought that a variety of methods should be used for group work (cf. Table 7.102).

Table 7.102 The importance of using a variety of group-work methods for group work (item 67)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	51.7	Very important
2nd year students	73	4-5	50.7	Very important
Staff	30	4-5	43.3	Very important

Although using a variety of group-work methods was regarded as very important by all the groups of respondents, a relatively low percentage of respondents regarded it so (Table 7.102). This correlates with the responses to the item about the importance of knowing why a variety of methods should be used (cf. Table 7.68). However, a large percentage regarded it as very important that the chosen group-work method supports the purpose of the specific group-work session (cf. Table 7.101). This does not make sense, because it would not be possible to achieve the objectives of all the different sessions without using different methods, since no one method is appropriate for all outcomes of group work (cf. 4.3.1.6).

Table 7.103 The importance of doing group work in small as well as large groups (item 68)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	44.9	Very important
2nd year students	73	4-5	50.7	Very important
Staff	30	3	53.3	Important

Low percentages (although the majority) of students regarded it as very important to do group work in small and large groups (Table 7.103). The majority of the staff even chose point 3 of the scale, and it therefore appears as if this item was not regarded as important as many other items on group-work sessions.

Table 7.104 The importance of equal emphasis on the group goal and individual accountability (item 69)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	73.5	Very important
2nd year students	72	4-5	59.7	Very important
Staff	30	4-5	70.0	Very important

It is interesting to note that not as many second year students as other respondent groups thought that equal emphasis on the group goal and individual accountability is very important (Table 7.104). However, all three groups did regard it as very important, which could indicate that they regarded not only the outcome of a group task as very important, but also the fact that all members should contribute towards the completion of the group task during a group-work session.

Table 7.105 The common goal of the group vs. the individual accountability of group members (item 69b)

	n	Most-endorsed option	%
1st year students	110	Individual accountability	50.9
2nd year students	68	Common goal of the group Individual accountability	50.0 50.0
Staff	25	Individual accountability	80.0

Respondents were asked whether they regarded the common goal of the group or individual accountability as more important. It is interesting to note that a very high percentage of staff members regarded individual accountability more important than the common goal of the group, while for the students, the split was just about 50/50 for both year groups (Table 7.105).

Table 7.106 The importance of using a specific number of facilitators during group-work sessions (item 70)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	57.3	Very important
2nd year students	72	4-5	61.1	Very important
Staff	30	4-5	56.7	Very important

Although the majority of respondents thought that it is very important to use a specific number of facilitators during group-work sessions, the involved percentages are relatively low and therefore, this item was also probably not regarded by the respondents as the most important aspect of group work (Table 7.106).

Table 7.107 The sufficiency of the facilitators available for group work at the UFS (item 70b)

	n	Most-endorsed option	%
1st year students	116	No	56.0
2nd year students	72	Yes	54.2
Staff	30	No	80.0

Table 7.107 present the responses to the question of whether the amount of facilitators available for group-work sessions was sufficient at the time of the study. The second years probably thought that the facilitators were sufficient because they were a relatively small class (especially the Afrikaans and English groups separately). On the other hand, the first years were a large class, even when the two language groups were separated, and therefore, their opinion that the facilitators were not sufficient, is expectable. The staff members who acted as facilitators probably experienced difficulties in handling all the different groups, not only because there were many groups, but also because of their relative inexperience in facilitating groups effectively, causing them to spend a lot of time per group.

Table 7.108 The acceptability of facilitators moving around between groups to facilitate group work (item 70c)

	n	Most-endorsed option	%
1st year students	117	Yes	90.6
2nd year students	73	Yes	87.7
Staff	29	Yes	75.9

Students and staff were asked whether they were satisfied with the fact that facilitators moved around between groups to facilitate and the majority indicated that this was acceptable (Table 7.108).

Table 7.109 The preferred number of facilitators for a group-work session (item 70d)

	n	Most-endorsed option	%
1st year students	115	2 per class	51.3
2nd year students	72	2 per class	59.7
Staff	29	2 per class	44.8

Respondents were also asked what the ideal number of facilitators would be for a group-work session and the majority preferred two facilitators per class (Table 7.109). At the UFS, there is usually only one facilitator per class available for group work due to a lack of staff, although two facilitators are present at times. The options provided with this categorised question implied the number of facilitator per language group (i.e., class). However, it is not certain whether the respondents understood it correctly, since all the groups of respondents preferred two facilitators per class. In reality, only one is present per language class, but the second years regarded it as sufficient (cf. Table 7.107). This could imply that they thought of the entire second year group as a class, and thus preferred two facilitators, or that they felt that one was sufficient, but two would have been preferred. On the other hand, the first years and staff did not think the facilitators were enough (cf. Table 7.107), but also preferred two facilitators per class, which could imply that they understood the term "class" as only one of the language groups.

Table 7.110 The importance of facilitators being experts in the subject field in which group work is done (item 71)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	89.8	Very important
2nd year students	73	4-5	90.4	Very important
Staff	30	4-5	83.3	Very important

The vast majority of respondents regarded it as very important that facilitators be experts in the subject field in which group work is done (Table 7.110). No second year student chose points

1 and 2 of the scale and only seven chose point 3. At the moment, most of the facilitators who are involved with group-work sessions at the UFS, are indeed experts in the subject field of the particular module.

Table 7.111 The importance of using the same facilitators for continuity (item 72)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	54.2	Very important
2nd year students	73	4-5	49.3	Very important
Staff	30	4-5	56.7	Very important

Although most respondents indicated that it is very important to use the same facilitators for continuity, the percentages of respondents involved are relatively low (Table 7.111). This could indicate that having the same facilitators for group-work sessions was probably not as important to the students and staff as that the facilitators should be experts in the subject field of the module (cf. Table 7.110).

Table 7.112 The importance of using senior students as facilitators (item 73)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	55.9	Very important
2nd year students	73	4-5	43.8	Very important
Staff	30	1-2 4-5	43.3 40.0	No consensus

The majority of students (although relatively low percentages), regarded it as very important that senior students should also act as facilitators, but the staff did not reach consensus on the importance of this aspect of group work (Table 7.112).

Table 7.113 The importance of using the group task to determine the time spent on group work (item 74)

	n	Most-endorsed option	%	Result
1st year students	115	4-5	81.7	Very important
2nd year students	72	4-5	81.9	Very important
Staff	30	4-5	80.0	Very important

All three groups of respondents agreed that it is very important that the group task should determine the time that groups spend doing group work (Table 7.113).

Table 7.114 The scheduling of group work for constant times (item 74b)

	n	Most-endorsed option	%
1st year students	117	Yes	51.3
2nd year students	73	Yes	60.3
Staff	29	Yes	79.3

The majority of respondents preferred that group-work sessions be scheduled for the constant three hours (Table 7.114). However, they also preferred that the time spent on group work be determined by the task (cf. Table 7.113). This appears to be somewhat contradictory.

Table 7.115 The sufficiency of the time available for group work (item 74c)

	n	Most-endorsed option	%
1st year students	118	Adequate	48.3
2nd year students	71	Adequate	57.8
Staff	29	Adequate	58.6

Once again, the majority of the respondents indicated that the time currently spent on group work is adequate, although the percentages of endorsement are relatively low (Table 7.115).

Table 7.116 The importance of providing feedback on a group-work session (item 75)

	n	Most-endorsed option	%	Result
1st year students	116	4-5	60.3	Very important
2nd year students	73	4-5	89.0	Very important
Staff	27	4-5	63.0	Very important

It is interesting to note that more second years than other respondent groups regarded it as very important that feedback be provided for group-work sessions (Table 7.116). The reason for the discrepancy in votes between the first and second years especially, is unclear, although it could be that the groups in the first year group were more independent and able to do the tasks without much intervention from the facilitators. However, the majority of respondents also regarded it as very important to address the importance of feedback during training of lecturers and facilitators (cf. Table 7.82). Although more than 60% of staff members said it is important to provide feedback for group work, only fifty percent claimed to do so (cf. Table 7.83). However, this could be due to the fact that they allowed the different groups do it, rather than providing feedback themselves (cf. Table 7.117).

Table 7.117 The persons who should provide feedback on a group-work session (item 75b)

	n	Most-endorsed option	%
1st year students	117	The lecturer	43.6
2nd year students	73	The lecturer	56.2
Staff	30	The groups themselves	30.0

It is very interesting that the students preferred the lecturers to provide feedback and that the staff preferred the opposite (Table 7.117). The students probably felt unsure about their answers and the outcome of their group tasks, and therefore preferred some input from a knowledgeable person. The staff probably thought that the students would not be encouraged to do the work themselves if they knew all the answers would be provided. It is also interesting that nobody thought that the facilitators should provide feedback.

Table 7.118 Scheduling feedback sessions on the class timetable (item 75c)

	n	Most-endorsed option	%
1st year students	118	Yes	74.6
2nd year students	73	Yes	75.3
Staff	30	Yes	60.0

It was expected that most respondents would prefer the feedback on group work to be scheduled (Table 7.118), because it is very likely that there is not enough time during the group-work sessions for feedback (probably the most important reason why so many staff members indicated that they did not provide feedback – cf. Table 7.83).

Table 7.119 The ideal time for providing feedback on a group-work session (item 75d)

	n	Most-endorsed option	%
1st year students	114	Directly after the session	47.4
2nd year students	73	During following session	50.7
Staff	29	Directly after the session	51.7

The preferences of the different groups of respondents for the ideal time to schedule feedback on group work (Table 7.119) are interesting, since one would have expected the majority of first year students to choose the directed learning sessions which are always scheduled the day after the particular group-work session (cf. 3.4) (only 22.8% chose this option).

Table 7.120 The importance of rewards for effective group work (item 76)

	n	Most-endorsed option	%	Result
1st year students	115	1-2 4-5	42.6 40.9	No consensus
2nd year students	73	1-2	52.1	Not important
Staff	29	1-2	48.3	Not important

Most respondents did not think that there should be rewards for effective group work, although the first year students did not reach consensus on this item (Table 7.120).

Table 7.121 Preferred types of rewards for group work (item 76b)

	1st years (n=60)	2nd years (n=30)	Staff (n=14)
Acknowledgement/recognition	6	2	3
Certificates	-	3	1
Food, e.g. chocolates/sweets	4	4	-
Marks:			
unspecified	25	9	4
good marks in exam	-	-	1
bonus semester marks	13	4	2
continuous evaluation	-	4	1
Accurate feedback from lecturer	1	1	-
Time off	4	2	1
Tips for exam	-	1	-
Money	4	-	-
Textbooks	1	-	-
Vouchers	1	-	-
Do something as a group (faculty pay)	1	-	-
Less work to learn	2	-	-
Prizes	2	-	-
Enrichment	1	-	-
Less group work	1	-	-
Not to provide feedback as group next time	1	-	-
Knowledge	2	-	1
Notes	1	-	-
Do something interesting	1	-	-
Any reasonable reward	1	-	-

The student who noted that something interesting could be done, suggested that an operation could be attended by group members. Quite a few respondents suggested some or other reward for group work, of whom the most suggested marks of some sort (Table 7.121), in spite of the fact that most respondents did not think it is important to reward effective group work (cf. Table 7.120).

Table 7.122 The importance of inter-group competition to enhance group cohesion (item 77)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	42.4	Very important
2nd year students	73	1-2	61.6	Not important
Staff	29	1-2	41.4	Not important

More second year students than staff thought that inter-group competition is not important, and although most of the first years regarded it as very important, the involved percentage is relatively low (Table 7.122). Once again, this item could therefore be rated less important for group work than many other items in the opinion of the students and staff. The fact that opportunities for groups to compete do not really exist at the moment, could also contribute to the relatively low rating of this item in comparison with other items (e.g., items 60-66, 71 and 74), since respondents probably found it difficult to relate to this aspect of group work.

Table 7.123 The importance of dividing students into learning groups to study during self-study times (item 78)

	n	Most-endorsed option	%	Result
1st year students	118	1-2	46.6	Not important
2nd year students	73	1-2	58.9	Not important
Staff	30	1-2	53.3	Not important

None of the groups of respondents regarded learning groups as important (Table 7.123). This could probably be explained by the fact that most students preferred to study alone (cf. Table 7.124).

Table 7.124 The preferences of students for studying alone (item 78b)

	n	Most-endorsed option	%
1st year students	117	Yes	75.2
2nd year students	73	Yes	87.7
Staff	n/a	n/a	n/a

Students were asked whether they preferred to study alone and the fact that such a large percentage of students did (Table 7.124), could indicate that they probably have not yet realised the value of studying together and providing support to one another.

Table 7.125 Ways in which learning groups should be formed (item 78c)

	n	Most-endorsed option	%
1st year students	114	Students must choose	65.8
2nd year students	67	Students must choose	71.6
Staff	28	Students must choose	78.6

Respondents were asked how they would prefer learning groups to be formed (if being used), and of those who did respond, the majority preferred that students choose their own learning groups, instead of learning groups consisting of the same members as the groups during group-work sessions (Table 7.125). Quite a few respondents did not respond to this question, and they were probably some of those who did not rate learning groups as important. Students probably felt that they would not necessarily be able to study effectively with their fellow group members due to different learning styles, interpersonal problems within the groups, or some other reasons.

Table 7.126 Additional comments on the compilation and completion of a task for group work (item 79)

	1st years (n=20)	2nd years (n=16)	Staff (n=5)
Tasks must not be too long	7	3	-
Tasks must be appropriate	3	-	-
Time and task must correlate	7	7	3
Different methods for different subjects/modules	1	-	-
References are important – groups should know where to find answers	1	1	-
Notes should be given in advance for preparation	-	1	1
Enough resources should be available	-	3	3
Objectives are unclear	4	1	-
More opportunity for discussion should be provided	1	7	1
Co-operation amongst group members is important	2	-	-
Individual accountability should be more important	-	-	3
Students should first work at home –integration can take place in later sessions	-	-	1

The comments about group tasks, presented in Table 7.126, confirm the importance of some of the other items in the questionnaire (items 10, 64, 66 and 74). One staff member, who noted that recourses for group work were not enough, referred to staff and time availability. It is clear that much room for improvement exists regarding the compilation of group tasks by lecturers and the actual completion of the tasks by the students.

Table 7.127 Additional comments on group-work sessions (item 80)

	1st years (n=35)	2nd years (n=16)	Staff (n=11)
Group-work sessions must be purposeful	3	1	-
Group-work sessions must be applicable	8	-	-
Group-work sessions must be interesting	2	-	1
Group-work sessions must be a challenge	1	-	-
Group work must be more social	2	-	-
Emphasis should be on the transfer or discovery of knowledge	-	-	1
Group work is important for learning communication skills	-	-	1
Feedback is important	17	11	1
More facilitators necessary	3	1	1
Facilitators must know more, explain better	4	3	1
90% of facilitators look bored, uninvolved	2	2	-
Staff are overloaded and therefore neglect group-work sessions	-	-	1
Group work is not working at the moment	6	1	3
Group work is unnecessary	6	-	-
Group work must not be compulsory	6	4	2
Group work should be adjusted after modules according to the assessment of problems	-	-	1

Most of the additional comments on group-work sessions (Table 7.127) to this question also confirmed the importance of some of the items in the questionnaire (items 62, 70, 71, and 75). It is very clear that many of the students thought that feedback after group-work sessions is of the utmost importance to ensure successful group work. The Faculty should take note of the comments about the facilitators, since facilitators could determine the success of a group-work session to a great extent. Most of the comments regarding the fact that group work was not working at the time of the study, were in connection with poorly organised group-work sessions.

Table 7.128 Differences between Phases I and II regarding group-work sessions (item 81)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	72	No	86.1
Staff	8	No	62.5

Most respondents did not think there should be any differences between the group-work sessions in Phases I and II (Table 7.128) and not many provided suggestions how the two Phases should differ (cf. Table 7.129).

Table 7.129 Reasons for preferring differences between Phase I and II regarding group-work sessions (item 81b)

	1st years (n=1)	2nd years (n=8)	Staff (n=2)
Group work in Phase I should be practical and actual, and provide exposure to all fields	-	1	1
Group work in Phase II should be more practical and scientific	1	2	1
In Phase I, the emphasis should be on the process, and in Phase II, the emphasis should be on results	-	1	-
In Phase II, feedback is very important	-	2	-
In Phase II, the format of group work should be determined by the specific subject	-	1	-
More debating and discussion should take place in Phase II	-	1	-

Although the opportunity to provide possible differences between Phases I and II regarding group-work sessions was not applicable to the first year students, one first year student argued that group work in Phase II should involve more research (Table 7.129). Although the majority of the second years and staff indicated that there should not be any differences between Phases I and II regarding group-work sessions (cf. Table 7.128), there were a few differences in opinion between the first and second years on other items regarding certain aspects of group-work sessions. These include the fact that the first years did not regard the current number of facilitators as sufficient and the second years did (item 70b), and also that the first years preferred the feedback directly after the session and the second years preferred it during the following session (item 75d). The first years also regarded competition between groups as very important and the second years not (item 77), while the second years did not think it is important to have rewards for effective group work, while the first years could not reach consensus on this item (76). It is however, debatable whether these differences in opinions of the two year groups should be implemented, e.g., the lack of staff available could make it difficult to provide more facilitators for the first year group and it could be difficult to provide different times for feedback on the timetables for Phase I and II.

7.1.2.4 Support for students and lecturers/facilitators

Table 7.130 The importance of a support system for groups and group members (item 82)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	72.9	Very important
2nd year students	73	4-5	71.2	Very important
Staff	30	4-5	63.3	Very important

It is surprising that not more respondents, especially staff members, regarded support for groups and group members as very important (Table 7.130).

Table 7.131 The importance of support for lecturers and facilitators regarding group work (item 83)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	74.6	Very important
2nd year students	73	4-5	74.0	Very important
Staff	30	4-5	60.0	Very important

The percentages of the different groups of respondents who rated support for lecturers and facilitators as very important (Table 7.131), are similar to those who regarded support for students as very important (cf. Table 7.130). It is very surprising that not more staff members thought it is very important for themselves to receive support for group work as lecturers and facilitators, especially given the tremendous workload and limited time they all have.

Table 7.132 The types of support necessary for lecturers and facilitators (item 83b)

	n	Most-endorsed option	%
1st year students	117	Academic	35.0
2nd year students	70	Academic	28.6
Staff	28	Academic, organisational & administrative	39.3

The percentages that indicate the highest frequency of responses regarding the preferred types of support for lecturers and facilitators, are very low (Table 7.132), This could indicate that different opinions existed amongst the respondents regarding this item. The fact that most students thought that lecturers and facilitators only need academic support, could imply that they probably did not realise the other dimensions in the tasks of lecturers and facilitators.

Table 7.133 The importance of the lecturer providing academic support to groups on the contents of group work (item 84)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	91.5	Very important
2nd year students	73	4-5	89.0	Very important
Staff	30	4-5	76.7	Very important

The majority of respondents regarded the provision of academic support to groups as very important (Table 7.133). This was confirmed by the fact that no second year student chose points 1 and 2 of the scale and only eight chose point 3.

Table 7.134 The importance of providing academic support in a group context (item 85)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	67.5	Very important
2nd year students	73	4-5	54.8	Very important
Staff	30	4-5	53.3	Very important

Most students and staff regarded it as very important to provide academic support in a group context (Table 7.134). However, the fact that relatively fewer respondents (in comparison with item 84 (cf. Table 7.133), thought it important to provide academic support in a group context, could indicate that students had different learning styles and different needs that needed to be addressed, which would not necessarily happen in a group context.

Table 7.135 The importance of a mentor to support groups with the group process (item 86)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	58.5	Very important
2nd year students	73	1-2	43.8	Not important
Staff	30	1-2	46.7	Not important

The first year students probably felt the need for more support than the second years, which could explain the fact that the former regarded a mentor as support to groups as very important and the latter not (Table 7.135). The second years probably found enough support from their friends and fellow group members and therefore did not see the need for a mentor (in fact, they acted as mentors for the first years, although as individuals and not groups). The staff probably thought that the support which students provide to one another is sufficient and therefore they did not regard this item as important. This could also explain why relatively few (although most) respondents regarded training for mentors as important (cf. Table 7.48).

Table 7.136 The preferences of students for the choice of a mentor (item 86b)

	n	Most-endorsed option	%
1st year students	115	Yes	62.6
2nd year students	69	Yes	53.6
Staff	n/a	n/a	n/a

It is no surprise that most students preferred to choose mentors themselves, and one would even have expected more students to choose this option (Table 7.136).

Table 7.137 The availability of staff to act as mentors (item 86c)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	n/a	n/a	n/a
Staff	28	No	67.9

More than two thirds of the staff indicated that they would not be available to act as mentors for groups (Table 7.137) probably for the reason explained under item 86 (cf. Table 7.135). On the other hand, they did not reach consensus about the importance of senior students acting as mentors (cf. Table 7.138), and therefore it appears as if they had mixed feelings about whether students needed formal support in the form of mentors at all.

Table 7.138 The importance of senior students acting as mentors for groups (item 87)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	66.1	Very important
2nd year students	73	4-5	46.6	Very important
Staff	30	1-2 3 4-5	33.3 33.3 33.3	No consensus

The fact that almost two thirds of the first years regarded it as very important that senior students act as mentors for groups (Table 7.138), confirms the fact that they felt the need for formal support (as explained at item 86, cf. Table 7.135). Not as many second years thought that this item was very important, probably because they regarded themselves as the senior students who should act as mentors for the first years. The staff did not reach consensus on this item, probably because they did not regard using mentors as important (cf. Table 7.135).

Table 7.139 The importance of after-hours social meetings to enhance inter-relations amongst group members (item 88)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	57.6	Very important
2nd year students	72	1-2	50.0	Not important
Staff	30	1-2	80.0	Not important

Once again, it is clear that the first year students felt the need for more support and interaction and thus their rating of after-hours social meetings between group members as very important (Table 7.139). The second year students probably arranged informal after-hours meetings in any case with fellow students whom they preferred, and therefore they did not see the need to arrange this formally. The staff probably did not think is it necessary to intervene after-hours in students' affairs.

Table 7.140 The importance of students being able to contact their fellow group members after-hours if necessary (item 89)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	88.1	Very important
2nd year students	73	4-5	60.3	Very important
Staff	29	4-5	41.4	Very important

The respondents from all three groups regarded it as very important that students should be able to contact their fellow group members after hours if necessary (Table 7.140), in contrast with item 88 (cf. Table 7.139). This could explain the fact that they preferred group members to have the option of asking for support when necessary, although it appears as if at least the second years and the staff thought it is not necessary to arrange the support formally (cf. also Table 7.141).

Table 7.141 Additional comments on the support for group work (item 90)

	1st years (n=18)	2nd years (n=5)	Staff (n=9)
Groups must know who provides support	1	-	1
Lecturers must be available for groups who experience problems	4	2	3
Senior students should act as mentors	4	4	-
Students or groups must support themselves	3	-	1
Mentors should not be compulsory	1	-	3
Sufficient support is provided	2	-	-
More support is necessary	4	-	-
Lecturers need more support regarding dysfunctional groups	-	-	1
Do not try and control or organise everything	-	-	3

Some of the additional comments on the support for group work (Table 7.141) confirm the importance of other items in this section of the questionnaire (e.g., items 84 and 87). The comments regarding support for group work included especially comments on lecturers' availability for support, and also the means in which support should be provided (e.g., senior students or mentors). Three staff members mentioned that everything about group work should not be controlled – one asserted that students should develop as individuals, and two mentioned

that after-hours meetings should not be arranged, since it would happen spontaneously if students wanted to. If one looks at the fact that the majority of the respondents indicated that they did not receive sufficient support (cf. Table 7.142) one can understand the additional comments about support and would actually have expected more persons to make comments about support for group work.

Table 7.142 The sufficiency of the support for group work at the UFS (item 90b)

	n	Most-endorsed option	%
1st year students	115	No	60.0
2nd year students	72	No	58.3
Staff	28	No	82.1

It is very clear that most students and staff thought that they did not receive sufficient support (Table 7.142). The fact that more than 80% of the staff members said that they did not receive sufficient support, should be taken note of by the Faculty and appropriate steps need to be taken in this regard, especially in terms of the types of support that the staff preferred (cf. Table 7.132).

Table 7.143 Differences between Phases I and II regarding support for group work (item 91)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	72	No	84.7
Staff	8	No	87.5

Although most respondents did not think there should be differences between Phase I and II regarding support for groups (Table 7.143), it is clear that the first years had different opinions than the second years regarding support (cf. Table 7.135 and Table 7.139). More first years also commented on support for group work than second years (cf. Table 7.141). It is therefore strange that the second years, who have been through their first year and probably experienced similar difficulties to the first years, did not suggest that differences should exist between Phase I and II.

Table 7.144 Reasons for preferring differences between Phase I and II regarding support for group work (item 91b)

	1st years (n=0)	2nd years (n=6)	Staff (n=1)
Phase I students experience more social problems	-	2	1
Phase II students have more academic problems	-	1	-
Phase II students need guidance regarding group work principles	-	1	-
Phase II needs more feedback and what is done in groups needs to be controlled	-	1	-
More facilitators are necessary for Phase II group work	-	1	-

Table 7.144 presents a summary of the suggested differences between Phases I and II regarding the support for group work. One second year student who said that Phase I students experience more social problems, suggested that these groups receive support regarding inter-personal relations, group functioning and organisation. It is very interesting that, although few, the second years thought they needed more support than the first years, since this is not the impression one gets when looking at the ratings of other items in the support section of the questionnaire: For example, the first years regarded items 86-89 as very important and the second years not, although it is possible that they preferred support in a different manner. It therefore would have been interesting to ask the first years in their second year again about the support they needed and to compare the outcome of their responses in their first and second years. This would provide a valuable indication of the necessity of different support systems for Phase I and II.

7.1.2.5 Assessment of group work

Table 7.145 The importance of assessing both the group task and process (item 92)

	n	Most-endorsed option	%	Result
1st year students	118	1-2	42.4	Not important
2nd year students	73	4-5	41.1	Very important
Staff	30	4-5	50.0	Very important

Although the majority of the first years did not think it important to assess both the group task and the group process and low percentages of second years and staff (although the majority) regarded it as very important (Table 7.145), most thought it important to be made aware of the importance of assessment of these two aspects of group work during training sessions (cf. Table 7.70 and Table 7.71).

Table 7.146 The importance of availability of the assessment criteria and methods for students (item 93)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	87.3	Very important
2nd year students	73	4-5	79.5	Very important
Staff	30	4-5	66.7	Very important

It is clear from Table 7.146 that the students regarded it as very important to know the criteria and methods of assessment beforehand, especially since no first year student chose point 1 or 2 of the scale and only fifteen chose point 3 for this item. This would probably influence their preparation for the assessments.

Table 7.147 The importance of guidelines for determining assessment criteria for the assessment of group work (item 94)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	83.1	Very important
2nd year students	73	4-5	75.3	Very important
Staff	30	4-5	63.3	Very important

It is surprising that more staff did not regard guidelines for determining assessment criteria as very important, since it is the lecturers' responsibility to determine the assessment criteria (Table 7.147). The students probably regarded this item as very important for the same reasons explained under item 93 (Table 7.146).

Table 7.148 The importance of including the assessment of the group tasks in the semester mark of a module (item 95)

	n	Most-endorsed option	%	Result
1st year students	117	1-2 4-5	39.3 38.5	No consensus
2nd year students	73	1-2	50.7	Not important
Staff	30	4-5	63.3	Very important

No consensus was reached on the importance of including the assessment of the group tasks in the semester mark of a module and the different groups of respondents had different opinions about this (Table 7.148). It is, however, not surprising that most students did not think it important, because most of them probably preferred their semester marks to depend solely on their own work.

Table 7.149 The importance of including the assessment of the group process in the semester mark of a module (item 96)

	n	Most-endorsed option	%	Result
1st year students	117	1-2	60.7	Not important
2nd year students	73	1-2	64.4	Not important
Staff	29	1-2	58.6	Not important

Unlike the assessment of the group task (cf. Table 7.148), the majority of respondents agreed that the assessment of the group process should not count marks (Table 7.149).

Table 7.150 The importance of proving assessment of the group process as a prerequisite to obtain a semester mark for a module (item 97)

	n	Most-endorsed option	%	Result
1st year students	118	1-2	42.4	Not important
2nd year students	73	1-2	56.2	Not important
Staff	30	1-2	40.0	Not important

The fact that the majority of respondents also did not regard it as important for groups to prove that assessment of the group process has taken place in order to obtain marks for a module (Table 7.150), is another proof that they do not regard the assessment of the group process as important (cf. Table 7.149).

Table 7.151 The importance of clear guidelines for the awarding of marks for the group task (item 98)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	82.9	Very important
2nd year students	72	4-5	70.8	Very important
Staff	29	4-5	69.0	Very important

In spite of the fact that no consensus was reached amongst the respondents on the importance of assessment of the group task (cf. Table 7.148), most thought that guidelines should be available for the awarding of marks for the group task (Table 7.151). They probably chose this as the second best option, should group tasks be assessed. They also, in general, appeared to agree more about the assessment of the group task than the group process.

Table 7.152 Preferences for awarding marks to members for the group task (items 98b)

	n	Most-endorsed option	%
1st year students	116	All members get the same mark for group task	60.3
2nd year students	72	All members get the same mark for group task	66.7
Staff	27	Marks divided according to individuals' contribution	55.6

It is very interesting that most students preferred that group members should all get the same marks for the group task (Table 7.152). This could probably be explained by the fact that they feared conflict within their groups if individual members were identified for either good or poor contributions to group work, or wished to ride on the work done by more conscientious group members. On the other hand, the staff, while facilitating, probably identified members who did not contribute to the group work, and thought that it would not be fair towards the rest of the group if these members received the same marks as the rest of the group.

Table 7.153 The importance of clear guidelines for the awarding of marks for the group process (item 99)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	84.8	Very important
2nd year students	72	4-5	88.9	Very important
Staff	30	4-5	70.0	Very important

In spite of the fact that most respondents did not think that the group process should be assessed (cf. Table 7.149 and Table 7.150), the majority did prefer that guidelines should exist for the awarding of marks for the group process (Table 7.153) – probably for the same reason as mentioned under item 98 (cf. Table 7.151).

Table 7.154 Preferences for awarding marks to members for the group process (item 99b)

	n	Most-endorsed option	%
1st year students	115	All members get the same mark for group task	61.7
2nd year students	70	All members get the same mark for group task	64.3
Staff	26	Marks divided according to individuals' contribution	69.2

The preferences of the respondents for how marks should be allocated when assessing the group process (Table 7.154), were similar to those for the assessment of the group task (cf. Table 7.152), and the same arguments probably apply to explain this finding.

Table 7.155 The importance of self-evaluation amongst group members regarding their contributions to group work (item 100)

	n	Most-endorsed option	%	Result
1st year students	118	1-2 4-5	36.4 41.5	No consensus
2nd year students	73	1-2	43.8	Not important
Staff	30	1-2	40.0	Not important

It is expected that students would not regard it as important to evaluate themselves regarding their contributions to group work, since they probably did not want to be faced with the consequences of these evaluations (Table 7.155). On the other hand, one would have expected the staff to regard this item as very important, since this would be one way of dealing with uncooperative group members. However, they also did not regard it as important.

Table 7.156 The importance of all group members assessing the group with regard to group work (item 101)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	55.9	Very important
2nd year students	73	4-5	56.2	Very important
Staff	30	4-5	63.3	Very important

It is encouraging that most respondents thought it very important to assess the group, and that all members should receive the opportunity to do so (Table 7.156). Unfortunately, this item did not specify whether the assessment applies for the group task or the group process. On the other hand, the majority of students and staff thought it very important for facilitators and lecturers to receive training on assisting groups with self-assessment (Table 7.87).

Table 7.157 The importance of peer assessment of individual contributions of students (item 102)

	n	Most-endorsed option	%	Result
1st year students	116	4-5	50.7	Very important
2nd year students	72	1-2 4-5	37.5 34.7	No consensus
Staff	30	4-5	60.0	Very important

The first years and staff indicated that it is very important for individual contributions of students to be assessed by their fellow group members (Table 7.157), even though most respondents did not regard it as important for students to evaluate themselves (cf. Table 7.155). The first years probably felt more comfortable with the idea of being assessed by colleagues than assessing themselves. The second years did not reach consensus on the importance of peer

assessment, which is more comparable with their opinions on item 100 (cf. Table 7.155). The reason for this was probably the fear of discrimination and rejection by group members.

Table 7.158 The preferences of students for confidential peer assessment (item 102b)

	n	Most-endorsed option	%
1st year students	117	Yes	83.8
2nd year students	72	Yes	75.0
Staff	n/a	n/a	n/a

Both the second and first years preferred that assessment by their fellow group members should be confidential (Table 7.158). However, the second years did not reach consensus on whether they should be assessed by fellow group members (cf. Table 7.157). This probably confirms their fear for possible discrimination and rejection, as mentioned before.

Table 7.159 The importance of evaluating the group leader of a group (item 103)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	52.5	Very important
2nd year students	73	1-2 4-5	37.0 41.1	No consensus
Staff	30	4-5	46.7	Very important

The respondents' opinions on the importance of evaluating the group leader (Table 7.159) were similar to those of item 102 (cf. Table 7.157). Since more second year students had been group leaders than first years at the time of the study (cf. 7.1.1.2), they probably realised the responsibility of such a position better, and therefore many were not keen to be evaluated by fellow students. Although the majority of the first years and staff members indicated that it is very important for group leaders to be evaluated, the relative percentages of respondents who did so, are low, and therefore it could be assumed that this item is also not the most important aspect of the evaluation/assessment of group work in the opinion of the respondents.

Table 7.160 The importance of ground rules for peer assessment (item 104)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	73.7	Very important
2nd year students	73	4-5	52.1	Very important
Staff	30	4-5	66.7	Very important

Most respondents, including the students, preferred that ground rules should exist for peer assessment amongst group members (Table 7.160). However, relatively few respondents regarded it as very important for students to be assessed by their fellow group members (cf. Table 7.157).

Table 7.161 The importance of the lecturer having final control over the awarding of marks for peer assessment (item 105)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	78.6	Very important
2nd year students	73	4-5	74.0	Very important
Staff	30	4-5	80.0	Very important

The fact that many respondents, especially students, thought it important for the lecturer to have final control over the awarding of marks for peer assessment (Table 7.161), could again confirm the suspicion that they feared discrimination and rejection when being assessed by fellow group members (cf. Table 7.157 and Table 7.158).

Table 7.162 The importance of regular assessment of the group task (item 106)

	n	Most-endorsed option	%	Result
1st year students	117	1-2 4-5	39.3 41.0	No consensus
2nd year students	73	1-2	42.5	Not important
Staff	27	4-5	55.6	Very important

No consensus was reached on the importance of regular assessment of the group task as part of continuous evaluation (Table 7.162). This item is an extension of item 95 (cf. Table 7.148) in that it provides for more than one assessment opportunity of the group tasks. Interestingly enough, the responses were exactly the same for both these items, which implies that the amount of assessments of group tasks did not influence the respondents' opinions on the assessment of the group task.

Table 7.163 The preferred frequency of assessment of the group task (item 106b)

	n	Most-endorsed option	%
1st year students	115	After completion of module	31.3
2nd year students	70	After completion of module	31.4
Staff	29	After each group-work session	37.9

In response to the opportunity to indicate how often respondents wanted assessment of group tasks to take place, the students chose the option which provided for one opportunity only (Table 7.163). This could indicate that they were not keen on assessment at all. The staff on the other hand, rated the assessment of group tasks as very important (cf. Table 7.148 and Table 7.162) and this could probably explain why they preferred it after each group-work session.

Table 7.164 The importance of regular assessment of the group process (item 107)

	n	Most-endorsed option	%	Result
1st year students	113	1-2	46.0	Not important
2nd year students	70	1-2	45.7	Not important
Staff	28	1-2	46.4	Not important

The respondents did not regard it as important to assess the group process regularly as part of continuous evaluation (Table 7.164). These responses also correlate with those to the related item on assessment of the group process as part of the semester mark (cf. Table 7.149). This indicates again that the amount of assessments of the group process, whether one or many, did not make a difference to the opinions of the respondents, as with the assessment of the group task (cf. Table 7.163).

Table 7.165 The preferred frequency of assessment of the group process (item 107b)

	n	Most-endorsed option	%
1st year students	111	Once a year	20.7
2nd year students	68	Once a year	26.5
Staff	27	After each group-work session Once a month	22.2 22.2

The students preferred that assessment of the group process should take place at only one occasion (Table 7.165), as with the group task (cf. Table 7.163). The staff preferred assessments of the group process to occur more often, although no consensus was reached on the frequency. The fact that quite a few respondents did not respond to this item, could indicate that they did not regard assessment of the group process as important (cf. Table 7.164).

Table 7.166 The importance of support for groups who experience problems with the assessment of group work (item 108)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	71.2	Very important
2nd year students	73	4-5	71.2	Very important
Staff	30	4-5	53.3	Very important

The majority of respondents thought that they needed support regarding problems experienced during the assessment of group work (Table 7.166), even though mixed opinions existed on the importance of assessing group work (cf. Table 7.145).

Table 7.167 The importance of assessing a variety of group tasks (item 109)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	52.5	Very important
2nd year students	73	4-5	48.0	Very important
Staff	30	4-5	56.7	Very important

The majority of respondents indicated that it is important to assess a variety of group tasks (Table 7.167). However, they had mixed feelings about the assessment of group tasks (cf. Table 7.148). The fact that the majority of students also indicated that assessment of the group tasks should only take place on one occasion (Table 7.163), is somewhat contradictory, because assessing a variety of group tasks, which they thought is very important, is not possible during one assessment opportunity only.

Table 7.168 The importance of assessing the knowledge, skills and attitudes that students develop through group work (item 110)

	n	Most-endorsed option	%	Result
1st year students	116	4-5	44.0	Very important
2nd year students	73	1-2 4-5	41.1 39.7	No consensus
Staff	30	4-5	56.7	Very important

The second years did not reach consensus on the importance of assessing knowledge, skills and attitudes developed through group work, whereas the staff and first years regarded it as very important (Table 7.168). Although the first years and the staff rated this item as very important, it implies that both the group process and the group tasks should be assessed, since skills and attitudes, especially, cannot be evaluated by assessing group tasks only. It is therefore somewhat contradictory that the staff rated the assessment of group tasks as very important and that the first years did not reach consensus on its importance (cf. Table 7.148 and Table 7.162), whereas both these groups rated the assessment of the group process as not important (cf. Table 7.149 and Table 7.164).

Table 7.169 The importance of assessment instruments for assessing the group process (item 111)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	43.2	Very important
2nd year students	73	1-2 4-5	39.7 42.5	No consensus
Staff	30	4-5	60.0	Very important

Both the first years and the staff thought it important to have assessment instruments for assessing the group process (Table 7.169). However, they did not regard it as important to assess the group process (Table 7.149 and Table 7.164). This could indicate that they were, to a great extent, uncertain about the methods of assessing the group process, which could also explain why they did not regard it as important to assess the group process. The second years continued their lack of unanimity about the assessment of group work (cf. Table 7.168).

Table 7.170 The importance of reporting the outcome of group tasks in various ways (item 112)

	n	Most-endorsed option	%	Result
1st year students	116	1-2 4-5	32.8 37.1	No consensus
2nd year students	73	1-2	53.4	Not important
Staff	30	4-5	56.7	Very important

Once again, respondents did not reach consensus on the importance of reporting the outcomes of group tasks in different ways (Table 7.170), which could mainly be explained by the disparate opinions of the respondents on the assessment of group tasks (cf. Table 7.148 and Table 7.162). Although all three groups of respondents indicated that it is very important to assess a variety of group tasks (cf. Table 7.167), only the staff regarded it as very important for students to report the outcome of their group tasks in various ways. The students probably did not want to report their group tasks for their colleagues to assess, but rather preferred them to be assessed by the lecturer only.

Table 7.171 Preferences for reporting the outcome of group tasks (item 112b)

	n	Most-endorsed option	%
1st year students	117	Yes	79.5
2nd year students	72	Yes	79.2
Staff	n/a	n/a	n/a

The students preferred to choose the ways in which they report the outcome of their group tasks, themselves (Table 7.171), even though the first years did not reach consensus on the importance of reporting the outcomes of group work in various ways and the second years did not regard it as important (cf. Table 7.170). If students were allowed to choose the ways in which they report outcomes of group work, it is possible that they would be more keen to present their group tasks to other groups.

Table 7.172 The importance of feedback to groups and group members on the assessment of group work (item 113)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	72.0	Very important
2nd year students	73	4-5	80.8	Very important
Staff	30	4-5	70.0	Very important

It is not surprising that the majority of respondents regarded it as very important to provide feedback to groups and group members on the assessment of group work (Table 7.172). This would provide students the opportunity of improving their group work.

Table 7.173 The importance of planning strategies to improve the group process according to the outcome of group process assessment (item 114)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	67.0	Very important
2nd year students	73	4-5	56.2	Very important
Staff	30	4-5	56.7	Very important

The majority of respondents also regarded it as very important to plan strategies for improving the group process according to the outcome of group process assessments (Table 7.173). This could indicate that both students and staff were willing to attempt to improve group work, in spite of the fact that they did not regard the assessment of the group process as important (cf. Table 7.153 and Table 7.164). This item is also closely related to item 113 (cf. Table 7.172), since it would not be possible to know the outcome of assessment without feedback.

Table 7.174 The importance of covering the outcomes of group tasks in exams and tests (item 115)

	n	Most-endorsed option	%	Result
1st year students	117	1-2 4-5	38.5 41.9	No consensus
2nd year students	73	1-2	53.4	Not important
Staff	30	4-5	66.7	Very important

The respondents' opinions on the importance of covering the outcomes of group tasks in tests and exams (Table 7.174), correlate with their opinions on the importance of assessing the group tasks (cf. Table 7.148, Table 7.162 and Table 7.170). This could indicate that the different groups had consistent (although different) opinions about the assessment of group tasks. It is, however, strange that students did not regard it as important that group tasks should be covered in tests or exams, since the outcomes of a group-work session (and therefore the group tasks) are exactly what they should be able to do and know for formal assessments. One would therefore expect that this would make it easier for students to prepare for tests and exams, but for some reason, they did not argue the same way.

Table 7.175 The importance of evaluating the way in which assessment took place in a specific module (item 116)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	53.0	Very important
2nd year students	73	4-5	42.5	Very important
Staff	30	4-5	50.0	Very important

The respondents regarded it as very important to evaluate the assessment that took place in a module (Table 7.175), although relatively low percentages did so – one would have expected

more respondents to rate this item as very important, because this would provide them the opportunity of stating how they feel about the assessment of group work.

Table 7.176 The importance of evaluating the involvement of lecturers in group-work sessions (item 117)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	67.8	Very important
2nd year students	73	4-5	68.5	Very important
Staff	30	4-5	43.3	Very important

Interestingly enough, relatively more students than staff members regarded it as very important to evaluate the lecturers' role in group work (Table 7.176). The opposite was true for the assessment of students (cf. Table 7.156 and Table 7.157). This indicates that it is probably always difficult to allow evaluation of oneself by other people

Table 7.177 The importance of evaluating the involvement of facilitators in group work (item 118)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	67.8	Very important
2nd year students	73	4-5	64.4	Very important
Staff	30	4-5	50.0	Very important

The respondents also regarded it as very important to evaluate the role of the facilitator in group work (Table 7.177), again with the students being more in favour of it than the staff, and probably for reasons similar to those explained under item 117 (cf. Table 7.176).

Table 7.178 Additional comments on the assessment of group work (item 119)

	1st years (n=16)	2nd years (n=6)	Staff (n=11)
Clear guidelines should exist for the assessment of group work	2	-	2
Group work is only important for students if it is assessed	-	-	1
Group work tasks and assessments should be compiled together	-	-	1
Allocation of marks should be done carefully	10	5	6
Continuous evaluation is necessary	3	-	-
Feedback on assessment is important	1	2	-
Assessment depends on staff and time available	-	-	7
Assessment must not count marks	4	2	1
Group work must not be assessed	7	3	5
No group will be honest when they will have to prove that self-assessment took place	-	-	1

Most additional comments made on the assessment of group work (Table 7.178) again emphasise the importance of some of the other items in the assessment category (e.g., items 94 and 113). The majority of respondents who made comments had reservations about the allocation of marks for group work. This confirms the importance of items 98, 99 and 105. It is interesting to note that both the first and second years preferred marks to be divided equally amongst group members for both the group task and the group process (cf. Table 7.152 and Table 7.154). However, some students commented that the marks should be divided according to each member's contribution on the one hand, but also thought that this is subjective and difficult on the other hand. It can also not be ignored that quite a number of respondents indicated that group work should not be assessed, or at least that the assessment should not count marks (i.e., it should only be evaluation).

In summary, most respondents could not reach consensus on the importance of assessing group tasks and did not think it important to assess the group process, even though they thought it important to address the necessity of assessing both, as well as appropriate assessment techniques during training (cf. Table 7.70, Table 7.71 and Table 7.84).

Table 7.179 Differences between Phases I and II regarding the assessment of group work (item 120)

	n	Most-endorsed option	%
1st year students	n/a	n/a	n/a
2nd year students	71	No	97.2
Staff	7	No	100

Respondents did not think that there should be any differences between Phase I and II regarding assessment of group work (Table 7.179). However, this section of the questionnaire had the most differences in opinion between the first and second years on the various items. These differences included opinions about the assessment of the group task (cf. Table 7.148, Table 7.162, Table 7.170 and Table 7.174), self-evaluation (cf. Table 7.155), assessment of individual contributions to group work (cf. Table 7.157), assessment of the group leader (cf. Table 7.159), assessment of knowledge, skills and attitudes (cf. Table 7.168) and assessment instruments (cf. Table 7.169). The major differences in concern the assessment of group tasks and individuals in the group. The first years could not reach consensus on most of the items regarding the assessment of the group task, whereas the second years did not regard these items as important. The same applies for self-evaluation. However, the first years regarded it as very important to assess individual contributions of group members and the group leader, and the

second years did not reach consensus about these items. The same applies for the assessment of knowledge, skills and attitudes, and the use of assessment instruments for assessing the group process. It is therefore clear that the two groups of students had different opinions about the assessment of group work, and it would therefore have been interesting to ask the first years about differences between Phase I and II when they were involved with Phase II of the learning programme.

Table 7.180 Reasons for preferring differences between Phase I and II regarding the assessment of group work (item 120b)

	1st years (n=0)	2nd years (n=1)	Staff (n=0)
In Phase I, the group process should be assessed, and in Phase II, the group tasks	-	1	-

Only one person commented on possible differences between assessment of group work between Phases I and II (Table 7.180).

7.1.2.6 Guidelines for the implementation of group work

Table 7.181 The importance of clear guidelines for the implementation of group work (item 121)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	72.0	Very important
2nd year students	73	4-5	74.0	Very important
Staff	30	4-5	66.7	Very important

It is very surprising that not more respondents, especially staff members, thought it very important to have guidelines for the implementation of group work (Table 7.181). The fact that the majority of staff members indicated that they did not receive adequate training regarding group work (cf. Table 7.89), could indicate that they needed more guidance and therefore one would have expected more of them to rate this item as very important.

Table 7.182 The importance of having a group-work committee for the implementation of group work (item 122)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	58.5	Very important
2nd year students	73	4-5	42.5	Very important
Staff	30	4-5	43.3	Very important

Although most respondents regarded it as very important to have a group-work committee (Table 7.182), the percentage of respondents who did so was relatively low.

Items 123-130 in the questionnaire may be regarded as possible functions of a group-work committee. The opinions of the respondents on the importance of each of these items are indicated.

Table 7.183 The importance of regular evaluation of the implementation of group work (item 123)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	45.3	Very important
2nd year students	73	3 4-5	37.0 37.0	No consensus
Staff	30	4-5	56.7	Very important

The percentage of first years and staff who regarded it as very important to evaluate the implementation of group work is low (Table 7.183). This correlates with their opinions about the possibility of a group-work committee (cf. Table 7.182). The second year students did not reach consensus, although there was a tendency amongst the votes towards the more important side of the scale.

Table 7.184 The importance of strategies to improve group work in Phases I and II (item 124)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	67.5	Very important
2nd year students	73	4-5	63.0	Very important
Staff	30	4-5	60.0	Very important

When one looks at the percentages of respondents who were negative about group work (cf. Table 7.77), one would have expected more respondents to think it very important to plan strategies to improve group work in Phases I and II (Table 7.184).

Table 7.185 The importance of ensuring that the objectives of group work are reached (item 125)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	78.8	Very important
2nd year students	73	4-5	68.5	Very important
Staff	30	4-5	66.7	Very important

The opinions of the respondents on the importance of ensuring that the objectives of group work are reached (Table 7.185), could be linked to those on item 28 (cf. Table 7.53), since the respondents also regarded it as very important for them to know the objectives of group work. These objectives cannot be met unless the role-players (students, lecturers and facilitators) are aware of what the objectives comprise.

Table 7.186 The importance of ensuring proper orientation of students for group work (item 126)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	66.1	Very important
2nd year students	73	4-5	61.6	Very important
Staff	30	4-5	66.7	Very important

The responses to the importance of a group-work committee ensuring proper training for students on group work (Table 7.186), could be linked to item 21 (cf. Table 7.45) and all three groups of respondents regarded both items as very important.

Table 7.187 The importance of ensuring proper training of lecturers, facilitators and mentors regarding group (item 127)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	77.1	Very important
2nd year students	73	4-5	68.5	Very important
Staff	30	4-5	70.0	Very important

The opinions of the respondents on the importance of the group-work committee ensuring proper training for staff (Table 7.187), are linked to item 22 (cf. Table 7.46) and in this case, the percentages of respondents from the different groups who regarded the two items as very important, correlate better than those on the training of students (cf. Table 7.186).

Table 7.188 The importance of providing a support system to students and staff with regard to group work (item 128)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	73.7	Very important
2nd year students	73	4-5	75.3	Very important
Staff	30	4-5	56.7	Very important

Fewer staff members than students regarded it as very important that the group-work committee provide a support system to the students and staff (Table 7.188). It is interesting to note that fewer staff also thought it important for themselves to receive support (cf. Table 7.131).

Table 7.189 The importance of providing guidelines for the assessment of group work (item 129)

	n	Most-endorsed option	%	Result
1st year students	118	4-5	74.6	Very important
2nd year students	73	4-5	67.1	Very important
Staff	30	4-5	70.0	Very important

Relatively high percentages of respondents regarded the provision of guidelines for the assessment of group work as very important (Table 7.189), even though few respondents regarded it as important to assess the group task and product (cf. Table 7.145).

Table 7.190 The importance of providing assessment instruments for the assessment of group work (item 130)

	n	Most-endorsed option	%	Result
1st year students	117	4-5	65.0	Very important
2nd year students	73	4-5	57.5	Very important
Staff	30	4-5	63.3	Very important

Relatively many respondents regarded the provision of assessment instruments as a very important function of the group-work committee (Table 7.190), although not as many staff and first years regarded the use of assessment instruments as very important (cf. Table 7.169).

Table 7.191 Additional comments on the functions of the group-work committee (item 131)

	1st years (n=5)	2nd years (n=0)	Staff (n=1)
Team building, e.g. a camp for students	1	-	-
Consult students for their feelings/opinions	2	-	-
Arrange social functions for students	1	-	-
Must sort out dysfunctional groups	1	-	1

The comments made by the respondents on the functions of the group-work committee (Table 7.191) appear to be meaningful, and the Faculty should pay attention to these suggestions. However, these suggestions could be included in the student orientation and support functions mentioned before (cf. Table 7.186 and Table 7.188).

Table 7.192 Additional comments on the planning and implementation of group work (item 132)

	1st years (n=4)	2nd years (n=3)	Staff (n=9)
It is idealistic, because it will make no difference on ground level	-	-	1
It is too late for guidelines regarding group work	-	-	1
There is no need for a committee	1	1	5
The committee must only monitor a generic group-work model	2	3	1
The group-work committee must be neutral	1	-	-
It is important for encouragement of lecturers to use group work as an instructional method	-	-	1

Only a few respondents commented on the planning and implementation of group work (Table 7.192). Two members of staff who said that there is no need for a group-work committee said

that the committee will lose its effectiveness after a while and two other staff members argued that lecturers should not be overburdened with regulations regarding group work.

Looking at these comments, is clear that some respondents felt strongly that having a group-work committee would cause group work to be over-regulated and would inhibit the initiatives of both students and staff. However, the majority of respondents regarded the existence of such a committee as very important (cf. Table 7.182) and also indicated that the possible functions of the committee are very important. It is encouraging that most students and staff realised the importance of quality assurance.

Table 7.193 Additional comments on the monitoring of group work (item 133)

	1st years (n=9)	2nd years (n=5)	Staff (n=5)
Students must do it themselves	2	2	-
Group work needs to be improved	4	-	-
Group work must not be monitored	3	3	2
Do not overemphasise group work	-	-	4
Students should choose if they want to do group work	-	-	1

Not many respondents commented on the monitoring of group work (Table 7.193). The one staff member who argued that group work should not be overemphasised, suggested that it should only comprise a certain percentage of the instruction of modules which should depend on the specific module. The comments about the fact that group work should not be monitored and not be overemphasised, could be regarded as additions to the comments made to item 132 (cf. Table 7.192). It is interesting that four students suggested that students should monitor group work themselves.

7.1.3 Summary of the results from the opinion survey

Figure 7.5 presents a summary of the outcomes of the responses to the indicators for each section of the questionnaire. The percentage of very important, not important and "no consensus" items is indicated for each section of the questionnaire. The highest percentage of very important items was in the section on "guidelines for the implementation of group work," and the lowest percentage in the "assessment" section. Three items in the "assessment" section and one in the "group composition" and "group-work sessions" sections respectively, were not regarded as important. The highest percentage of items on which no consensus was reached,

was in the "group composition" section, and the lowest in the "guidelines on the implementation of group work" section. In total, there were 174 indicators which had to be rated on the scale according to their importance, of which 118 (67.8%) items were regarded as very important, five (2.9%) as not important, and on 51 (29.3%), no consensus was reached amongst the different respondent groups.

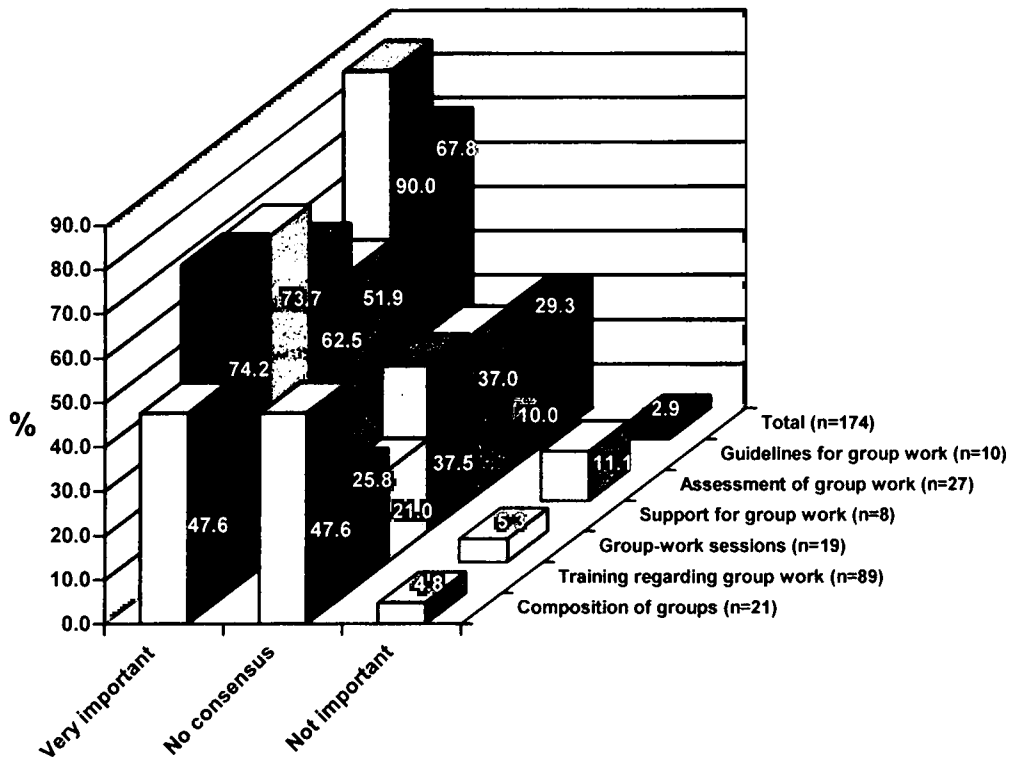


Figure 7.5 ***Outcomes of the responses for each section of the questionnaire (Opinion survey)***

7.2 RESULTS OF THE DELPHI STUDY

The results of the Delphi study are grouped under six headings (similar to those of the opinion survey at the UFS, cf. 6.3.2.1) and the items are discussed accordingly. The number of respondents who chose a particular point of the scale is indicated for each point of the scale. If an item occurred in more than one round in the questionnaire (i.e., consensus or stability was not reached during a particular round), all the responses for the different rounds are indicated for the item, so as to make comparisons possible. The number of participants who responded to

each item (n) is indicated, as well as the rounds in which an item occurred in the questionnaire (numbered from 1-5 and appearing underneath one another). The overall result with regard to the responses of the participants is indicated in the last column of the table. If consensus was reached, the particular range of the scale (i.e. 4-5/3/1-2) where more than 80% of the participants' votes fell, is indicated in brackets (cf. 5.9.7.1). The responses to a particular item are discussed where applicable and appear below the specific table in which the item occurs. Only relevant comments made by the Delphi participants to a particular item are included in these discussions (all comments originally made by the participants appear (anonymously) in the respective questionnaires as appendices) (cf. Appendix G to Appendix K). The final outcome of the item (according to the combined categories of "important" (points 4 and 5 of the scale), "neutral" (point 3 of the scale) and "not important" (points 1 and 2 of the scale) are also noted in the respective discussions, by referring to the percentage of participants who voted accordingly. If items were stable, the outcome was determined according to the majority of votes for a particular point of the scale. The final outcome of the items refers to the last round in which the particular item appeared.

Responses to the categorised questions and open-ended questions are also presented. The responses to the categorised questions are indicated in two separate columns, so as to clearly indicate any changes between rounds one and two.

7.2.1 Items regarding the composition of groups

Table 7.194 The experts' responses to the items concerning the size of groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
1	Groups must consist of a specific number of members.	7	1	3	3		1		Consensus (4-5)
2	The groups must specifically consist of an even or an odd number of members.	7	1			3	1	3	Stability
			2			3	1	3	

Table 7.194 presents the responses to the items concerning the size of groups (items 1 and 2). The majority of participants (86%) regarded it as important for groups to have a specific size (item 1). However, no consensus was reached on the importance of even or odd numbered groups (item 2), although the majority (57%) did not regard it as important. One participant indicated that groups would tend to split up when they consist of an even numbers of members.

Table 7.195 The preferences of the experts for the size of groups

			Round 1 (n=7)	Round 2 (n=7)
1b	How many members do think should be in a group?	≤ 4		
		5-6	3	1
		7-8	3	5
		9-10	1	1
		>10		

One participant argued that the group size should depend on the resources available, as well as the context and group task. Another asserted that groups break into subgroups if they consist of seven or more members. The majority of respondents (71%) chose groups with 7-8 members (Table 7.195).

Table 7.196 The preferences of the experts for even or odd numbered groups

	If you think that even or odd numbered groups is better, which one would it be?	Round 1 (n=2)	Round 2 (n=3)
2b	A group that consists of an even number of members	2	2
	A group that consists of an odd number of members		1

Not many participants offered their preferences for even or odd numbered groups (Table 7.196), which could be due to the fact that they did not regard this aspect of the composition of groups as important (cf. Table 7.194). One participant noted during the first round that groups should only consist of an even number of members in order to divide tasks evenly amongst the group members. Although not many responded to this item, it appears as if an even numbered group was preferred.

Table 7.197 The experts' responses to the items concerning factors to consider when forming groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
3.1	The language of instruction of students	7	1	3	4				Consensus (4-5)
3.2	The gender of students	7	1		3	3	1		Stability
			2		4	3			
3.3	The population group/culture of students	7	1		5	2			Stability
			2		5	2			
3.4	The age of students	7	1		3	4			Consensus (3)
			2		1	6			
3.5	The academic achievement of students	7	1		4	3			Stability
			2		4	3			

Table 7.197 presents the responses of the Delphi experts' to specific factors which could be taken into consideration when forming groups (items 3.1 to 3.5). Consensus was reached amongst all seven participants that the language of instruction is important for the composition of groups (item 3.1). Although no consensus was reached on the importance of gender, 57% of the participants indicated that it is important for forming groups (item 3.2.). The majority of respondents (71%) regarded the population group/culture as important when forming groups, even though no consensus was reached (item 3.3). Regarding the item on the age and the composition of groups, one participant noted that age would only make a difference if the older students were graduate adults. Consensus was reached during round two and 85% of the respondents felt neutral regarding age and group composition (item 3.4.). No consensus was reached on the importance of academic achievement for the composition of groups, but most of the respondents (57%) regarded it as important (item 3.5). A participant noted that academic achievement for the composition of groups would be more important to consider in the first study year.

Table 7.198 The preferences of experts for factors to consider when forming groups

	If you consider any of the above-mentioned aspects (in item 3) to be important, how do you think groups should be composed as far as these aspects are concerned?	Round 1	Round 2
3b	Language of instruction:	(n=6)	(n=5)
	Only groups with the same language	3	2
	Mixed language groups	3	3
	Gender:	(n=5)	(n=5)
	Only male/female individuals in a group		
	Mixed gender groups	5	5
	Population group:	(n=5)	(n=5)
	Only members from the same population group		
	Members with mixed population groups	5	5
	Age:	(n=4)	(n=5)
	Older students must form their own group		
	Older students must be divided up into different groups	4	5
	Academic achievement:	(n=4)	(n=5)
	High/low achievers should form their own separate group	1	1
	High/low achievers should be mixed in different groups	3	4

Table 7.198 presents the experts' preferences for specific types of groups. Most of the participants who responded, preferred mixed groups regarding all the above-mentioned aspects, apart form the language of instruction. The participants had mixed opinions about how language of instruction should influence the composition of groups, although, during round two, the majority preferred mixed language groups. One participant asserted that the language of instruction should be understood by all the group members and should therefore be uniform in a

group, but another noted that mixed language groups provide the opportunity for students to learn about the real world.

Table 7.199 The experts' responses to the item concerning the method to form groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
4	Once the composition of groups has been determined, students should be divided into groups according to a specific method.	7	1	1	3	3			Stability
			2	1	3	3			

The majority of participants (57%) regarded the use of a specific method to form groups as important, although no consensus was reached (Table 7.199).

Table 7.200 The preferences of experts for the method of dividing students into groups

	According to which of the following methods do you think should students be divided into groups?	Round 1 (n=6)	Round 2 (n=6)
4b	According to the social relations between students (sociometry)		
	According to roles that students would prefer to play in a group		
	Students must choose the groups they would like to be in themselves	1	1
	Randomly	5	5
	Alphabetically		
	Other (specify)		

The majority of the participants (83%) preferred groups to be formed randomly, which emphasises their opinion about students working in a real-life situation (Table 7.200). One respondent indicated that, if students are divided randomly into groups, groups could still be "socially engineered" where necessary, e.g., if groups consisted of only women or only mature-aged students. Another commented that, if students were allowed to choose groups themselves, a few "left over" students might have a potential disadvantage (although these students could subsequently develop good group-work skills). The same person also said that, if groups are formed alphabetically, students might have worked together before. During the second round, a participant indicated that students should be allowed to choose at least one friend.

Table 7.201 The experts' responses to the item on students' needs and the composition of groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
5	Students' needs must be taken into consideration when forming groups.	7	1	2	2	2	1		Stability
			2		4	3			
			3		5	2			

No consensus was reached, but 71% of the respondents regarded it as important to take students' needs into consideration when forming groups (Table 7.201). One participant noted that this should only be done to a limited extent, although one should be realistic about logistics, e.g., transport issues.

Table 7.202 The experts' responses to the item on choosing names for groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
6	Groups must choose their own name for the group.	7	1		3	2	1	1	Stability
			2		3	3	1		

No consensus was reached and there was no majority vote on the importance of allowing group members to choose a name for their group, although responses were stable (Table 7.202). One participant suggested that this would help with group dynamics.

Table 7.203 The experts' responses to the item concerning the lifetime of groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
7	Groups must only function for a certain period before new groups are formed.	7/ *6	1	2	2	2	1		Stability
			2		3	2	1		
			3		5	1	1		
			4		5	1	1		

*n=6 for round 2

It took four rounds to reach stability of votes and although no consensus was reached on the importance of a specific lifetime for groups, the majority of respondents (71%) rated this item as important (Table 7.203). Although only one participant changed his/her vote during round two, another did not respond. The item was therefore regarded unstable and it was again included in the following rounds. A participant suggested that changing groups would be good if the primary objective is the development of group-work skills, but if it is not, changes should be limited. The same person also noted that problems could occur if groups are permanent and a member cannot function within a particular group. Another participant asserted during the fourth round that it is not necessary to change groups if they are functioning well.

Table 7.204 The preferences of experts for the lifetime of groups

	How long do you think a group should exist at a time?	Round 1 (n=7)	Round 2 (n=7)
7b	6 months	2	4
	1 year		
	For the duration of a specific Phase (1 year for Phase I & 2 years for Phase II)	3	2
	For the duration of the course (5 years)	1	1
	Other (specify)	1	

The majority of participants (57%) chose a lifetime of six months for groups (Table 7.204). A suggestion was made that groups should exist for periods of six weeks (e.g., a module), to a maximum of a semester. At the UFS the modules are presented over an entire semester, and this would imply that groups should exist for a semester. The great variety in opinions to this question could explain why consensus was not easily reached for item 7 (cf. Table 7.203).

Table 7.205 The experts' responses to the items concerning co-operation with other groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
8	There should be opportunity to work in groups with students from other year groups of the same course.	7	1		3	3	1		Stability
			2		3	3	1		
9	There should be opportunity to work in groups with students from other courses (like nursing and physiotherapy students).	7	1	1	5	1			Consensus (4-5)

Table 7.205 presents the responses of the experts to the items concerned with the co-operation of groups with groups from other quarters (items 8 and 9). No consensus was reached on the importance of students working together with other year groups from the same course (item 8) and there was no majority vote on this item. The fact that most respondents (86%) reached consensus on the importance of students co-operating with groups from other courses (item 9), confirms the fact that it is essential for medical students to develop multi-disciplinary skills. Two participants noted that multi-professional learning enhances respect amongst professionals and assists students with developing interdisciplinary skills.

Table 7.206 The experts' responses to the item concerning leaders for groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
10	Groups must have group leaders.	7	1	5	1	1			Consensus (4-5)

The participants reached consensus (with a majority vote of 86%) that it is important for groups to have group leaders (Table 7.206).

Table 7.207 The preferences of experts for the way to appoint group leaders

	In which way do you think group leaders should be appointed?	Round 1 (n=7)	Round 2 (n=6)
10b	The group must choose its own leader	6	6
	The group leader must be appointed by lecturers	1	
	Other (specify)		

All the participants who responded to item 10b, preferred that students choose their own group leaders (Table 7.207). One participant contended that every student should be a group leader every year for a number of weeks, i.e., on a rotating basis.

Table 7.208 The preferences of experts for the period a person should act as group leader

	For which of the following periods of time do you think a person should act as group leader?	Round 1 (n=6)	Round 2 (n=7)
10c	All the time as long as the group exists	1	
	Another leader each week	2	3
	Another leader each semester		
	A different leader for each module	2	3
	Other (specify)	1	1

Although there were different opinions about the period of time for which a person should act as group leader, it is clear that all of them suggested that as many students as possible should get the opportunity of being a group leader (Table 7.208). It was noted that leaders could also be appointed for individual group-work sessions, but also that the period of time for which a person acts as group leader, depends on the lifetime of the group.

Table 7.209 The experts' responses to the item concerning ice-breaker sessions

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
11	Ice-breaker sessions must be arranged for group members to get to know each other.	7	1	5	1	1			Consensus (4-5)

Consensus was reached that ice-breaker sessions are important for group members to get to know one another (a majority vote of 86%) (Table 7.209).

Table 7.210 The experts' responses to the items concerning the responsibilities of group members

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
12	A specific role must be appointed to each member in a group.	7	1	3	2	1	1		Stability
			2	4	1	2			
			3	4	1	2			
13	Specific tasks must be appointed to each member in a group.	7	1	3	2	1	1		Consensus (4-5)
			2	4	2	1			

Table 7.210 presents the responses to the items concerned with the responsibilities of group members (items 12 and 13). No consensus was reached on the importance of appointing specific roles to group members (item 12), but the responses to this item were stable after round three and most participants (71%) regarded it as important. One participant noted that the roles may be the same for some of the students and another asserted that students should appoint these roles themselves. Consensus and the majority of votes (86%) also indicated that assigning specific tasks to members is important (item 13). In response to this item, a participant noted that some students could have the same task in a group and another indicated that the tasks should be appointed by the students themselves.

Table 7.211 The experts' responses to the items concerning the conditions for successful group functioning

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
14	Ground rules must be laid down according to which groups have to function.	7	1	7					Consensus (5)
15	A contract must be compiled between group members in which guidelines for the working procedures in a group are determined.	7	1	4		2	1		Consensus (4-5)
			2	5	1	1			

Table 7.211 presents the responses to the items concerned with conditions for successful group work (items 14 and 15). Ground rules are very important for groups (item 14) according to all the participants (100% consensus). After round two, 85% of the participants also reached consensus that a contract is important (item 15).

Table 7.212 The experts' responses to the items concerning students' personal situations and the composition of groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
16	Students who have relationships with one another should not be in the same groups.	7	**2**	1	1	5			Stability
			3		2	5			
17	Students who stay or travel together should be encouraged to be in the same group.	7	**2**		2	3	1	1	Stability
			3		2	4	1		
			4		2	5			

Table 7.212 presents the results to the items concerned with students' personal situations and the composition of groups (items 16 and 17). Both these items were suggested during round one and were subsequently included in the second questionnaire as new items. No consensus was reached, but the majority of participants (71%) felt neutral about the fact that students who have relationships should be in different groups (item 16). One participant noted that it could be a problem if students develop a relationship whilst being in the same group.

Most of the participants (71%) felt neutral about the fact that students who stay or travel together should be in the same group (item 17). One participant noted that this could depend on the circumstances, and another noted that it is only important if students are expected to meet after-hours. The question about the possibility of students moving was also raised. During the fourth round, the comment was made that this specific item could actually be regarded as some form of a need of the students (cf. Table 7.201), and it was also noted that it is likely that students who stay or travel together, would be in some form of relationship.

Table 7.213 Responses of the Delphi experts to the open-ended questions on the composition of groups

Item	Wording	Response	n
18	Are there any additional indicators for the composition of groups that you would like to suggest?	Students who have relationships with one another should not be in the same groups.	1
		Students who stay or travel together should be encouraged to be in the same group.	1
19	Are there any additional comments that you would like to make regarding the composition of groups?	Students should be allowed to choose their own groups of three, while the faculty combine two such groups to form groups of six. This allows for students to choose their own groups, but also for the faculty to manipulate the composition of groups to some extent.	1

Table 7.213 presents the responses to the open-ended questions in the "group composition" section of the questionnaire (items 18 and 19). Two new indicators regarding the composition

of groups were suggested (item 18), and these items were included in the questionnaire for the second round (cf. Table 7.212).

7.2.2 Items regarding the training of students and staff on group work

Table 7.214 The experts' responses to the items concerning the general aspects of training for group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
20	Students must be thoroughly trained with regard to group work.	7	1	5	2				Consensus (4-5)
21	Lecturers and facilitators must be trained with regard to group work.	7	1	6	1				Consensus (4-5)
22	The training that students and lecturers/facilitators receive with regard to group work, must be in line with each other.	7	1	6	1				Consensus (4-5)
23	Mentors for groups must be trained with regard to the group process.	7	1	5	2				Consensus (4-5)
24	A complete guide on group work must be available for students.	7	1 2	4 6	1	2 1			Consensus (4-5)
25	A complete guide on group work must be available for staff.	7	1 2	4 7	1	2			Consensus (5)
26	Certain aspects of the training of students with regard to group work must be repeated during the course.	7	1 2	3 2	2 4	2 1			Consensus (4-5)

Table 7.214 presents the responses to the items concerning general aspects in the training for group work (items 20-26). Consensus was reached on the importance of all the above-mentioned items. All the votes for the different items fell wholly in the 4-5 range of the scale, apart from items 24 and 26. But even for these two items, a majority vote of 86% fell within this range of the scale. One participant noted that the training of students is very important for the proper functioning of a group (item 20). Another noted that a guide for students might be used by students at the beginning, but questioned the use of it at later stages (item 24). One participant noted that a guide is probably more important for staff members than students, for use as some sort of trouble-shooting guide (item 25). Furthermore, it was noted that repeating aspects of training should especially be done during the first year of the course (item 26).

Table 7.215 The opinions of the experts regarding aspects in the training of students that need to be repeated

Item	Wording	Response	n
26b	If you are of opinion that certain aspects of the training of students regarding group work should be repeated during the course, which aspects would it be? (Please specify).	The objectives of group work	1
		Communication skills	1
		Personal interaction	1
		Conflict resolution	1
		Role allocation	1
		The importance of having ground rules and sticking to them	1
		Chairing skills	1
		Support amongst group members	1

A few respondents suggested aspects which should be repeated in the training of students (Table 7.215).

Table 7.216 The preferences of experts regarding the appropriate time for repeating aspects in the training of students

	If any aspects of the training of students should be repeated, when do you think they should be repeated?	Round 1 (n=6)	Round 2 (n=5)
26c	At the beginning of Phase II (second year of course)	2	1
	At the beginning of each study year	1	
	At the beginning of each semester	2	4
	Other (specify)	1	

Of the participants who offered their preferences for the time when aspects in the training of students should be repeated, 80% indicated during round two that training for students should be repeated at the beginning of each semester (Table 7.216). A participant commented that repeating aspects of the training should apply mainly to the first year students, but warned that groups from all the years should be looked at, since groups can easily disintegrate. Another suggested that continuous training should occur, with the emphasis on the beginning of each semester.

Items 27-55 refer to possible aspects that may be addressed during training on group work (i.e., the contents of training). Participants were asked to indicate on the scale, in each case, how important they thought it to be that students, lecturers and facilitators receive training on the specific aspect, and their responses are indicated accordingly:

Table 7.217 The experts' responses to the items concerning training for students, lecturers and facilitators on group work

Item	Wording	Trainees	n	Round	Importance 5	4	3	2	1	Result
27	The importance and advantages of group work.	Students	7	**1**	5	2				Consensus (4-5)
		Lecturers	7	**1**	3	2	2			Consensus (4-5)
				2	5	1	1			
		Facilitators	7	**1**	6	1				Consensus (4-5)
28	The objectives of group work.	Students	7	**1**	7					Consensus (5)
		Lecturers	7	**1**	4	2	1			Consensus (4-5)
		Facilitators	7	**1**	7					Consensus (5)
29	The principles and conditions for successful group work.	Students	7	**1**	6		1			Consensus (4-5)
		Lecturers	7	**1**	3	2	2			Consensus (4-5)
				2	4	3				
		Facilitators	7	**1**	7					Consensus (5)
30	Training in group dynamics.	Students	7	**1**	6	1				Consensus (4-5)
		Lecturers	7	**1**	3	2	2			Consensus (4-5)
				2	3	4				
		Facilitators	7	**1**	7					Consensus (5)
31	Training in effective communication and social skills.	Students	7	**1**	7					Consensus (5)
		Lecturers	7	**1**	3	2	1	1		Consensus (4-5)
				2	3	4				
		Facilitators	7	**1**	7					Consensus (5)
32	How to analyse interaction within a group.	Students	7	**1**		3	4			Consensus (4-5)
				2		5	2			
				3		6	1			
		Lecturers	7	**1**	3	2	1	1		Consensus (4-5)
				2	3	4				
		Facilitators	7	**1**	5	2				Consensus (4-5)
33	How to identify and handle problems in a group.	Students	7	**1**	4	2	1			Consensus (4-5)
		Lecturers	7	**1**	4		2	1		Consensus (4-5)
				2	4	3				
		Facilitators	7	**1**	7					Consensus (5)
34	The importance of maintaining the group process.	Students	7	**1**	4	3				Consensus (4-5)
		Lecturers	7	**1**	3	2	1	1		Consensus (4-5)
				2	3	4				
		Facilitators	7	**1**	6	1				Consensus (4-5)
35	Training in the role and tasks of a group leader.	Students	7	**1**	6	1				Consensus (4-5)
		Lecturers	7	**1**	2	2	2		1	Consensus (4-5)
				2	2	5				
		Facilitators	7	**1**	5	2				Consensus (4-5)

Item	Wording	Trainees	n	Round	Importance					Result
					5	4	3	2	1	
36	The different roles that group members may play.	Students	7	**1**	3	2	2			Consensus (4-5)
				2	3	3	1			
		Lecturers	7	**1**	1	3	3			Consensus (4-5)
				2	1	5	1			
		Facilitators	7	**1**	3	3	1			Consensus (4-5)
37	The characteristics of effective and ineffective groups and group members.	Students	7	**1**	2	4	1			Consensus (4-5)
		Lecturers	7	**1**	3	2	1	1		Consensus (4-5)
				2	3	4				
		Facilitators	7	**1**	6	1				Consensus (4-5)
38	Strategies to improve the effectiveness of a group.	Students	7	**1**	4	3				Consensus (4-5)
		Lecturers	7	**1**	3	3	1			Consensus (4-5)
		Facilitators	7	**1**	7					Consensus (5)
39	How to plan and conduct a group-work session.	Students	7	**1**	4	1	1	1		Consensus (4-5)
				2	6		1			
		Lecturers	7	**1**	3	3	1			Consensus (4-5)
		Facilitators	7	**1**	7					Consensus (5)
40	How to plan and complete a group task.	Students	7	**1**	5	2				Consensus (4-5)
		Lecturers	7	**1**	3	3	1			Consensus (4-5)
		Facilitators	7	**1**	7					Consensus (5)
41	The different types of group work that can be used during a group-work session.	Students	7	**1**	2	4	1			Consensus (4-5)
		Lecturers	7	**1**	3	3	1			Consensus (4-5)
		Facilitators	7	**1**	4	3				Consensus (4-5)
42	The process of solving problems (related to the group task).	Students	7	**1**	5	1	1			Consensus (4-5)
		Lecturers	7	**1**	3	3	1			Consensus (4-5)
		Facilitators	7	**1**	5	2				Consensus (4-5)
43	The different methods that can be used for group work.	Students	7	**1**	2	4	1			Consensus (4-5)
		Lecturers	7	**1**	3	2	1	1		Consensus (4-5)
				2	5	2				
		Facilitators	7	**1**	5	2				Consensus (4-5)
44	The reasons why a variety of group-work methods should be used.	Students	7	**1**		4	2	1		Stability
				2		5	1	1		
		Lecturers	7	**1**	2	2	2	1		Consensus (4-5)
				2	3	4				
		Facilitators	7	**1**	4	2	1			Consensus (4-5)
45	The importance of regular evaluation of the group task.	Students	7	**1**	4	3				Consensus (4-5)
		Lecturers	7	**1**	3	1	2	1		Consensus (4-5)
				2	5	2				
		Facilitators	7	**1**	5	2				Consensus (4-5)

Item	Wording	Trainees	n	Round	Importance					Result
					5	4	3	2	1	
46	The importance of regular evaluation of the group process.	Students	7	**1**	4	2	1			Consensus (4-5)
		Lecturers	7	**1**	4	1	1	1		Consensus (4-5)
				2	6	1				
		Facilitators	7	**1**	5	2				Consensus (4-5)
47	The different learning styles that students might possess.	Students	7	**1**	1	3	3			Stability
				2	1	4	2			
		Lecturers	7	**1**	2	3	2			Consensus (4-5)
				2	2	4	1			
		Facilitators	7	**1**	2	4	1			Consensus (4-5)
48	The skills that students develop through doing group work.	Students	7	**1**	3	4				Consensus (4-5)
		Lecturers	7	**1**	2	4	1			Consensus (4-5)
		Facilitators	7	**1**	3	4				Consensus (4-5)
49	The advantages and conditions of co-operative learning.	Students	7	**1**	3	4				Consensus (4-5)
		Lecturers	7	**1**	2	4	1			Consensus (4-5)
		Facilitators	7	**1**	3	4				Consensus (4-5)
50	How participation and discussion of members within a group can be improved.	Students	7	**1**	4	3				Consensus (4-5)
		Lecturers	7	**1**	2	3	2			Consensus (4-5)
				2	4	3				
		Facilitators	7	**1**	5	2				Consensus (4-5)
51	The importance of a positive attitude towards group work.	Students	7	**1**	5	1			1	Consensus (4-5)
		Lecturers	7	**1**	4	2	1		1	Consensus (4-5)
		Facilitators	7	**1**	5	1			1	Consensus (4-5)
52	Training regarding personalities and personality clashes.	Students	7	**2**	1	5	1			Consensus (4-5)
		Lecturers	7	**2**	1	6				Consensus (4-5)
		Facilitators	7	**2**	3	4				Consensus (4-5)
53	How to address conflict within the group.	Students	7	**2**	4	3				Consensus (4-5)
		Lecturers	7	**2**	3	4				Consensus (4-5)
		Facilitators	7	**2**	5	2				Consensus (4-5)
54	How to address students who do not perform up to expectation.	Students	7	**2**	5	2				Consensus (4-5)
		Lecturers	7	**2**	5	2				Consensus (4-5)
		Facilitators	7	**2**	7					Consensus (5)
55	How to address racial clashes within a group.	Students	7	**2**	5	2				Consensus (4-5)
		Lecturers	7	**2**	4	3				Consensus (4-5)
		Facilitators	7	**2**	6	1				Consensus (4-5)

Table 7.217 presents the responses to the items concerning the training for students, lecturers and facilitators (items 27-55). For all these items, consensus was reached on their importance, apart from items 44 and 47. For these two items, only stability was reached, although the majority (71%) of respondents regarded them as important. Some of the aspects of training were regarded by all seven participants as very important for facilitators (point 5 of the scale)

(cf. items 28, 29, 30, 31, 33, 38, 39, 40, and 54). The same applies for training of students regarding items 28 and 31. The fact that many of the items needed at least two rounds to reach consensus on aspects important for the training of lecturers, could indicate that the exact role of the lecturer in group work was unclear to most of the participants. These items include all items apart from items 28, 38-42, 48, 49 and 51. One respondent noted in response to item 27 that it was difficult to comment on the importance of training for lecturers regarding group work. It was clear that the role of the lecturer in group work at the UFS was not obvious to many of the participants, and therefore an explanation of the role and involvement of lecturers in group work was added to the list of definitions in the second questionnaire. Another participant appropriately noted that all staff members involved with group work should receive training, since lecturers might be facilitators at a later stage, and visa versa.

It is interesting that it took three rounds to reach consensus on the importance of students knowing how to analyse interaction in a group (item 32), since most participants regarded it as important to evaluate the group process regularly (item 46). It is also interesting that consensus was not reached during the first round on the importance of students knowing about the different roles which members may play in a group (item 36). The same applies for item 47 (learning styles of students). For the new items suggested during the first round (items 52-55), consensus was reached on their importance during the second round. However, one participant regarded item 52 as part of conflict resolution.

The following items (56-63) address possible additional aspects that may be addressed during the training of lecturers and facilitators with regard to group work. The responses on the importance for lecturers and facilitators are indicated separately for each item.

Table 7.218 The experts' responses to the items concerning the additional contents of training on group work for lecturers and facilitators

Item	Wording	Trainees	n	Round	Importance					Result
					5	4	3	2	1	
56	The choice of a group-work method for a group-work session.	Lecturers	7	**1**	3	3	1			Consensus (4-5)
		Facilitators	7	**2**	4	3				Consensus (4-5)
57	The compilation and formulation of group tasks for group-work sessions.	Lecturers	7	**1**	4	2	1			Consensus (4-5)
		Facilitators	7	**1**	4	3				Consensus (4-5)
58	The importance of feedback to students regarding group work.	Lecturers	7	**1** **2**	4 6	 1	3			Consensus (4-5)
		Facilitators	7	**1**	7					Consensus (5)
59	Appropriate assessment techniques for group work.	Lecturers	7	**1** **2**	4 6	1 1	2			Consensus (4-5)
		Facilitators	7	**1**	6	1				Consensus (4-5)
60	The role of a group-work facilitator.	Lecturers	7	**1** **2**	4 5	1 2	2			Consensus (4-5)
		Facilitators	7	**1**	7					Consensus (5)
61	Skills that are necessary to facilitate groups effectively.	Lecturers	7	**1**	4	2	1			Consensus (4-5)
		Facilitators	7	**1**	7					Consensus (5)
62	How students can be assisted with regular self-evaluation of the group process and the group task.	Lecturers	7	**1**	3	3	1			Consensus (4-5)
		Facilitators	7	**1**	5	2				Consensus (4-5)
63	How to address a request from students to move from one group to another group.	Lecturers	7	**2** **3**	2 1	2 3	3 3			Stability
		Facilitators	7	**2**	3	3	1			Consensus (4-5)

Table 7.218 presents the responses to the items on additional aspects for the training of lecturers and facilitators. Consensus was reached (i.e., at least 86% of the votes fell in the 4-5 range of the scale) that all of the above-mentioned items (56-63) are important aspects in the training of lecturers and facilitators, apart from item 63 (and then only not for the lecturers). Only stability of votes was reached on this item, although the majority of participants (57%) regarded it as important. All seven participants regarded items 58, 60 and 61 as very important training aspects for facilitators (i.e., they all chose point 5 of the scale). Once again, the fact that two

rounds were necessary to reach consensus on the importance of some training aspects for lecturers (items 58, 59 and 60), indicated that there was initially some uncertainty about the role of lecturers in group work.

Item 63 was suggested as a new item during the first round and was therefore included in the second questionnaire. One participant warned during the third round that this could become a hugely troublesome issue if students are allowed to change groups at will.

Table 7.219 Responses of the experts to the open-ended questions on training for group work

Item	Wording	Response	n
64	Are there any additional indicators regarding the training of students and staff that you would like to suggest?	Training regarding personalities and personality clashes.	1
		How to address conflict within the group.	1
		How to address students who do not perform up to expectation.	1
		How to address racial clashes within a group.	1
65	Are there any additional comments you would like to make about the training of students, lecturers or facilitators regarding group work?	Not too much time should be spent on theory, but rather on actual practice and "hands on" experience of group work.	2

Table 7.219 presents the responses to the open-ended questions in the "training" section of the questionnaire (items 64 and 65). Items 52-55 and 63 were suggested in the responses to item 64. These indicators were included as new items in the second questionnaire.

7.2.3 Items regarding the planning and design of group-work sessions

Table 7.220 The experts' responses to the items concerning the physical resources for group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
66	Appropriate venues must be used for group work.	7	1	2	5				Consensus (4-5)
67	The tables and chairs must be arranged so that members in a group can look towards one another.	7	1	5	1	1			Consensus (4-5)
68	Sufficient resources like library books and computers must be available for all the groups to use.	7	1	3	3	1			Consensus (4-5)

Table 7.220 presents the responses of the participants to the items concerning the physical resources for group work (items 66-68) and it is clear that the majority of participants regarded, with consensus, these items as important. One participant suggested, in response to item 67, that students could see to it themselves that furniture is arranged appropriately and another noted that a circular arrangement is the best. A participant also noted in response to item 68 that the resources necessary for a group-work session depend on the specific task, and that shared resources are part of the "game plan" of group work.

Table 7.221 The experts' responses to the item concerning the outcomes of group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
69	Clear outcomes for the development of group-work skills must be set and made known to students.	7	1	6	1				Consensus (4-5)

All seven participants regarded it as very important that the outcome for the development of group-work skills should not only be explicitly determined, but should also be made known to students (Table 7.221).

Table 7.222 The experts' responses to the item concerning students preparing for group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
70	There must be mechanisms to encourage students to prepare for group work.	7	1	7					Consensus (5)

All seven participants regarded it as very important that students should be encouraged to prepare for group work (Table 7.222).

Table 7.223 The experts' suggestions of mechanisms for encouraging students to prepare for group-work sessions

Item	Wording	
70b	Are there any such mechanisms (to encourage students to prepare) that you would like to suggest from your experience, which might be feasible?	
Suggested positive motivators:		**n**
Giving students specific instructions and work to prepare		1
Giving students a fun task which leads to a specific product		1
Making reading material available beforehand		1
Encouraging all students to participate in group work and probing the quiet ones		1
Assigning tasks for students to present during a next group-work session		1
Giving students certain responsibilities for the resources of the group		1
Rotating the scribe of the groups		1
Suggested negative motivators:		
Coercion		1
Giving students a test to write before the session starts		1
Giving a computer test which students have to complete as a prerequisite for attendance of the specific sessions		2
Giving students a mark (e.g., a small contribution to semester mark) for preparation		1
Giving a test during the last ten minutes of the sessions for students to reflect on the group performance during the session		1
Making preparation for group-work sessions part of the ground rules of groups		1
Assessing or evaluating students on group work		1

Table 7.223 presents the suggestions of the participants on how students could be encouraged to prepare for group work. These suggestions were grouped into positive and negative motivators.

Table 7.224 The experts' responses to the items concerning the outcomes and assignments for group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
71	Lecturers must know which types of questions and assignments for group work are suitable for the different kinds of knowledge that students should acquire (according to Bloom's taxonomy).	7	1	3	3		1		Consensus (4-5)
72	The assignment for group work must be suitable for the purpose of the specific group-work session.	7	1	5	2				Consensus (4-5)
73	The assignments and outcomes for group work must be set out clearly so that groups know exactly what is expected of them.	7	1	5	1	1			Consensus (4-5)
74	The task (assignment and topic) for group work must enhance co-operation and discussion between members of a group.	7	1	4	3				Consensus (4-5)

Table 7.224 presents the responses to the items concerning the outcomes and assignments for group work (items 71 to 74). Consensus was reached amongst the respondents that all these aspects of group work are important. One participant noted that assessment drives learning (item 71). Another asserted that the importance of item 73 is debatable since it would remove the problem-oriented nature of the exercise.

Table 7.225 The experts' suggestions for types of tasks to encourage co-operation

Item	Wording	Response	n
74b	Are there any such types of assignments (encouraging co-operation amongst members) that you would recommend from your experience?	Co-operative learning strategies (jigsaw, rainbow, etc.)	1
		Using controversial or fun topics	1
		Oral presentation	1
		Group presentations	1
		Project work where students should divide the labour for the project	1

Table 7.225 presents the suggestions of the participants of different types of assignments which would encourage co-operation amongst group members.

Table 7.226 The experts' suggestions for modules of which the content is not suitable for group work

Item	Wording	Response	n
74c	What would you suggest for modules of which the content is not suitable for group work?	Any module is suitable for group work	1
		Appropriate methods should be used, e.g., interactive large group discussions, seminars, or a practical	3

The Delphi experts' were also asked about modules which are not suitable for group work, and their responses are summarised in Table 7.226. This question was asked to the Delphi participants due to the many comments made by the students and staff of the UFS that certain modules are not suitable for group work (cf. Table 7.127).

Table 7.227 The experts' responses to the item on realistic outcomes for a group task

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
75	The outcomes which are set for a group task must be realistic.	7	1	5	2				Consensus (4-5)

Consensus was reached that it is important for the outcomes for group tasks to be realistic (Table 7.227). A participant suggested that brighter students could receive more work to do, but that only core knowledge should be assessed.

Table 7.228 The experts' responses to the items concerning the types of, and methods for, group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
76	The type of group work (task-based or problem-oriented) used for a specific session must support the specific purpose of the session.	7	1	3	3	1			Consensus (4-5)
77	The group-work method that is used for a specific group-work session must support the specific purpose of the session.	7	1	3	3	1			Consensus (4-5)
78	A variety of group-work methods should be used for group work.	7	1		5	2			Consensus (4-5)
			2	1	5	1			
79	Group work (must) **could** be done in small, as well as large (e.g. the whole class) groups.	7	1	3	1	3			Stability
			2	4		3			

Table 7.228 presents the responses to the items concerning the types of, and methods for, group work (items 76 to 79). Items 76-78 were regarded as important (with consensus) by 86% of the respondents. The change to the wording (to the emphasised word) of item 79 after the first round in response to comments made by a participant, did not influence the responses of the participants to a great extent, since only 57% again rated the item as important during round two. It was therefore dropped after round two on the basis of stability, rather than consensus. In response to item 78, one participant suggested that it is more important for the method to be appropriate than using a variety of methods just for the sake of it. One participant also asserted

that the size of the groups should depend on the aims of the group-work session and another emphasised that group work should only be done in small groups.

Table 7.229 The experts' responses to the item concerning the common goal of the group vs. individual accountability of individual members

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
80	The same amount of emphasis should be laid upon the common goal of the group, as well as individual accountability of group members during a group-work session.	7	1	1	5	1			Consensus (4-5)

Consensus was reached amongst 86% of the respondents that it is important for the same amount of emphasis to be laid on the common goal of the group as on individual accountability, during group-work sessions (Table 7.229).

Table 7.230 The experts' opinions about the common goal of the group vs. individual accountability of individual members

80b	If you think that one of the above-mentioned (in item 80) is more important, which one would it be?	Round 1 (n=6)	Round 2 (n=6)
	The common goal of the group	3	4
	Individual accountability of group members	3	2

In response to the opportunity to distinguish between the common goal of the group and individual accountability, 66.7% of those participants who did respond, indicated during the second round that the common goal of the group should be more important (Table 7.230), even though the majority thought that both these aspects should be given the same emphasis (cf. Table 7.229). One participant mentioned that the importance of the above-mentioned depends on the lifetime of the group.

Table 7.231 The experts' responses to the item concerning the number of facilitators for group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
81	A specific number of groups must be appointed to a facilitator during group-work sessions. (This number must be determined beforehand and each facilitator should have the same number of groups to facilitate).	*6 /5	1	2	2	1	1		Consensus (4-5)
			2	1	2		1	1	
			3	1	2		2		
			4	1	2	2			
			5	1	3	1			

* n=6 (round 1); n=5 (rounds 2-5)

Table 7.231 presents the responses to the importance of a specific number of facilitators for group work (item 81). This item was reworded after round one since it was clear that participants were uncertain about its exact meaning (see item 72 in the first questionnaire, Appendix G). In spite of this, five rounds were necessary to reach consensus on the importance of a specific number of facilitators for group work. This could indicate that participants remained uncertain about the exact meaning of the item, especially due to the fact that the responses were very unstable. Although only one vote changed between rounds one and two, one less participant responded to the item during round two and it was therefore not regarded as stable. Although it appears as if stability was reached during round three, three different participants changed their votes and therefore there was more than 15% change in votes between rounds two and three (cf. 5.9.7.2). Eventually in round five, 80% of the participants who responded, regarded it (with consensus) as important, even though it was not included in so many rounds specifically to reach consensus, but rather stability of votes.

Table 7.232 The experts' opinions regarding the ideal number of facilitators for a group-work session

Item	Wording	Response	n
81b	How many groups per facilitator do you think would be ideal for a group-work session? (Please specify).	One group per facilitator	2
		One facilitator, although there could be more if, for example, if a generalist and an expert are needed	1
		Ten groups per facilitator	1
		Eight groups per facilitator	1
		Two groups per facilitator	1
		Maximum of five groups per facilitator	1

The Delphi experts had different opinions about the ideal number of facilitators for a group-work session (Table 7.232). The fact many participants preferred one group per facilitator could explain why the responses to item 81 (Table 7.231) were very unstable and why this item did not have a 100% response rate.

Table 7.233 The experts' opinions regarding facilitators moving around between groups to facilitate

		Round 1 (n=7)	Round 2 (n=5)
81c	Do you think that it is acceptable for facilitators to move around between groups to facilitate the group work?		
	Yes	6	5
	No	1	

Table 7.233 presents the opinions of the participants on the acceptability of facilitators moving around between groups to facilitate. One participant indicated that this would be acceptable for certain types of group work, e.g., a practical. Another noted that it depends on the aims of

group work and the experience of the students, and two respondents suggested that it would be acceptable on some conditions, viz., if there is only one venue (one facilitator would then be sufficient), or if there is no alternative available (i.e., not enough facilitators available). Although three participants preferred one group per facilitator (cf. Table 7.232), the majority indicated that facilitators could move between different groups, implying that a facilitator could be appointed to more than one group if necessary.

Table 7.234 The experts' responses to the items concerning the expertise and continuity of facilitators

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
82	The facilitators for a group-work session must be experts in the specific subject field in which group work is being done.	7	1		1	2	3	1	Stability
			2			3	2	2	
			3			3	3	1	
83	The same facilitators must be involved in all the group-work sessions of a specific module to ensure continuity, regardless of the contents of the group work.	7	1	1	2	2	2		Consensus (4-5)
			2	1	4	2			
			3	1	5	1			

Table 7.234 presents the responses to the items concerning the expertise and continuity of facilitators (item 82 and 83). Three rounds were required to reach stability of votes on the importance of facilitator expertise, and although no consensus was reached on this item, the majority (57%) of participants did not regard it as important (item 82). In response to this item, a participant reasoned that it is better to have a good facilitator who is not an expert than the opposite situation. Another asserted that experts are not usually good facilitators, because they provide too much information and student-centred learning would be lost, adding that students should be told when a facilitator acts as a resource person. The comment was also made that the need for expert facilitators would depend on the purpose of the group task. Two participants referred to the literature and mentioned that facilitators are usually not experts in a problem-based set-up.

In contrast with the expertise of facilitators (item 82), the majority of participants (86%) reached consensus that it is important for the same facilitators to be involved with group work in a specific module (item 83). One participant noted that it is important for facilitators to have a good understanding of the contents of a module and another asserted that, although it would help students and facilitators to get to know one another, it is more important to have skilled facilitators.

Table 7.235 The experts' responses to the item concerning the use of senior students as facilitators

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
84	Students from more advanced study years may also act as facilitators for group work.	7	1	1	5	1			Consensus (4-5)

Consensus was reached amongst the participants that it is important to use senior students as facilitators (Table 7.235). One participant noted that it could be important, as long as the involved students are trained.

Table 7.236 The experts' responses to the item concerning the time spent on group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
85	The time that is spent on a group-work session should be determined by the specific task for the session.	7	1	1	5	1			Consensus (4-5)

The majority of the participants (86%), with consensus, thought it important that the time spent on group work should depend on the nature of the task (Table 7.236). One participant claimed that it would not be possible to do this, since one would never get through a group-work session if the time were not specified.

Table 7.237 The experts' opinions regarding the structure of the group-work sessions at the UFS

85b	Do you think it is acceptable if a three-hour session (as is the case at the UFS) is flexible in terms of the structure (how many lectures/hours group work)?	Round 1 (n=6)	Round2 (n=5)
	Yes	5	5
	No	1	

Table 7.237 presents the participants' opinions on the structure of the three-hour sessions at the UFS. The majority thought it acceptable that these sessions were flexible, which confirms the fact that they regarded it as important that the time spent on group work should depend on the task (cf. Table 7.236). A participant noted that the method should be appropriate for the aims and the outcomes of the session. Another, however, suggested that group work should be standardised and should not be shorter than two hours.

Table 7.238 The experts' responses to the item concerning feedback on group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
86	Feedback should be provided after each group-work session on the work done during the session.	7	1	4	1	2			Consensus (4-5)
			2	6		1			

Consensus was reached amongst 86% of the participants that it is important to provide feedback on group work (Table 7.238). One participant noted that feedback is one of the most neglected, but important, aspects of group work. Another also commented that feedback needs time, and therefore it may not always be possible to provide it after a group-work session.

Table 7.239 The experts' opinions on the persons and time to provide feedback

		Round 1 (n=7)	Round 2 (n=7)
86b	Who do think should provide feedback on a group-work session?		
	The groups themselves	6	6
	The lecturer	3	2
	The facilitator	6	6
86c	When do you think is the best time for feedback on a group-work session?	(n=7)	(n=7)
	Directly after the session	4	7
	During the following session of the same module	2	
	Other (specify)	1	

Table 7.239 presents the participants preferences for the time for and persons to provide feedback on group work (items 86b and 86c). The majority of the participants indicated that both the students and facilitators should be involved in providing feedback (item 86b), and all seven participants also preferred (during the second round) that it take place directly after the specific session (item 86c). One participant felt that feedback is most appropriate and effective when given immediately after the specific session.

Table 7.240 The experts' responses to the item concerning the role of rewards in group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
87	There should be rewards for effective group work.	7	1	1	4	1	1		Stability
			2		4	2	1		

Although no consensus was reached, 57% of the participants regarded rewards for effective group work as important (Table 7.240). A participant noted that rewards could be given in the form of "prizes" which the group would have to share, e.g., sweets, and another asserted that

rewards should be intrinsic. Three respondents maintained that the reward should be in the form of good marks.

Table 7.241 The experts' responses to the item concerning the role of inter-group competition in the functioning of a group

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
88	Groups must have the opportunity to compete with one another, because it enhances group cohesion	7	1	2	1	3	1		Stability
			2	1	2	3	1		

No consensus was reached and there was no majority amongst the participants on the importance of inter-group competitions to enhance group cohesion and it was dropped from the second questionnaire on the basis of stability of votes (Table 7.241). A participant suggested that this should be done in a fun way, but noted that it could be destructive if not handled carefully.

Table 7.242 The experts' responses to the item concerning the role of learning groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
89	Students must be divided into learning groups that can study together during self-study times.	7	1	1		4	1	1	Stability
			2			5	1	1	

The majority (71%) of the respondents were neutral about learning groups (Table 7.242). One participant noted that students could do this spontaneously.

Table 7.243 Experts' opinions regarding the composition of learning groups

	If you think learning groups should be used, how do you think these groups should be formed?	Round 1 (n=5)	Round 2 (n=3)
89b	The same members as the groups during group-work sessions	1	
	Students must choose the learning group of which they want to be a member themselves	4	3

Table 7.243 presents the participants preferences for the composition of learning groups. Most of the experts thought that students should choose their fellow members for learning groups themselves.

Table 7.244 The experts' responses to the open-ended questions on group-work sessions

Item	Wording	Response	n
90	Is there anything regarding the compilation or completion of a task for a group-work session, that you would like to add?	Assignments should be new each year so that students do not rely on work of students from previous years	1
		Students should not be allowed to hand in only their own work, since then students would opt out of doing group work	1
91	Are there any additional comments that you would like to make regarding group-work sessions?	No response	0
92	What is your opinion of the structure of the three-hour sessions (one hour lecture, two hours group work) of modules being presented at the UFS (as explained in the background information document)?	The amount of lectures should be limited – lectures should be prearranged and only be given as a summary or clarification or work	4
		Group work should be centred on a problem	1
		The structure of group-work sessions should not be rigidly be enforced	1
		The three-hour group-work sessions could work	3
		Such a structure would not leave much time for self-study	1
		A three-hour session is too long	1
		There is a danger of lack of congruence between the lecture and the group work in such a session	1

Table 7.244 presents the responses to the open-ended questions in the "group-work sessions" section of the questionnaire (items 90 to 92). No new items were suggested, although some additional comments were provided on group-work sessions (item 90), and no participant responded to item 91. Different opinions existed on the structure of the three-hour group-work sessions as they are used at the UFS (item 92).

7.2.4 Items regarding the support of students and staff for group work

Table 7.245 The experts' responses to the items concerning the provision of support for group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
93	There should be a support system for groups and group members who experience problems with group work.	7	1	4	3				Consensus (4-5)
94	There should be support available for lecturers and facilitators who experience problems with group work.	7	1	5	2				Consensus (4-5)

All the respondents thought it important to provide support to students and staff on group work (items 93 and 94 respectively) (Table 7.245).

Table 7.246 The experts' opinions concerning the support needed by lecturers and facilitators

	If you think that the above-mentioned (item 94) is important, which type of support do you think is necessary for lecturers and facilitators? (Mark all that are appropriate):	Round 1 (n=7)	Round 2 (n=7)
94b	Academic support (e.g. how to compile assignments for group work)	7	7
	Organisational support (e.g. the arrangement of tables and chairs for group-work sessions)	6	7
	Administrative support (e.g. copying of workbooks for group-work sessions)	7	7
	Other (specify)	2	1

Table 7.246 presents the participants' opinions on the type of support necessary for lecturers and facilitators. All seven participants indicated that staff should receive academic, organisational and administrative support. One participant added moral and emotional support for staff and another suggested that interpersonal or personality problems should be dealt with immediately. It was also suggested that students could arrange tables and chairs themselves if time is limited.

Table 7.247 The experts' responses to the items concerning the provision of academic support to students

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
95	The lecturer who presents a certain session of a module, must provide academic support to groups regarding the contents of the specific session.	7	1	3		2	1	1	Consensus (3)
			2	1		4	2		
			3	1		6			
96	Academic support must be provided to students in a group context.	7	1		2	3	1	1	Stability
			2		2	5			
			3		2	5			

Table 7.247 presents the responses to the items concerning the provision of academic support to students (items 95 and 96). The majority (86%) of respondents felt neutral about the lecturer providing academic support (item 95) and also about providing academic support in group context (a majority of 71%) (item 96).

One person noted in response to item 95 that the facilitator is not necessarily the resource person and, therefore, students should be referred to the appropriate person afterwards. This implies that facilitators should be aware of their own limitations. One participant also warned

that providing support in such a way could end up as spoon feeding. The words "to students" were added to item 96 in the second and third rounds, since one participant was unclear as to whether the item referred to students or staff. One participant suggested that resources could be provided for quick reference to students during group-work sessions so as to provide support.

Table 7.248 The experts' responses to the items concerning the use of mentors to support groups

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
97	Each group should have a mentor who provides support to the group with regard to the group process, outside group-work time.	7	1	1	1	5			Stability
			2	1	1	4	1		
			3	1	1	5			
98	Senior students may also act as mentors for groups.	7	1	1	4	2			Consensus (4-5)
			2		6			1	

Table 7.248 presents the responses to the items concerning the use of mentors to support groups (items 97 and 98). The majority of the participants (71%) felt neutral about using mentors as support for groups, whereas most of them (86%) regarded it as important (with consensus) that senior students could act as mentors for groups. This is somewhat contradictory, although it appears as if the experts thought that, if mentors are used, senior students should act as these mentors for groups.

For item 97, one participant noted during the third round that it may not be feasible, but would be very useful, to have mentors for groups. Item 97 was also included in the third questionnaire even though it appears as if stability had been reached during the second round. The reason for this was because the participant who changed his/her vote during round two, caused it to move away from consensus. One participant noted that it could be difficult to have a separate "set" of staff members available to act as mentors, and therefore the year coordinator for the particular group of students should rather assist with the support of groups.

Table 7.249 The experts' responses to the items concerning peer support

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
99	After-hours social meetings should be arranged within groups to enhance the interrelations between group members.	7	1		2	3	1	1	Stability
			2		2	3	1	1	
100	Students must be able to contact their fellow group members after-hours, if necessary.	7	1	1	2	4			Stability
			2		2	5			

Table 7.249 presents the responses to the items concerning peer support in groups (items 99 and 100). Although the opinions were divided on the importance of after-hours social meetings for group members, the majority (43%) of the participants felt neutral about this way of supporting groups (item 99). The majority of participants (71%) also felt neutral about students being able to contact their fellow group members after-hours (item 100).

One participant commented on item 99 that after-hours meetings should be the students' responsibility, and another noted that it could help if students worked together intensively, but that this should not be of primary importance. In response to item 100, it was again noted that this should be the students' responsibility.

Table 7.250 The experts' responses to the open-ended questions on the support for group work

Item	Wording	Response	n
101	Are there any additional comments that you would like to make about the support of students, lecturers or facilitators regarding group work?	Facilitators should provide academic support to students, so as to ensure remedial action before it is too late	1
		The psychological support of students and staff should not be underestimated	1
		Students should have counselling services available	1

Table 7.250 presents the responses to the open-ended questions in the "support" section of the questionnaire.

7.2.5 Items regarding the assessment of group work

Table 7.251 The experts' responses to the items concerning the assessment of the group task and group process

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
102	The group task (product of group work) must be assessed.	7	**1**	4	2	1			Consensus (4-5)
103	The group process must be assessed.	7	**1**	4	1	1	1		Stability
			2	4	1	1	1		
104	Regular assessment of group tasks should take place.	7	**1**	2	2	3			Stability
			2	2	2	3			
			3	1	3	3			
105	Regular assessment of the group process should take place.	7	**1**	4	1	1	1		Stability
			2	4	1	1	1		

Table 7.251 presents the responses regarding the assessment of the group task and group process (items 102-105). The participants reached consensus (86% majority) that the assessment of group tasks is important (item 102). In contrast with this, consensus was not reached on the importance of assessing the group process, although the majority of respondents (71%) did regard it as important (item 103). Two persons changed their opinions on item 104 (regular assessment of the group tasks) during round two, and therefore, although the net result was a zero percent change between rounds one and two, the item was not regarded stable. In spite of three rounds, no consensus was reached on the importance of **regular** assessment of group tasks, although 57% regarded it as important (item 104), in comparison with the 86% who regarded assessment of group tasks as important (item 102). Consensus was also not reached on the importance of **regular** assessment of the group process (item 105). However, a greater majority (71%) rated it important in comparison with regular assessment of the group task (item 104).

Table 7.252 The experts' opinions concerning the frequency of assessing the group task

	Do you think that the group tasks should be assessed in every module?	Round 1 (n=7)	Round 2 (n=7)
104b	Yes	5	5
	No	2	2
	- If so, how often do you think it should take place?	(n=5)	(n=7)
	After each group-work session		
	Once a month	2	2
	Once a term		
	After completion of a module	3	5
	Other (specify)		
	- If not, when do you think should it take place? (n=1) It should take place on an ad hoc basis		

The opinions of the participants on the frequency of assessing the group task is presented in Table 7.252. The fact that five participants (71%) said the group task should only be assessed, although in each module, after the completion of the particular module (i.e., not very regular) corresponds with the relatively low percentage that indicated that regular assessment of group tasks is important (cf. Table 7.251). One participant noted that regular assessment would allow for formative evaluation and would therefore assist students in the development of appropriate group-work skills. Another suggested that regular assessment would allow for corrective action to take place before a next module is started.

Table 7.253 The experts' opinions concerning the frequency of assessing the group process

	Do you think that the group process should be assessed in every module?	Round 1 (n=7)	Round 2 (n=7)
105b	Yes	5	5
	No	2	2
	- If so, how often do you think it should take place?	(n=6)	(n=6)
	After each group-work session	2	2
	Once a month	2	3
	Once a term	1	
	After completion of a module	1	1
	Other (specify)		
	- If not, when do you think it should take place? (n=1) At the end of a module, but not all modules		

Table 7.253 presents the opinions of the participants on the frequency of assessing the group process. The majority (71%) of the respondents said the group process should be assessed in every module and 50% of those who responded to the question, thought it should be assessed once a month, which is more often than the preferred interval for assessing the group task (cf. Table 7.252). This also correlates with the relatively greater percentage of respondents who regarded the regular assessment of the group process as important (cf. Table 7.251). It was

again noted that regular assessment would allow for formative assessment opportunities and the development of appropriate skills.

Table 7.254 The experts' responses to the items concerning the criteria and awarding of marks for the assessment of group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
106	There should be guidelines for determining assessment criteria for the assessment of group work.	7	**1**	6	1				Consensus (4-5)
107	The criteria and methods of assessment of group work must be made known to students beforehand.	7	**1**	6	1				Consensus (4-5)
108	Assessment of group tasks should form part of the semester mark of a module.	7	**1**	5	1	1			Consensus (4-5)
109	Assessment of the group process should form part of the semester mark of a module.	7	**1**	4	2	1			Consensus (4-5)
110	A group must prove that self-evaluation of the group process has taken place (e.g. with a report), before members of the group can obtain a semester mark for the specific module.	7	**1** **2**	3 2	1	4 4			Stability
111	Clear guidelines must be available for the awarding of marks for a group task (product of group work).	7	**1**	4	3				Consensus (4-5)
112	Clear guidelines must be available for the awarding of marks for the group process.	7	**1**	5	2				Consensus (4-5)

The responses to the items concerning the criteria for, and the awarding of, marks for the assessment of group work are presented in Table 7.254 (items 106-112). Consensus was reached, with an 86% majority of votes, that the marks awarded for the assessment of the group task and process should form part of the semester marks of modules (items 108 and 109). The same applies for the importance of guidelines for the awarding of marks for the group task and process, although a 100% consensus was reached for these two items (items 111 and 112). On the other hand, the majority of participants (57%) felt neutral about the importance of groups proving that they assessed themselves with regard to the group process as a prerequisite to obtain a semester mark for a module (item 110), which is understandable in the light of the feeling that the assessment marks should form part of the semester marks (items 108 and 109).

One participant noted in response to item 108 that only formative assessment (i.e., evaluation) of group tasks should take place. The same remark was made for the assessment of the group process (item 109).

Table 7.255 The experts' opinions concerning the allocation of marks for the group task

	If you think that awarding marks for the group task is important, which of the following do you think would be preferable?	Round 1 (n=7)	Round 2 (n=7)
111b	All members in a group should get the same marks for a group task	3	2
	The marks should be divided fairly among the group members according to each one's contribution to the group task	4	5

The preferences of the participants for the way in which marks should be allocated for the group task, are presented in Table 7.255. The majority of the participants (71%) preferred marks to be divided amongst group members according to their relative contributions to group work. A participant noted that the purpose should be for all students to make contributions and therefore to assist the shy ones in their contributions.

Table 7.256 The experts' opinions concerning the allocation of marks for the group process

	If you think that awarding marks for the group process is important, which of the following do you think would be preferable?	Round 1 (n=7)	Round 2 (n=7)
112b	All members in a group should get the same marks for the group process	2	1
	The marks should be divided fairly among the group members according to each one's contribution to the group process	5	6

Table 7.256 presents the opinions of the participants on the way in which marks should be allocated for the group process. The participants exhibited the same preference for mark allocation for the group process, as for the group task, viz., that marks should be divided amongst members according to each one's contribution (cf. Table 7.255). The comment was again made that the purpose should be for all students to make contributions.

Table 7.257 The experts' responses to the items concerning the assessment or evaluation of individual group members

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
113	Individual students should evaluate themselves with regard to their contribution to group work.	7	1	2	5				Consensus (4-5)
114	All group members should assess the group with regard to group work.	7	1	2	5				Consensus (4-5)
115	Individual contributions of students to group work should be assessed by fellow group members.	7	1	3	4				Consensus (4-5)
116	The group leader of a specific group should be evaluated by the group members with regard to the fulfilment of his/her role and duties as group leader.	7	1	4	2	1			Consensus (4-5)
117	Ground rules must exist for the assessment of students by their fellow group members.	7	1	5	1	1			Consensus (4-5)
118	The lecturer must have final control over the awarding of marks to students, even if assessment by fellow group members did take place.	7	1 2 3	4 4 5	1 1 1	 2 1	1	1	Consensus (4-5)

Table 7.257 presents the responses to the items concerning the assessment or evaluation of individuals with regard to group work (items 113-118). Consensus was reached that all these items are important (a majority vote of 100% for items 113-115, and 86% for items 116-118). It appears therefore that the Delphi experts regarded it as important that not only the group as a whole, but also the individual members should be evaluated or assessed, and this includes self- and peer evaluation or assessment. However, one participant noted that it is almost impossible to make individual assessments of students' contributions. The suggestion was also made that lecturers should also award marks themselves for the assessment of individual students, and furthermore, a participant asserted that the importance of item 118 would depend on whether the assessment is formative or summative.

Table 7.258 The experts' responses to items concerning different aspects of the assessment of group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
119	Support should be available for groups that experience problems with the assessment of group work.	7	1	3	4				Consensus (4-5)
120	A variety of group tasks (products) of group work must be assessed.	7	1	3	4				Consensus (4-5)
121	Groups must report the outcome of their group tasks in various ways, e.g. a presentation, a poster, etc.	7	1	5	2				Consensus (4-5)
122	The knowledge, skills and attitudes which students develop through doing group work must be assessed.	7	1	6	1				Consensus (4-5)
123	Specific assessment instruments (e.g. questionnaires) must be available for the assessment of the group process.	7	1	5	1	1			Consensus (4-5)
124	Groups and group members must receive feedback on the assessment of group work.	7	1	5	2				Consensus (4-5)
125	Strategies to improve the group process must be planned according to the outcome of evaluation of the group process.	7	1	3	3	1			Consensus (4-5)
126	Outcomes of group tasks must be covered in exams and tests.	7	1 2	1 1	3 4	3 2			Stability
127	Students should get the opportunity, at the end of a module, to evaluate the way in which assessment of group work took place in the specific module.	7	1	3	3	1			Consensus (4-5)
128	The appropriateness of the tasks for a group-work session should be evaluated.	7	1	3	4				Consensus (4-5)
129	Group-work facilitators should be evaluated according to the efficiency with which they facilitated group-work sessions.	7	1	4	3				Consensus (4-5)

Table 7.258 presents the responses to items concerning the importance of various aspects of group work (items 119-129). Almost all of the above-mentioned aspects of assessing group work (items 119-129) were regarded as important, with consensus, by the majority of participants. It is interesting to note that only 71% of the participants regarded it as important that the outcomes of group tasks should be covered in tests and exams (item 126 – the one item on which consensus was not reached). It is interesting to note that while the participants generally did not think that the group task should be assessed very regularly, (items 104 and

104b – cf. Table 7.251 and Table 7.252), they did think that a variety of group tasks should be assessed (item 120). One participant asserted in response to item 126 that the assessment of group work should only be formative. A participant also noted that the assessment of a variety of group tasks (item 120) and the reporting of outcomes of group tasks (item 121) should be appropriate for the intended outcomes of a group-work session.

Table 7.259 The experts' responses to the open-ended questions on the assessment of group work

Item	Wording	Response	n
130	Are there any additional comments that you would like to make about the assessment or evaluation of group work?	Group work is a soft skill and should only be assessed in a formative way	1
		Problems and complaints should be identified during regular feedback sessions	1
		Students who are doing well, are extremely stressed by bad grades given to students as a group, because they feel they deserve better and are pulled down by disinterested students who ride on the backs of others (cf. item 43, Appendix H)	1

Although the third remark in response to the opportunity for additional comments regarding the assessment of group work (Table 7.259) was made in the section on training of students and staff, it was regarded more appropriate to present it here.

7.2.6 Items regarding the quality assurance of group work

Table 7.260 The experts' responses to the items concerning general aspects of the quality assurance of group work

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
131	Clear guidelines for the implementation of group work should be available.	7	**1**	6	1				Consensus (4-5)
132	A group-work team/committee should be appointed for the implementation of group work.	7	**1**	5		2			Stability
			2	5		2			
133	Students' opinions on their experiences regarding group work should be taken into consideration.	7	**2**	1	6				Consensus (4-5)
134	External evaluation by another institution should form part of quality control/assurance.	7	**2**	2	4			1	Consensus (4-5)

Table 7.260 presents the responses to the items concerning general aspects of the quality assurance of group work (items 131-134). Items 133 and 134 were suggested as new items during the first round, and were therefore included in the second questionnaire. All seven

participants rated items 131 and 133 as important for assuring the quality of group work. The majority (71%) also thought it important to have a group-work committee, although no consensus was reached on this (item 132). Furthermore, the majority of the participants (86%) reached consensus on the importance of external evaluation by other institutions (item 134). One participant noted in response to item 132, that a group-work committee could be helpful if the capacity existed in the Faculty for such a committee.

Table 7.261 The experts' responses to the items concerning the possible functions of a group-work committee

Item	Wording	n	Round	Importance					Result
				5	4	3	2	1	
135	Regular evaluation of the process of implementation of group work.	7	1	6	1				Consensus (4-5)
136	The planning of strategies to improve group work in Phases I and II.	7	1	5	1	1			Consensus (4-5)
137	Ensuring that the objectives for which group work was implemented, are reached.	7	1	6	1				Consensus (4-5)
138	Ensuring that proper training of students regarding group work takes place.	7	1	7					Consensus (5)
139	Ensuring that proper training of staff regarding group work takes place.	7	1	7					Consensus (5)
140	Providing a support system for students who are involved with group work.	7	1	5	1			1	Consensus (4-5)
141	Providing a support system for lecturers and facilitators who are involved with group work.	7	1	4	2			1	Consensus (4-5)
142	Providing guidelines for the assessment of group work.	7	1	5	2				Consensus (4-5)
143	Providing assessment instruments for the assessment of group work.	7	1	5	2				Consensus (4-5)

Table 7.261 presents the responses to items concerning possible functions of a group-work committee (items 135-143). Consensus was reached during the first round that all of the above-mentioned functions are important, even though no consensus was reached on the importance of having such a committee (although rated as important by the majority of participants) (cf. Item 132 – Table 7.260).

Table 7.262 The experts' responses to the open-ended questions on the quality assurance of group work

Item	Wording	Response	n
144	Is there anything regarding the quality assurance of group work that you would like to add?	Nothing could replace the value of quality assurance	1
		Quality assurance is essential	1
145	Are there any additional comments that you would like to make about the planning and implementation of group work?	Students' opinions on their experiences regarding group work should be taken into consideration.	1
		External evaluation by another institution should be part of quality control/assurance.	1
		The plan should be simple and understood by everybody	1
		Access to, and the security of, venues for group work is important	1
146	Are there any additional comments that you would like to make about the monitoring of group work?	No response	0

Table 7.262 presents the responses to the open-ended questions in the "quality assurance" section of the questionnaire. In response to the opportunity to add indicators, items 133 and 134 (cf. Table 7.260) were suggested. The Delphi experts in general also confirmed the importance of quality assurance with their remarks on the open-ended questions (items 145 and 146).

7.2.7 Summary of the results from the Delphi study

During the first round of the Delphi study, nine new items were suggested by the experts, of which five were in the "training" section, and two in the "composition of groups" and "quality assurance" sections each. Figure 7.6 presents a summary of the percentages of items for each section of the questionnaire that were regarded as very important or not important, as well as the neutral items and those on which consensus was not reached. The most diverse opinions were amongst the items about the composition of groups. Consensus was reached on most items in the "training" section. In fact, all items in this section were regarded as important by the majority of the participants, even if no consensus was reached. All the items in the "quality assurance" section were also regarded as important. All but one item in the "assessment" section was regarded as important, and although the respondents regarded support for students and staff as important, they felt neutral about most of the items in the "support" section. Only two items in total were regarded as not being important by the experts (items 2 and 82). These two items addressed even or odd numbered groups and also the use of expert facilitators for group work.

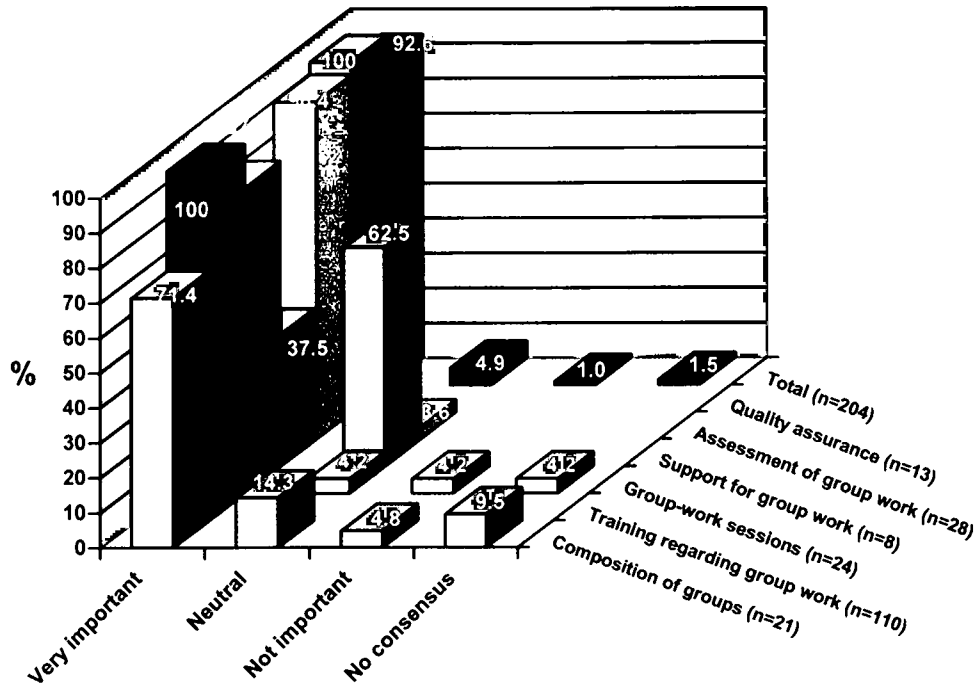


Figure 7.6 ***Outcomes of the responses for each section of the questionnaire (Delphi study)***

Figure 7.7 presents a summary of the percentage of items on which consensus or stability of votes was reached for the different sections of the questionnaire. The section with the highest consensus (the "training" section), also had all items rated as important. The section which had the most stable items, viz., the "composition of groups" section, was also the section in which the most items (n=2) with no majority vote (i.e., no consensus), were found (cf. Figure 7.6). The "support" section also had a great proportion of items (50%) that were dropped from the questionnaire on the basis of stability.

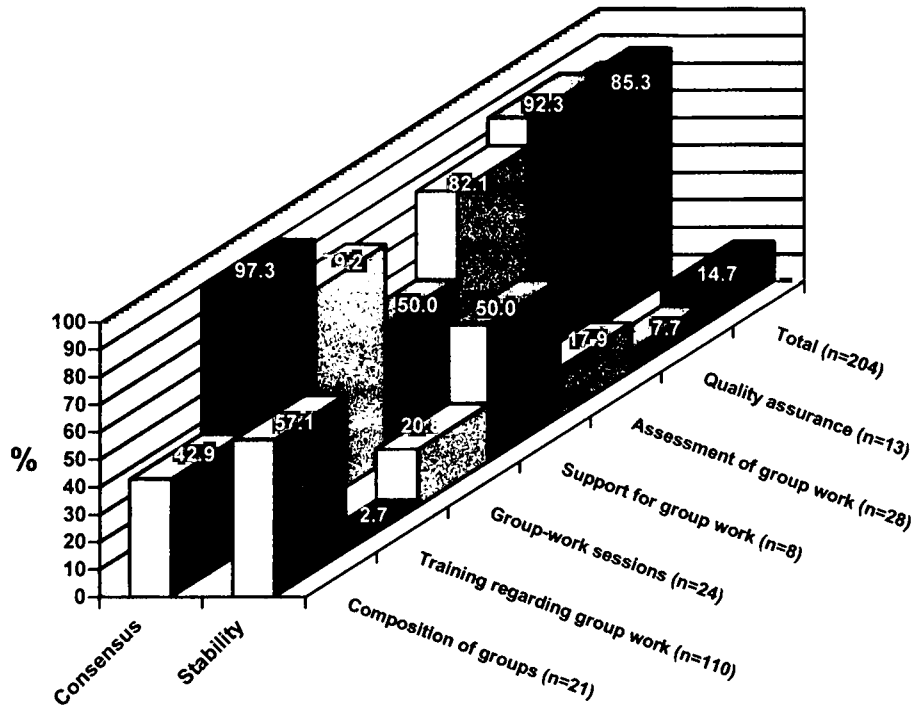


Figure 7.7 Consensus vs. stability items in the Delphi study

Table 7.263 A comparison of the items dropped from the questionnaire between the different rounds of the Delphi study

Section	Round 1			Round 2			Round 3			Round 4			Round 5		
	n	-(n)	%	n	-(n)	%	n	-(n)	%	n	-(n)	%	n	-(n)	%
1	19	6	31.6	15	11	73.3	4	2	50.0	2	2	100	-	-	-
2	105	69	65.7	41	39	95.1	2	2	100	-	-	-	-	-	-
3	24	15	62.5	9	6	66.7	3	2	66.7	1	0	0.0	1	1	100
4	8	2	25.0	6	3	50.0	3	3	100	-	-	-	-	-	-
5	28	22	78.6	6	4	66.7	2	2	100	-	-	-	-	-	-
6	11	10	90.9	3	3	100	-	-	-	-	-	-	-	-	-
Total	195	124	63.6	80	66	82.5	14	11	78.6	3	2	66.7	1	1	100

Section 1 = Composition of groups

Section 2 = Training on group work

Section 3 = Group-work sessions

Section 4 = Support for group work

Section 5 = Assessment of group work

Section 6 = Quality assurance of group work

Table 7.263 presents a summary of the number and percentage of items dropped from the questionnaire after each round of the questionnaire respectively. The number of items included and dropped during each round is indicated for each section of the questionnaire. Round two includes the new items suggested during round one. The "quality assurance" section had the

greatest percentage of items that were dropped after round one, and no items in this section had to be included after round two. The smallest percentage of items in a section which could be dropped after round one, were in the "support" section, and the section with the greatest number of items remaining after round two, was the "group composition" section. Two items in the "group composition" section had to be included until round four, whereas one item in the "group-work session" session was the last item to remain in the fifth round of the Delphi study (i.e., the importance of a specific number of groups per facilitator).

Figure 7.8 presents a summary of the percentages of items that were dropped from the various sections of the questionnaire after each round of the Delphi study (number of items dropped as a percentage of the total number of items for the relevant section). Due to the fact that some items were added to some sections in the second round, the percentages do not correlate with those reported in Table 7.263 for the sections with added items – e.g., even though 90.9% (10 of 11 items) of the items in the "quality assurance" section were dropped in the first round (cf. Table 7.263), these represented only 76.9% (10 of 13 items) of the total (cf. Figure 7.8). There were 204 items in total, which includes the 9 new items suggested during the first round of the Delphi study. More than 90% of the items were excluded from the questionnaire after the second round, which confirms the argument in the literature that the most change, and thus the greatest improvement in accuracy, occurs during the first two rounds of a Delphi study (cf. 5.9.4).

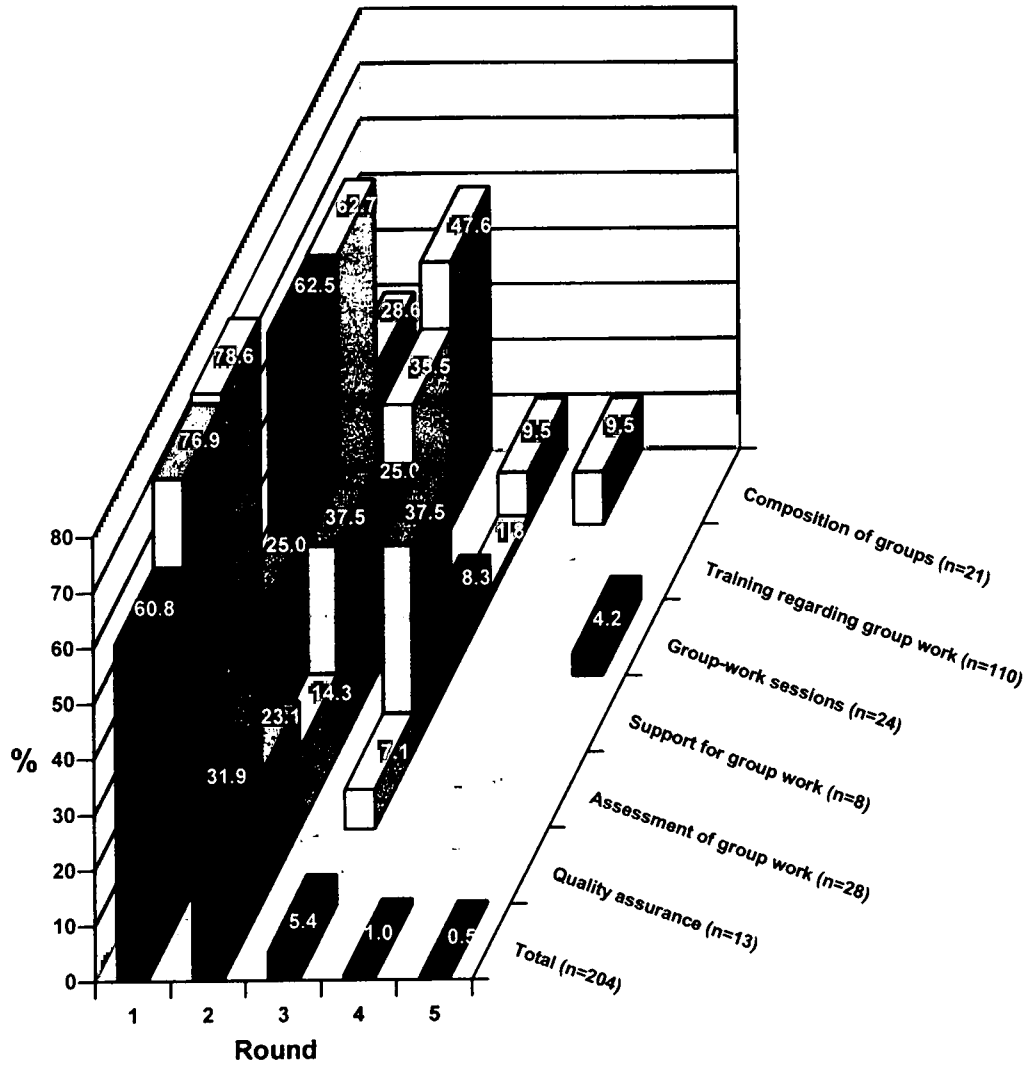


Figure 7.8 Items dropped from the questionnaire after each round of the Delphi study

7.3 CONCLUDING REMARKS

The results form the opinion survey amongst students and staff at the UFS and the Delphi study amongst experts on group work and medical education were presented in this chapter. The results included the responses to the closed items (i.e., indicators) which respondents had to rate on a 5-point Likert scale, as well as the open-ended and open-ended categorised questions. The opinions of the first and second year students, as well as the staff, were presented separately and the responses to the different rounds of the Delphi study were also indicated.

Consensus was reached in the Delphi study on the importance of most of the items in the questionnaire and only two items were regarded as unimportant. The participants felt neutral about ten items. However, more differences occurred between the opinions of the students and staff at the UFS on the importance of the indicators for a group-work model. Five items in the opinion survey were regarded as being unimportant. The results of the opinion survey and the Delphi study are compared with each other and discussed in the light of the literature study in the following chapter.

CHAPTER 8
DISCUSSION OF THE RESULTS WITH THE AIM OF DESIGNING A GROUP-WORK MODEL

In order to design a model for group work, it was necessary to compare the results of the opinion survey at the University of the Free State (UFS) with those of the Delphi study, and also to take the literature into consideration. The opinion survey provided an insight into the needs and opinions of the students and staff who are actually involved in the set-up for which the group-work model will be designed. However, since they were not experts in group work, their opinions could not be regarded as sufficient for a complete framework for a group-work model. Thus, the opinions of the experts in group work and medical education provided an additional (objective and educated) insight into what a model for group work should look like. In this chapter, the results from the opinion survey and the Delphi study, (cf. Chapter 7), are therefore compared and discussed in the order in which they appeared for the Delphi study, as some items in the "group composition" section were moved to the "group-work sessions" section for the Delphi study, which also contained some new items. The heading of the sixth section was also changed, and therefore, since the heading used in the Delphi study is more appropriate when designing a model for group work, it will be used for the discussion of the results in this chapter.

In order to compare the results of the two investigations, the indicators were grouped into categories of "very important" items (i.e., the combined fourth and fifth points of the scale for both studies), "not important" items (i.e., the combined first and second points of the scale), and "no consensus" items. Some items in the Delphi study also had neutral votes and they are presented accordingly. Items (indicators) in the opinion survey were regarded as very important or not important when all three respondent groups' votes (first years, second years and staff) fell in the same range of the scale (i.e., 4-5 or 1-2 respectively). When the result of one group of respondents was different from the other two groups, it was considered to be an indication of no consensus for the item. In this chapter's comparison between the opinion survey and the Delphi study, items will be regarded as "no consensus" items if the vote of one group of respondents,

i.e., the first years, second years, staff or the Delphi participants, differs from the other groups (e.g., the Delphi experts were neutral about learning groups and the other groups of respondents did not think they were important). Grouping the items under these headings provides a useful way of comparing the results, but also of discovering which indicators should be included in the group-work model. Those items that were suggested by the Delphi participants as ***new items***, are also included in these lists of items, but are ***indicated with an asterisk***, since no comparison is possible between the opinion survey and Delphi study. However, since the participants of the Delphi study were experts, and therefore regarded as knowledgeable, the outcome of these items cannot be ignored. Where appropriate, the responses to the categorised and open-ended questions are also taken into consideration in the discussion.

8.1 COMPOSITION OF GROUPS

This section of the questionnaire had the most items on which consensus was not reached in both the opinion survey and the Delphi study (cf. 7.1.3 and 7.2.7). It was also the section with the fewest very important items for the opinion survey and with the second fewest in the Delphi study. Apart from the section on support for group work, this section also had the most neutral votes in the Delphi study. However, no items were regarded as being unimportant by all the respondent groups. The composition of groups is also a controversial topic in the literature, since many different opinions exist regarding the method of forming groups, the size of groups and even the lifetime of groups. Despite this, one cannot ignore this aspect of groups, since the structure of groups is an integral part of their existence, influencing their functioning and effectiveness. It is therefore essential to provide guidelines for the composition of groups in an educational set-up, in the model.

The following indicators were regarded as **VERY IMPORTANT** for the composition of groups by all the respondents at the UFS and those of the Delphi study:

- Groups must consist of a **specific number of members**;
- The **language of instruction** must be considered with the composition of groups;
- *The **academic achievement** of students should be considered with the composition of groups;

- Students should be divided into groups according to a **specific method**;
- **Students' needs** must be taken into consideration when forming groups;
- Groups must have **group leaders**;
- **Specific tasks** must be appointed to each member in a group; and
- **Ground rules** must be laid down according to which groups have to function.

The following items had "**NEUTRAL**" votes amongst the respondents of the Delphi study:

- *Students who have **relationships** with one another should not be in the same group; and
- *Students who **stay or travel together** should be encouraged to be in the same group.

NO CONSENSUS was reached amongst the respondents on the following items:

- Groups must specifically consist of an **even or an odd number** of members;
- The **gender** must be considered with the composition of groups;
- The **population group/culture** of students must be considered with the composition of groups;
- The **age** of students must be considered with the composition of groups;
- Groups must choose their **own name** for the group;
- Groups must only function for a certain period before new groups are formed, i.e., they must have a specific **lifetime**;
- There should be opportunity to work with students from other year groups of the same course (**inter-year cooperation**);
- There should be opportunity to work with students from other courses (**inter-professional cooperation**);
- **Ice-breaker sessions** must be arranged for group members to get to know one another;
- A **specific role** must be appointed to each member in a group; and

- A **contract** must be compiled between group members in which guidelines for the working procedures in a group are determined.

In a group-work model, the following aspects of group composition should therefore receive attention:

8.1.1 Group size

The size of groups is very important indeed, as indicated by all the respondent groups, since group work is specifically aimed at students working together in small groups (cf. Table 7.3 and Table 7.194). Groups need to be small, since large groups seem to be ineffective (cf. 4.1.1). In this study, the first year students and staff preferred a group size of 5-6 students per group, the second years preferred four or less members, and the Delphi experts 7-8 members per group (cf. Table 7.4 and Table 7.195). No consensus exists in the literature on the optimal size for groups in an educational set-up, but the majority of authors prefer a size of 4-6 members per group, although groups of up to eight members are acceptable (cf. 4.1.1).

All the respondent groups, except the second year students (who were divided about its importance), did not regard it as important to have specifically even- or odd numbered groups (cf. Table 7.5 and Table 7.194), although all the respondent groups preferred even numbered groups (cf. Table 7.6 and Table 7.196). The literature also does not provide clear guidelines on this aspect of group size, and arguments for both even- and odd numbered groups are offered (cf. 4.1.1). Therefore, at the UFS, this will not be a specific prerequisite for the composition of groups.

For the set-up at the UFS, taking the physical and manpower resources into account (in terms of the size of the venues, amount of furniture and the number of facilitators available), the ideal size for groups thus appears to be 5-6 members per group, as respondents at the UFS and authors in the literature preferred (cf. 4.1.1). Such a group size would not only ensure proper interaction in groups, but also that all members have an equal opportunity to participate in, and contribute to, group work. When individual's performances in group work are being assessed, equal opportunities to participate would ensure fairness of the assessments. A small group size

would also discourage groups from forming subgroups automatically, although it would still be possible to do so (e.g., making groups of three) if the group task requires it.

8.1.2 Factors to consider when forming groups

Although the group composition differ from time to time due to different methods being used for group work (such as cross-over groups – cf. 2.9.2), it is necessary to form more permanent groups or "home groups" in which students can function on a day-to-day basis (Coelho 1994:68-78). The size of a group is only one aspect of its structure, and other factors also need to be taken into consideration when forming these home groups.

The language of instruction is an essential part of group work, since it influences the members' ability to communicate effectively, and effective communication is essential for proper interaction amongst group members, and thus for the effective functioning of the group (cf. 4.2.4.1 and 4.2.5). All the respondent groups regarded it as very important (cf. Table 7.7 and Table 7.197), although not much is said in the literature specifically about the language of instruction and the composition of groups, since a parallel medium instruction set-up, such as at the UFS, is not very common. All the respondents at the UFS preferred groups to consist of only Afrikaans- or English-speaking members (cf. Table 7.8), even across the two class languages (cf. Table 7.9), which is in keeping with the language policy of the UFS. On the other hand, the Delphi participants preferred mixed language groups, but none of them were involved with a parallel medium instructional set-up at their respective institutions (cf. Table 7.198). However, since it influences the functioning of the group, and due to the fact that, at the UFS, the two language classes receive lectures separately and also have different time-tables in terms of time allocated for group-work sessions, it is necessary to form only groups with the same language of instruction.

Although the majority of the Delphi experts regarded gender as an important factor to consider when forming groups, the first years did not reach consensus and the second years and staff did not regard it as important (cf. Table 7.10 and Table 7.197). Nonetheless, the majority of the respondents preferred mixed gender groups (cf. Table 7.11 and Table 7.198). Taken separately, the male and female students also preferred mixed-gender groups (cf. Table 7.12). The literature is in agreement that heterogeneous groups, also in terms of gender, are preferred,

although some authors noted that single-sex groups could be used for specific purposes (cf. 4.1.2.12). For group work at the UFS, groups should therefore consist of both male and female students. Fortunately, gender issues related to culture, which could cause individuals to prefer single-sex groups, have not been a problem at the UFS until now. However, this might become an issue in the future, and should be dealt with if and when necessary, although this researcher is of the opinion that all students should be encouraged to be members of mixed-gender groups for the sake of the real-life situation they will experience in the medical profession.

All the respondent groups, apart from the staff (did not reach consensus), regarded it as very important to consider the population group/culture of students when forming groups (cf. Table 7.13 and Table 7.197). On the other hand, all the respondent groups apart from the second years, preferred mixed-culture groups (cf. Table 7.14 and Table 7.198). When differentiating between the actual population groups of the student respondents, it was found that only the White students did not prefer mixed-culture groups (cf. Table 7.15). However, since the Afrikaans-speaking classes consist mainly of White students (and sometimes a few Coloured students), mixed population groups would not be a huge issue in these classes. Therefore, this aspect of the composition of groups would be more relevant for the English-speaking classes, since these classes consist of students from all the different population groups. In these classes, the White students, of whom most preferred same-population groups, were in the minority (8 and 4 students in the first and second years respectively) (cf. 7.1.1.2). Since the arguments in the literature for heterogeneous groups (cf. 4.1.2.12) also apply for the population group of members, and due to the fact that mixed-population groups better approximate a real-life situation, groups at the UFS should consist of members from different population groups as far as possible, provided that training is offered on addressing multi-cultural issues and racial clashes in groups.

None of the respondent groups at the UFS regarded the age of students as an important indicator for a group-work model and the Delphi experts felt neutral about it (cf. Table 7.16 and Table 7.197). All the respondent groups preferred that older students be divided into different groups, rather than forming their own separate groups (cf. Table 7.17 and Table 7.198). Both the older and younger students also preferred this (cf. Table 7.18). The arguments in the literature for heterogeneous groups (cf. 4.1.2.12) apply here again. Therefore, in order to ensure

heterogeneous groups, it would be advisable for the older students (who also sometimes have other qualifications), to be divided up into different groups. However, since this is a less important aspect of group composition, other aspects (such as population group and language of instruction) should receive more attention during the process of group composition.

Since the academic achievement of students was suggested as a possible indicator during the opinion survey at the UFS (cf. Table 7.42), only the Delphi experts had the opportunity to rate its importance. The majority regarded it as important and also preferred groups to consist of members with mixed academic achievements (cf. Table 7.197 and Table 7.198). Most authors also assert that groups in higher education should consist of members with mixed abilities, since it is likely that students would in any case have mixed learning styles, and because this represents a real-life situation (cf. 4.1.2.3). At the UFS, it is therefore advisable for groups to consist of members with different levels of academic achievement. However, it would only be possible to identify the high and low achievers after some time, since all students selected for the M.B.,Ch.B.-learning programme were good performers at school. Because it would therefore be difficult to consider academic achievement when forming groups at the beginning of Phase I, this aspect should be more important for the composition of groups in Phase II.

One respondent in the opinion survey at the UFS suggested that the personalities of students should be included as a factor to consider when forming groups (cf. Table 7.42). However, in a higher education set-up, personality types should be considered in the context of learning styles (e.g., using the Myers-Briggs Type Inventory) (cf. 4.1.2.5). Therefore, it was not considered necessary to include this suggestion as an item in the questionnaire for the Delphi study.

A mixture of learning styles in a group is not only inevitable, but also advisable (cf. 4.1.2.7 and 4.1.2.12). Dealing with different learning styles after a group has been formed is also a necessary aspect of group building and –support, and, therefore, it was not regarded necessary to include learning styles in the questionnaires as a specific factor to consider when forming groups. However, it was included as a possible aspect to address during the training for group work. It is also important that lecturers be aware of the different learning styles, so as to encourage a deep approach to learning through the specific format of assessments (cf. 4.1.2.7 and 8.5).

All the respondent groups regarded it as very important to consider students' needs when forming groups (cf. Table 7.21 and Table 7.201). Examples of these personal needs are the need for those who stay (e.g., in the same hostel) or travel together, or who have special relationships (such as romantic relationships), to be in one group (cf. 4.1.2.9). This would allow after-hours cooperation (cf. Table 7.42). Because the general item on students' needs subsumed this aspect (students who lived together), and because another item on learning groups (to study after-hours) was included in the "group-work sessions" section of the questionnaire, this aspect was not initially included as a separate item in the questionnaire for Delphi study. However, it, as well as the needs of students who are in a special relationship, was again suggested by a Delphi participant as new items. The latter two specific needs were therefore included in the second round of the Delphi study, but the majority of the experts felt neutral about their importance. As some of the Delphi participants correctly argued, taking these aspects specifically into consideration when forming groups, could cause problems. For example, students who stay or travel together are already in a form of a relationship, students might develop relationships after the groups have been formed, and students might also move. Therefore, although important, one should be careful about taking specific personal needs of students into consideration when forming groups. This researcher is of the opinion that these aspects should not be factors to consider when forming groups, but should be dealt with on an ad hoc basis if problems occur after groups have been formed, and then only if no other solution can be found to the problem. It is, however, important that students realise that group composition cannot be changed for simply any reason, as this would defeat the purpose of mimicking a real-life situation.

8.1.3 Methods of forming groups

Although many methods (e.g., random selection, alphabetical groupings, sociometry, friendship groups, roles that students prefer to play) have been suggested for the formation of groups, the literature is in agreement that one specific method should be selected and used to form groups (cf. 4.1.2). All the respondents in this study supported this argument (cf. Table 7.19 and Table 7.199), although they had differing opinions as to which method to use. Both student groups preferred to choose the groups themselves, but the staff members and the Delphi participants preferred groups to be formed randomly (cf. Table 7.20 and Table 7.200). Although one could expect students to prefer choosing their groups themselves, this is not necessarily the single best

method, as students who chose their groups themselves would not get the opportunity of working in groups which simulate a real-life situation, and groups could also end up being over- or under subscribed (cf. 4.1.2.8). One Delphi participant also asserted that the "left over" students might have a disadvantage if students were to choose their own groups.

Alphabetical groupings would not be ideal at the UFS, since, especially for the English-speaking classes, many students from the African population group have surnames that start (and sometimes even end) with the same letter of the alphabet (cf. 4.1.2.2). It is also not appropriate to use the roles that members prefer to play, to form groups (cf. 4.1.2.10), since it may be argued that group members should be given the opportunity to fulfil different roles so as to develop the necessary group work skills (cf. 4.1.6). It therefore appears that some form of random selection method, as preferred by the staff and Delphi participants, would be indicated for the situation at the UFS, since this would simulate a real-life situation the best. However, to ensure a heterogeneous mix of students, the composition could be "socially engineered" if necessary, as a Delphi participant suggested (cf. Table 7.213). This should only be done after the students have been randomly assigned to groups and if, for example, all-women or all-mature groups have been formed by chance.

Although the majority of the participants in the Delphi study suggested a random selection of members for groups, two persons indicated that students could be allowed to choose some of their group members (one and three members were respectively suggested). Since the students also preferred to choose their own groups, and because many authors also argue that students should have a choice (sociometry) (cf. 4.1.2.4), this researcher is of the opinion that students should have a choice of no more than three members for their groups (i.e., half of the total number of members). Allowing students to choose some of the members in their groups could also address their needs to some extent, and prevent some of the problems which could occur as a result. The suggestion of one of the Delphi participants appears to be appropriate for this purpose, viz., that students choose groups of three, which are then randomly joined to form groups, ensuring a random element in the composition of groups.

However, to form groups in such a way (students' choices), it is necessary for students to know one another. This implies that it would not be possible to form the very first groups in Phase I in such a way, in spite of the use of ice-breakers. This researcher therefore suggests that groups

in Phase I should be formed entirely randomly, using the method suggested by Jaques (2000:158) for ensuring a heterogeneous mix of students in a group: The total number of students is divided into the possible number of groups according to the predetermined group size, criteria are chosen to differentiate students from one another (e.g., the criteria discussed above, such as gender, age, population group, etc.), each student is assigned a code according to the criteria, and students with different codes are chosen to form groups.

For Phase II, students could be grouped as suggested by the Delphi participant (combination of choice and random selection) although these groups could be "socially engineered" where necessary to ensure heterogeneous groups as far as gender, age, population group and academic achievement are concerned. Nevertheless, it should still be noted that taking students' choices into consideration could still cause problems, for example, if four students want to be in the same group, or if the engineering of groups (to ensure heterogeneous groups) causes students to end up in a group they did not choose originally.

8.1.4 The lifetime of groups

No consensus was reached amongst the respondents regarding the importance of a specific lifetime for groups. The students did not regard it as being important, whereas the Delphi experts did, while the staff could not reach consensus (cf. Table 7.23 and Table 7.203). Although various opinions exist in the literature about the lifetime of groups, most authors agree that groups should change from time to time to allow students to work with different colleagues (cf. 4.1.3). Therefore, although the most of the respondents in this study (barring the experts in the Delphi study), did not regard it to be an important indicator, the opinions of the Delphi participants and the authors in the literature have been considered appropriate. Thus, at the UFS, it is important to predetermine the lifetime of the groups.

The respondents also did not reach consensus on the preferred lifetime for groups in Phases I and II: The first years and staff thought groups should exist for a year, the second years preferred the duration of the course (M.B.,Ch.B.), and the majority of the Delphi participants indicated that groups should exist for six months (cf. Table 7.24 and Table 7.204). At the UFS, six months would imply a semester – or the duration of a module. Most authors in the literature also indicate that the ideal lifetime for groups is the duration of a module, a term or a semester

(cf. 4.1.3). The temptation to reshuffle the composition of groups soon after they have been formed should thus be resisted, since it takes time for groups to learn to function effectively (through the development of the group process) (Miller et al 1994:40). This researcher is therefore of the opinion that, for Phase I, groups should exist for a semester. During Phase I, especially in the MEA 112 module, the emphasis should be on the development of transferable skills (including group-work skills), and, therefore, students should get the opportunity to work in different groups to develop good group-work skills, yet without changing those groups too often. Furthermore, the emphasis in group work in Phase II shifts towards working together in groups to complete tasks and achieve the outcomes of the modules, and students have also already formed friendships (thus their preferences for groups are not likely to change). Accordingly, in Phase II, groups could exist for an entire year (i.e., new groups will be formed at the beginning of the students' second and third years). This will still provide the opportunity for students to change groups, should any problems develop in any of the groups during the year. Students should receive the opportunity at the beginning of both the second and third year of forming completely new groups of three members, after which two such groups should be combined randomly (cf. 8.1.3).

8.1.5 The responsibilities of the group members

When groups are formed, certain responsibilities should be assigned to each member, which include the roles they are to play in the group, as well as certain tasks. No consensus existed on the importance of assigning roles to members: The first years and the Delphi participants regarded it as very important, the staff as unimportant, and the second years did not reach consensus (cf. Table 7.37 and Table 7.210). In spite of this, all respondent groups regarded the presence of a group leader as being very important (cf. Table 7.33 and Table 7.206). The literature emphasises the fact that some roles should be fulfilled by all members in the groups, viz., the task and maintenance roles, whereas some roles should be appointed to individual members, e.g., recorder, time monitor or presenter (cf. 4.1.6). It is, however, important to assign specific roles to specific group members (Hagberg 1999). It is also essential that individual students be given the opportunity of fulfilling different roles, so as to develop different skills (Boschee 1989:24). Students should be made aware during training sessions of the different roles they are to play in groups, and should also be allowed to determine their roles themselves (as the first and second years preferred – cf. Table 7.63), provided that, through the

duration of the course, they each get the opportunity of fulfilling all the various roles (e.g., of being group leader). At the moment, it appears as if the roles of members are sufficiently addressed during training, since the majority of students indicated that they did know what their roles in their groups were (cf. Table 7.62). They should, however, be encouraged to actually fulfil and rotate the roles between the group members.

The role of the group leader deserves special attention, since all respondent groups regarded it as very important for groups to have group leaders and agreed that the groups should appoint their own leaders (cf. Table 7.34 and Table 7.207). Some authors have contended that small groups do not need leaders, but most authors agree that leadership is an important skill which students need to develop (cf. 4.1.6.1). Therefore, in order to provide students the opportunity of developing leadership skills, it is indicated that the groups in Phases I and II should have group leaders, and that this role should be rotated amongst group members. Furthermore, the first years and staff preferred a different leader for each module, the second years a different leader each week, and the Delphi participants were divided about these two possibilities (cf. Table 7.35 and Table 7.208). This researcher is of opinion that it would be less confusing if students are appointed as group leaders for specific modules. This would provide sufficient opportunity for all students to be a group leader for at least one module, as there are 30 modules in total (including MEA 112) across the three study years, and there are ±25 groups at a time (150 students divided into groups of 6 members per study year). Having specific leaders for modules, rather than a different leader each week, would also make it easier for the lecturers or facilitators to know who the group leaders are.

Assigning different tasks to group members implies that group members receive different responsibilities when completing a group task. All the respondent groups regarded it as very important to assign specific tasks to each member of a group (cf. Table 7.38 and Table 7.210). Dividing the tasks amongst group members will ensure that all members participate in completing the group task, and could also determine the success of group work to some extent (cf. 4.1.7). However, this researcher is of the opinion that participation by, and contributions from, all group members (regardless of whether they do different tasks or all work on the whole task), is more important than dividing the task amongst group members. Thus, the emphasis should be laid on the fact that every member has to contribute to the group task, although

dividing the group task amongst group members can be allowed where appropriate. The various tasks should be assigned to members by the groups themselves.

8.1.6 Prerequisites for group functioning

"Before any effective group-work can occur some effort needs to be made to transform a nominal group into a cohesive unit" (Robson 1994:40). Thus, assisting group members in getting to know one another, and determining ground rules and contracts for their functioning, is essential for this purpose.

Groups cannot function properly if members do not know each other, and thus ice-breakers are necessary so as to facilitate this. However, the respondents did not reach consensus on the importance of ice-breakers: The first years and Delphi participants regarded it as very important, but the second years not, and the staff did not reach consensus (cf. Table 7.36 and Table 7.209). On the other hand, the literature supports the use of ice-breakers and suggests many advantages involved in their use, as mentioned previously (cf. 4.1.7.1). For Phase I, ice-breakers should therefore be used during the initial training opportunities to assist students in getting to know one another. Different exercises could be used, as suggested in the literature (cf. 4.1.7.1). Since time would rarely allow it, ice-breakers should not be a prerequisite for individual group-work sessions, even though they could assist students in engaging in group work. Facilitators should therefore be given the opportunity of deciding for themselves whether they wanted to use ice-breakers or not in the individual sessions.

No consensus was reached on the importance of allowing groups to choose their own name for the group. The second years and staff did not regard it as important, and the first years and Delphi participants did not reach consensus on it (cf. Table 7.22 and Table 7.202). It was suggested in the literature that allowing groups to choose their own name would assist the group in "breaking the ice" and building group cohesion (cf. 4.1.7.1). Since none of the respondent groups regarded it as important, and due to the fact that students might end up choosing inappropriate names for their groups, it would probably not be advisable to allow this, but rather to assign a specific colour to the groups, as is done currently. This provides for a more uniform system of "naming" groups, and it is also easy to "mark" the groups, e.g., on a class list.

Ground rules are essential for assisting groups to function effectively, and also for provide a safe environment for members to function in. All the respondent groups (including all seven the Delphi participants) regarded this aspect of group work as very important (cf. Table 7.39 and Table 7.211) and there is thus no uncertainty about whether this should be an important aspect to address during the training of students. Furthermore, students should not only be aware of the importance of ground rules, but they should also be provided the opportunity to determine the rules themselves (as the first and second years preferred to do – cf. Table 7.40). However, they would need some examples of what these rules entail, and this could be provided during training (cf. 4.2.3.1). The ground rules need to include rules on attendance and punctuality, the roles and responsibilities of members (including their responsibility to participate), the status of members (i.e., they are all equal), provision of help and support to fellow members, giving and receiving criticism and feedback, and also the evaluation or assessment of fellow group members. Ground rules should be determined each time new groups are formed (cf. 8.1.4). Furthermore, groups should constantly be reminded to stick to their ground rules, and must evaluate their compliance during the evaluation and assessment of the group process (cf. 8.5.3).

Contracts could assist group members in planning strategies to reach their goals. This implies active plans of action, for example, when not all members do their part or when members come late for group-work sessions (cf. 4.2.3.2). All the respondent groups except the second years (who did not reach consensus) regarded contracts as very important (cf. Table 7.41 and Table 7.211). However, contracts should exist only as a reference point for group functioning and should also be reviewed often, e.g., during the evaluation of the group process (cf. 8.5.3).

8.1.7 Cooperation between different groups

The respondents did not reach consensus of the importance for students to work with medical students from different year groups. The first years regarded it as very important, the staff as not important, and the second years and Delphi participants did not reach consensus (cf. Table 7.31 and Table 7.205). Not many authors specifically refer to co-operation between different year groups, and those that do, offer arguments both for and against it (cf. 4.1.4). On the other hand, peer support, especially senior students supporting junior students, (i.e., peer-assisted learning or peer tutoring), have been mentioned as a valuable means of supporting students

(cf. 2.9.12 and 4.5.4). Therefore, at the UFS, it does not seem necessary to specifically provide formal opportunities for junior and senior medical students to work together in groups. However, as a support system, senior students could act as mentors for junior students (cf. 8.4.2).

On the other hand, all the respondent groups, apart from the staff, regarded it as very important for student groups from different health professions to cooperate with one another (cf. Table 7.32 and Table 7.205). The ability to function in a health care team is one of the previously neglected outcomes in medical education now accepted world-wide (cf. 3.1). Due to the need for multi-professional co-operation on undergraduate level already, this has become an essential element of health professions education. Multi-professional education is becoming possible because of common goals amongst different professions (e.g. transferable skills such as team work and communication), common core competencies (in terms of knowledge, skills and attitudes), and an understanding and appreciation of the different professional roles of the health care team (Harden 1998:408). "The need to produce practitioners who are adaptable, flexible, collaborative team workers, with highly developed interpersonal skills, is providing both the impetus and justification for the introduction of more shared learning opportunities" (Parsell & Bligh 1998:526). However, there is no consensus in the literature on the ideal time for introducing multi-professional learning into a course, and arguments for both early and late introduction exist (cf. 4.1.5). Questions such as who the ideal person would be to teach these concepts, and which teaching strategies should be used to do it, have also been raised. For the situation at the UFS, group work would be the appropriate medium for teaching students the necessary skills to function in a health care team. It would be appropriate to allow the first year students of the different health professions to work together in groups, not to learn about one another's professions, but to develop group-work skills (Horsburgh et al 2001:877). This can be accomplished, for example, by requiring all students from the different professions (such as medicine, nursing, physiotherapy, occupational therapy and nutrition) to enrol in the same module, so as to develop the necessary transferable skills (such as the module MEA 112 in the M.B.,Ch.B.-learning programme). These students could also develop clinical skills together in the skills unit by working together in groups. Furthermore, the senior students, who have more background knowledge and also some experience of their respective professions, could be allowed to work together in groups to solve clinical problems (Parsell, Spalding & Bligh 1998:305). Although this part of multi-professional learning (as suggested here) is not within the scope of this study (since the group-work model is only aimed at Phase I and II, i.e., the pre-

clinical years), the following suggestion is made: Opportunities for multi-professional learning could be arranged in the form of "academic afternoons" during which certain clinical problems are addressed (e.g., diabetes mellitus or stroke). These afternoons are already held for the medical students in Phase III of the new medical curriculum, and the other health professions students from nursing, physiotherapy, occupational therapy and nutrition could join them. The staff from the different professions could design these sessions co-operatively, and could design appropriate tasks to allow the students to do group work together on the different clinical problems. If one were to look at the continuum for multi-professional education suggested by Harden (1998) (cf. also 4.1.5), the UFS would then lie on point 7 of the continuum (correlation), whereas it currently lies on point 2 (awareness). The principles of multi-professional education imply that sufficient resources should be provided for this, that the objectives and outcomes should be clear and relevant, that the context of the different curricula should be taken into consideration, and that adequate reflection should take place and feedback be provided on these sessions (cf. 4.1.5). By taking note of these principles, and combining them with proper planning, the UFS could encourage successful multi-professional education.

8.1.8 Differences and similarities between Phases I and II regarding the composition of groups

Although the majority of the respondents at the UFS did not think that there should be any group composition differences between Phases I and II, a few differences in the responses of the first and second years to certain items (co-operation with other year groups of medical students, ice-breakers, appointing roles to group members and group contracts – items 11, 14, 15 and 18 respectively) could well indicate the need for differences in some areas (cf. Table 7.43 and Table 7.44). As noted before, ice-breakers are more essential for students at the beginning of Phase I (cf. 8.1.6), and it is also likely that first years would have more opportunity to work with senior students who might act mentors (cf. 8.1.7).

Furthermore, the method of form groups and the lifetime of groups, as suggested for the situation at the UFS, may be different for Phases I and II: In Phase II, the academic achievement of students, and also students' choices for group members can be taken into consideration for the composition of groups (cf. 8.1.2 and 8.1.3). Although the first and second years preferred a lifetime of one year and the duration of the course respectively (cf. Table

7.24), it was suggested that groups should exist for six months in Phase I and an entire year in Phase II, for the reasons mentioned already (cf. 8.1.4). Regarding cooperation between students from different health professions, it was also suggested that students from different health professions should, in their first year, enrol in a common module for the purpose of developing group-work skills, and only work co-operatively in groups in their clinical years. Therefore, co-operation between these groups of students would take place in Phase I, but not Phase II (cf. 8.1.7), unless the common module is extended over more than one year (cf. 8.5.3).

Group work will not be effective without appointing roles to members and using contracts within groups. Therefore, even though the first and second years had different opinions about the importance of the latter two indicators, there is no justification for differences between them on these aspects. Also, ground rules and contracts are be essential to groups in both Phases (cf. 8.1.6). Although there were differences in preferences for the group size between the first and second years (the first years preferred larger groups than the second years – cf. Table 7.4), there is no reason why the size of groups should differ between Phases I and II.

8.2 TRAINING FOR GROUP WORK

Most of the items in the "training" sections of the questionnaires for both the opinion survey and Delphi study were regarded as very important and no items were regarded as being unimportant.

The following were **VERY IMPORTANT** indicators in the opinion of the respondents of both the survey and the Delphi study:

- Students must be thoroughly trained regarding group work;
- Lecturers and facilitators must be thoroughly trained with regard to group work;
- The training that students and lecturers/facilitators receive, **must be in line** with each other;
- **Mentors** for groups must be trained with regard to the group process;
- The following training content is required for **students, lecturers and facilitators**:
    - The importance and advantages of group work;

- The objectives of group work;
- The principles and conditions for successful group work;
- Training in effective communication and social skills;
- How to identify and handle problems in a group;
- The importance of maintaining the group process;
- The characteristics of effective and ineffective groups;
- Strategies to improve the effectiveness of a group;
- How to plan and complete a group task;
- *The different types of group work that can be used during a group-work session;
- *The process of solving problems when completing a group task;
- The importance of regular assessment/evaluation of the group task;
- The importance of regular assessment/evaluation of the group process;
- The different learning styles that students might possess;
- The skills that students develop through doing group work;
- The advantages and conditions of cooperative learning;
- How participation and discussion amongst group members can be improved;
- The importance of a positive attitude towards group work;
- *Training regarding personalities and personality clashes;
- *How to address conflict within a group;
- *How to address students whose performance does not come up to expectation; and
- *How to address racial clashes within a group.

- The following training content is required only for **students and facilitators**:

    - Training in group dynamics; and
    - The roles which group members may play.

- The following training content is required only for **students**:

    - Training in the roles and tasks of a group leader.

- The following training content is required only for **lecturers and facilitators**:

    - How to analyse interaction within a group;
    - How to plan and conduct a group-work session;
    - The different methods that can be used for group work;
    - The reasons why a variety of group-work methods should be used;
    - The choice of a group-work method for a group-work session;
    - The compilation and formulation of group tasks for group-work sessions;
    - The importance of feedback to students regarding group work;
    - Appropriate assessment techniques for group work;
    - The role of a group-work facilitator;
    - The skills necessary to facilitate groups effectively;
    - How groups can be assisted with regular self-evaluation/-assessment of the group process and the group task; and

- *How to address a request from students to move from one group to another group.

NO CONSENSUS was reached on the importance of the following indicators for a group-work model:

- *A complete **guide on group work** must be available to students and staff;
- Certain aspects in the training of students regarding group work **should be repeated**;
- The following training content required for **students**:
    - How to analyse interaction within a group;
    - How to plan and conduct a group-work session;
    - The different methods that can be used for group work; and
    - The reasons why a variety of group-work methods should be used.
- The following training content required for **lecturers**:
    - The different roles that group members may play; and
    - Training in group dynamics.
- The following training content required **for lecturers and facilitators**:
    - The role and tasks of a group leader.

8.2.1 The provision of training

All the respondent groups regarded it as very important for students, lecturers, and facilitators to receive training for group work (cf. Table 7.45, Table 7.46 and Table 7.214). They also thought it important that the training which the students and lecturers/facilitators receive be in line with each other (cf. Table 7.47 and Table 7.214). Most authors also stress that proper training in the various aspects of group work is essential for the success of group work, since it does not come naturally for most people (cf. 4.4.1 and 4.4.3). Students' motivation to do group work is often very low because they seldom realise the need for it (Thorley & Gregory 1994:35). For this reason, and due to the fact that they require special skills to be able to work in groups during the learning process, students need to be thoroughly prepared for group work (Brown & Atkins 1988:50) (cf. 4.4.1). The fact that both the first and second years thought that they had received sufficient training, whereas the staff did not think the same for themselves (cf. Table 7.89),

should be taken note of, and special efforts should be made to provide sufficient training opportunities for the staff. Although it is obvious that students and staff should receive training for group work, a specific approach (in terms of the timing, contents, and format of training especially) should be planned and followed in the provision of the training.

The majority of the respondents also regarded it as very important that mentors be trained in the group process (cf. Table 7.48 and Table 7.214). This is essential, especially when senior students act as mentors for groups (cf. 4.5.2 and 8.1.7). Mentors need to be able to assist groups with maintaining the group process, but also to assess and evaluate the group, and to plan strategies for improving the effectiveness of the group according to the outcome of the evaluation or assessment.

Currently, the Division for Student Learning presents the training courses for the students and the Division for Educational Development does the same for the staff members in the Faculty of Health Sciences, UFS ("the Faculty"). This approach seems most feasible at the moment.

8.2.2 Approaches to training

The timing of training is important. In spite of the fact that some authors argue that trainees should first work in groups for a period of time before receiving training (cf. 4.4.4), this researcher agrees with Gibbs (1995a:30), who maintains that students should not be discouraged by leaving them on their own to work in groups before receiving training. Training at the beginning of Phase I is therefore necessary, so as to orientate students properly regarding group work *before* they actually start doing group work in the different modules of the M.B.,Ch.B.-learning programme. This would ensure that all students receive a full training course on group work, since this learning programme does not have other entry levels to the programme. Many authors suggest that it is best if the trainees learn about group work by working in groups (cf. 4.4.5). At the UFS, it is therefore indicated that, after the introduction to group work and the theoretical background of working in groups have been addressed, students should be given the opportunity to do group work during training, in order to gain experience of working in groups. Ice-breakers could be used to assist the group members in getting to know one another and they could, for example, receive a problem to solve in their groups. These problems could pertain to group work itself. The groups formed during training could be the "permanent"

groups for the first six months (which should be formed randomly – cf. 8.1.3), and during these training sessions they could also be given opportunity to determine their ground rules and contracts, as well as to determine the different roles the members are to play. Inter-group competitions can also be used during this period to enhance group cohesion. Furthermore, it is advisable that different group-work methods be used during the training sessions for different aspects of the training, so as to familiarise students with the variety of methods that exist. It could also be useful for the students to observe a demonstration of the functioning of groups in the form of a video, or even to play a game to assist them in developing group-work skills and identifying their roles as group members (cf. 4.4.5).

Although the staff and the Delphi participants thought it important to repeat some aspects in the training of students, none of the student groups did (cf. Table 7.50 and Table 7.214). However, quite a few respondents (including students) suggested some aspects of the training which should be repeated. Although a full range of suggestions was made by the different respondents, it is especially important to repeat aspects of the group functioning and the approach to completing the group task, since these are the aspects with which students will most likely struggle, as illustrated by the suggestions made by them on the aspects which they felt should be repeated (cf. Table 7.90). The suggestions of the Delphi participants confirmed this (cf. Table 7.215). It would also be beneficial to repeat the objectives of group work (as one of the Delphi participants suggested), since it is essential that students be reminded about what group work entails. Furthermore, a survey could be done amongst the students to identify additional needs amongst the different groups, since these needs could differ from year to year. These needs should be addressed during the following training session.

No consensus existed amongst the respondents on when these aspects of the training should be repeated. The two students groups thought it should be repeated at the beginning of each year, whereas the staff and the Delphi participants thought it should take place at the beginning of each semester (cf. Table 7.51 and Table 7.216). During Phase I, the training could be repeated at the beginning of the second semester, especially because there is an opportunity for the students to develop transferable skills during the first year in the module MEA 112. Students might also be relatively inexperienced in the principles of group work, and no harm would be done by repeating the relevant aspects of group work after six months. During Phase II, it would be more advisable to repeat aspects of the training at the beginning of each year, if

necessary. This researcher is of the opinion that the aspects mentioned above, as well as the needs identified amongst the students, should definitely be repeated at the beginning of Phase II, but should only be repeated at the beginning of the second year of Phase II (i.e., the students' third year) if necessary. This would prevent students from becoming negative due to the continuous repetition of training, as suggested by the remarks made by students in response to the opportunity to comment on the training for group work (cf. Table 7.88). The lack of time and staff to provide the training might also make it difficult to present training sessions for three different groups at the beginning of each year. By their third year, most students would also be relatively more experienced in working within groups, provided that they had received proper training in their first year and proper encouragement and support to function effectively in their groups subsequently.

Since it would be impossible to present training for all the staff members involved with group work at one time, it would be necessary to repeat training sessions for the staff more than once, especially since the majority of the staff members did not think that they received sufficient training in group work (cf. 8.2.1). This researcher agrees with Holcomb (1996:87), who suggests that basic training should take place for new staff members, and advanced training sessions for all the staff members involved with group work on an ongoing basis (cf. 4.4.4). All new staff members and those who have not yet attended any training on group work, should therefore receive a full training course on group work, but for those who have already been involved with group work for the past few years, training should be aimed at addressing specific needs identified (perhaps through a survey?) amongst the staff members. It would be advisable to repeat a certain training session at least once, so as to ensure that most of the staff would be able to attend. Again, it is also advisable that the trainees (i.e., the staff members) work in groups as part of their training, so as to gain experience of group functioning, although this might be difficult for some staff members who are not used to it. A video on the functioning of groups could also be useful as part of the training of the staff (cf. 4.4.5).

An integral part of training for group work would be the provision of guides on group work for both students and staff. Although no distinction was made in the opinion survey between guides for students and staff as indicators for a group-work model, the first years and staff regarded a guide for group work as very important, whereas the second years did not (cf. Table 7.49). On the other hand, even though the Delphi participants had the opportunity of

distinguishing between guides for the students and staff, they still regarded both as very important (cf. Table 7.214). Although not many authors comment on the importance and usefulness of guides for the students and staff, those that do, regard it as essential (cf. 4.4.5). This researcher is of the opinion that a guide for students could act as an aid to assisting them in improving their approach to group work, and also as a resource to consult when groups experience problems. A guide for staff would be essential for creating common ground for staff with regard to an approach to group work, especially since not all staff can attend the training sessions at once, or even at all. Gibbs (1995b:25-26) suggests useful aspects of group work which should feature in such a guide for students and staff respectively (cf. 4.4.5). In the guide for the staff it is important to distinguish between the role of the lecturer and the facilitator, since most staff members at the UFS involved with Phases I and II, act as lecturers and facilitators, and need to be able to distinguish what the role of each entails. Other aspects that need to be addressed include principles of choosing group-work methods and also the design of group-work sessions and appropriate group tasks (including designing case studies), mechanisms that can be used to encourage students to prepare for group work, and also examples of group-work and assessment methods. Furthermore, guidelines for the assessment of group work and for dealing with problems related to group-work sessions, should also be included in the guide for the staff (cf. 4.3.4.4). The guide for the students should include, amongst others, examples of ground rules, a description of the different methods which could be used for group work, and also checklists or inventories for self- and peer evaluation and evaluation of the group process.

8.2.3 The content of training

The items in the questionnaires on the content of training for students and staff were based on the findings from the literature and therefore, all these aspects were regarded as important by different authors (cf. 4.4.6). Most of the items in the questionnaires were also regarded by the respondents as very important for students, lecturers and facilitators (or lecturers and facilitators where appropriate) (cf. 7.1.2.2 and 7.2.2). However, no consensus was reached on the importance of a few of the items in this section of the questionnaire (cf. 8.2). Concerning the aspects in the training of students on which consensus was not reached, there can be no doubt, in this researcher's opinion, that it is important for students to know how to analyse interaction in their groups, and also how to plan and conduct a group-work session, since they are the ones

who have to complete the group task. It is probable that the staff members, the only group of respondents who did not regard these two aspects as very important for students, misunderstood the items and thought that they were only relevant to lecturers and facilitators (cf. Table 7.57 and Table 7.66). These aspects should thus be included in the training for students. Consensus was also not reached on the importance of addressing the reasons for using a variety of group-work methods and also the different methods which could be used for group work in the training of students. Again the staff members did not regard these items as important for students (cf. Table 7.68 and Table 7.69). However, students should know about the different methods, because they actually have to follow these methods in order to do group work, and they also need to understand the rationale behind using different methods, otherwise the use of different methods would not make sense to them. Therefore, it is also important to include these aspects in the training of students. On the other hand, the fact that the majority of the students indicated that they did know what their roles in their groups entailed (cf. Table 7.62), is encouraging, although one would have expected more students to know, and therefore it is also essential to include this aspect of group work in their training.

Three aspects in the training of lecturers also had equivocal results: The first years did not reach consensus on the importance of training lecturers in group dynamics (cf. Table 7.55), and the second years did the same for training in the role and tasks of the group leader, as well as the roles which members may play in a group (cf. Table 7.60 and Table 7.61). They also did not reach consensus on the importance of training facilitators in the role and tasks of the group leader. However, lecturers might have to use the group leaders' assistance with, for example, informing groups which work to prepare for sessions or handing in group tasks. It thus necessary for them to be aware of the responsibilities of group leaders. The facilitators assist groups with the completion of the group tasks, and also with maintaining the group process, and since the role of the group leader is central to the functioning of a group, it would not make sense to omit the role and tasks of a group leader from the training agenda for facilitators. Certainly, lecturers do not facilitate groups during group-work sessions and they do not have to deal with the group process during the presentation of a lecture, but they need to be aware of the maturity of the groups' developmental stage in order to design appropriate group tasks and use appropriate group-work methods. They should thus be aware of the different aspects of group dynamics. It is not only important for students to know about the different roles which they can play in groups (task- and group maintenance roles), but lecturers and facilitators also need to know this, since certain roles are required by certain group-work methods (cf. 4.1.6).

There is thus no indication that any of the contents in the training of students, lecturers or facilitators may be left out from the initial training course. The fact that all the items on the contents of training were regarded as very important by the Delphi participants, is a confirmation of this argument. Certainly, advanced training sessions for staff or the repeated training for students, do not necessarily have to include all of these aspects. These training sessions could be based on identified needs, or aimed at addressing specific problems, as discussed above (cf. 8.2.2).

In summary, the training of students, lecturers and facilitators on group work should include the following:

- Training on the general aspects of group work: This includes the importance, advantages, principles and conditions, but also the objectives of group work. Students and staff would not appreciate group work if they did not know why group work is done and how it should be done (cf. 4.4.6.1). If students were to be involved with multi-professional learning, the advantages and rationale thereof should also be pointed out to students and staff (cf. 4.1.5). Furthermore, to ensure effective group work it is essential that all students and staff also be aware of the importance of a positive attitude towards group work (cf. 4.4.6.3), especially due to the fact that a great percentage of students and staff indicated that they felt negative about group work (cf. Table 7.78). "Faculty members' satisfaction with any curricular innovation is essential to its continuance. After all, faculty must embrace a method in order for it to be used" (Albanese & Mitchell 1993:68).
- Training on the group structure: All trainees should be informed about the different roles and responsibilities of group members, but also about the roles and tasks of group leaders (cf. 4.1.6.1). They also need to be aware of the importance of group building and maintenance roles, as well as the non-functional roles which should be avoided (cf. 4.1.6).
- Training on the different facets of learning in a group: Trainees need to know which skills are developed through group work. This may best be done by following the six-step approach of Johnson et al (in Putnam 1997:71-78) (cf. also 4.4.6.2). This implies naming and defining the skills, explaining why the skills are needed, demonstrating the skills, providing opportunities to practise the skills, observing and providing feedback on the skills, and reflection and goal setting. They also need to be informed about the advantages and conditions of co-operative learning (cf. 2.3.1.2.3), especially due to the fact that most

students preferred to study alone (cf. Table 7.124). Furthermore, they should be made aware of the different learning styles that students possess, as this will provide useful insight into the way different group members will approach group work (cf. 4.4.6.5). Students should receive the opportunity of identifying their personal learning styles through the use of an appropriate inventory during the training sessions (cf. 4.1.2.7). If students are informed about the different approaches to learning, they could be encouraged to support one another in the group as far as their different approaches to learning are concerned.

- Training on aspects related to the group process: "The personal and working relationships within the small groups can either make or break the course experience of many students" (Miller et al 1994:34). Therefore, training in the group process is essential. The group process determines the way in which a group would function and it could have an important influence on the effectiveness of a group (cf. 4.4.6.6). However, this does not only include group dynamics (cf. 4.2.1 and 4.2.2), but also communication and social skills, multi-cultural issues, and also the handling of personality and racial clashes as well as conflict and other problems in a group (cf. 4.2.5 and 4.2.7). It is also essential to inform trainees about the importance of maintaining the group process through regular evaluation and/or assessment (cf. 4.2.8). This would include addressing the necessity of ground rules and the need to stick to them. Students could be given examples of ground rules which they could determine for their groups and could be given the opportunity to determine these rules for their groups during the training (cf. 8.1.6). Staff should also know how to deal with students requesting to move from one group to another. It is also essential that students, who will act as mentors for groups, receive training in all these aspects of the group process (cf. 8.1.7 and 8.4.2).

- Training in the approach to group-work sessions: All trainees need to be aware of how important it is that students prepare for group work. They also need to be informed about the appropriate arrangement of furniture, so as to ensure face-to-face interaction during group work (cf. 4.3.1.2). The students and staff also need to know about the different types of group work and the different methods which could be used for group work, and also why a variety of methods should be used (cf. 2.9 and 4.3.1.6). The staff also need to know how to choose appropriate methods for specific sessions. Furthermore, they need to know the importance of clear and realistic outcomes, and also Bloom's taxonomy of objectives for the different cognitive levels (cf. 4.3.1.5). Both students and staff also need to know how to plan and conduct group-work sessions, and need to be aware of the process of solving

problems (cf. 4.3.3.3). Lecturers need to know how to design tasks for group work which would enhance cooperation amongst the group members, and also need to be aware of the characteristics of suitable group tasks (cf. 4.3.1.8). This aspect needs special attention because the majority of the staff members indicated that they did not know how to compile appropriate tasks, even though they knew what these tasks entailed (cf. Table 7.98 and Table 7.99). Students need to know which approach to follow to complete these tasks, and facilitators have to know how to assist them in doing so. The staff also need to be informed about the roles and responsibilities of a facilitator and the skills needed for effective facilitation (cf. 4.3.2.1.2 and 4.3.2.1.4). This aspect needs special attention, since some of the students remarked that the facilitators failed to facilitate group work effectively (cf. Table 7.127). Some of these responsibilities imply that the facilitator and lecturer should work very closely together in the planning of a group-work session. Furthermore, staff members need to be informed about the principles of facilitation and also when and how they should intervene as facilitators (cf. 4.3.2.1.5 and 4.3.2.1.6). They also need to realise the importance of feedback on a group-work session, especially due to the fact that only 50% indicated that they were providing feedback on group work (cf. Table 7.83). They should also be informed about the characteristics of effective feedback (cf. 4.3.4.2). Facilitators should be made aware of the advantages of ice-breakers at the beginning of a group-work session, but they should be given the choice of whether or not to use them (cf. 8.1.6). Furthermore, they should be informed about the effect which their subject expertise could have on the success of group work (cf. 4.3.2.1.6). The importance of regular evaluation and/or assessment of the group task also needs to be emphasised during training sessions for students and staff. It is important that staff members understand the different roles and responsibilities of lecturers and facilitators respectively, and should be trained to accept an appropriate role where necessary – thus the distinction between lecturers and facilitators, even if it appears to be arbitrary.

- Training in effective group work: Students and staff should receive training in an approach to effective group work (cf. 4.4.6.8). They must be informed about the characteristics of effective and ineffective groups, and also how participation and discussion in a group can be analysed and improved (cf. 4.2.4). Especially the students and facilitators need to know which factors influence interaction in a group (cf. 4.2.6). Furthermore, they should be provided with strategies for improving the effectiveness of a group, and also for dealing with members who do not perform as expected (cf. 4.3.4.4.4). These could be included in

the contracts of the groups. Since problems are likely to occur at any time during group work, students and staff should also be provided with guidelines on dealing with the problems, e.g., the troubleshooting guide of Tiberius (1999) (cf. also 4.3.4.4).

- Training in the assessment and evaluation of group work: Firstly, students and staff should be clear about the difference between evaluation and assessment (cf. 4.6.1). Not only should the importance of regular evaluation/assessment of the group task and the group process be addressed, but staff members should also be provided with appropriate assessment techniques and approaches to mark allocation for group work (cf. 4.6.5 and 4.6.7). The staff members, especially the lecturers, need to know the need for covering the higher-order thinking skills in their evaluations through appropriate questions (cf. 4.6.4.1). Especially facilitators also need to know how groups can be assisted with self-evaluation of the group process and task. The assessment criteria should be made known to students and they should be informed about the principles of self- and peer evaluation of assessment. The staff members should also be encouraged to evaluate themselves by providing appropriate instruments for this purpose (cf. 4.6.3).

8.2.4 Differences and similarities between Phases I and II regarding training of students

The majority of the second year students and staff indicated that there should not be any differences in training on group work between Phases I and II, and not many commented on how it should be different (cf. Table 7.91 and Table 7.92). However, if were to look at the suggestions of aspects of training which should be repeated, it is clear that there were different needs amongst the first and second years. Relatively more first years also wanted certain aspects to be repeated. As suggested before, it is necessary to present a full training course for first years when they enter the M.B.,Ch.B.-learning programme, and it is also indicated to repeat the most important aspects, as well as those areas where problems are experienced, after six months in the first year (i.e., at the beginning of the second semester). On the other hand, only certain aspects would be repeated at the beginning of the second year, and training would not take place at the beginning of the third year, unless necessary (cf. 8.2.2). Therefore the amount and contents of training should progressively become less as the students mature and gain experience in group work. The specific approach to the training, however, should not necessarily be different between Phases I and II (cf. 8.2.2).

8.3 GROUP-WORK SESSIONS

In this section the majority of the items were regarded as being very important in both the opinion survey and the Delphi study, although there were also a number of items on which consensus was not reached. However, no items were regarded as being unimportant by all the respondent groups.

The following were **VERY IMPORTANT** indicators in the opinion of the respondents in both the survey and the Delphi study:

- **Appropriate venues** must be used for group work;
- The **furniture must be arranged** so as to ensure face-to-face interaction amongst group members;
- Sufficient **resources** must be available for all groups to use;
- ***Clear outcomes** for the development of group-work skills must be set and made known to students;
- There must be mechanisms to encourage students to prepare for group work;
- Lecturers must know which types of questions and group assignments are suitable for the different kinds of knowledge that students should acquire **(Bloom's taxonomy)**;
- The **task/assignment** for group work must be **suited to the purpose** of the specific group-work session;
- The **assignments and outcomes** for group work should be **clear,** so that groups know exactly what is expected from them;
- The **task** (assignment and topic) for group work must **enhance co-operation and discussion** between members of a group;
- **Realistic outcomes** should be set for a group task;
- *The **type of group work** used for a group-work session must support the specific purpose of the session;

- The **group-work method** used for a specific group-work session must support the purpose of the session;
- A **variety of group-work methods** must be used for group work;
- The same amount of emphasis should be laid on the **common goal of the group**, as on the **individual accountability** of group members during group-work sessions;
- A specific number of groups must be appointed to a facilitator during group-work sessions;
- The **same facilitators** should be involved with all the group-work sessions of a specific module (despite the contents of the group work), so as to ensure continuity;
- The **time spent on a group-work session** should be determined by the specific task for the session; and
- **Feedback** should be provided for each group-work session on the work done during the session.

NO CONSENSUS was reached on the importance of the following indicators:

- Group work can be done in small, as well as large groups;
- The **facilitators for group work must be experts** in the subject field in which group work is done;
- **Senior students** may also act as **facilitators** for group work;
- There should be **rewards** for effective group work;
- Groups must have the opportunity to **compete** with one another because it enhances group cohesion; and
- Students must be divided into **learning groups**, in order to study together during self-study times.

8.3.1 Physical resources for group work

The physical set-up and available resources for group work are very important if effective group work is to be ensured (cf. 4.3.1.2 en 4.3.1.3). All the different respondent groups regarded

appropriate venues, the arrangement of furniture so as to ensure face-to-face interaction, and also sufficient resources as very important, which is in agreement with the literature (cf. Table 7.25, Table 7.27, Table 7.28 and Table 7.220). There is therefore no uncertainty about the responsibility of the Faculty to provide these necessary resources.

Due to the fact that a three-hour session at the UFS consists of lectures and group work, it is necessary to use loose furniture that can be arranged according to the needs of the specific situation. This is the case at the moment, and the majority of the students and staff indicated that they were satisfied with the current venues available for group work at the UFS (cf. Table 7.26). However, it often happens that students do not move the furniture after the lecture in order to do group work, and therefore they need to be reminded of the importance of face-to-face interaction, and should be encouraged by the facilitators to rearrange their tables and chairs appropriately (cf. 8.2.3). Face-to-face interaction is one of the most important and basic elements of co-operative learning (cf. 2.3.1.2.1).

Unlike the venues, the majority of the students and staff at the UFS did not think that the resources available for group work were sufficient (cf. Table 7.29). The resources that they mentioned as examples included especially computers and Internet availability, as well as books of different sorts and photocopy facilities (cf. Table 7.30). The remarks of the respondents about the insufficiency of resources cannot be ignored by the Faculty and attempts should be made to address the needs of the students and staff. Since the needs might be different from year to year, it would be advisable to include questions on the sufficiency of resources in the evaluation of group work, and to act on the needs of the students and staff. On the other hand, it should be remembered that co-operation amongst group members should be encouraged, and therefore resources should be made available for groups to share, and not individual students (Rudduck 1978:61). Furthermore, the workbooks designed for group-work sessions should be properly designed, should contain relevant information to guide students to prepare for sessions and to achieve the outcomes of the sessions, and should also outline the group task, with appropriate stimulus material, so as to ensure that students know exactly what is expected from them (cf. 8.3.2).

8.3.2 The outcomes for a group-work session

Outcomes refer to the specific objectives of a group-work session and indicate what students should be able to do or know after such a session. All the respondent groups (which include all the second years and 95.8% first years) regarded it as very important that the outcomes for group work should be realistic (cf. Table 7.100 and Table 7.227). They also thought it very important that lecturers be aware of the different types of questions or assignments that are suited to the different outcomes (i.e., Bloom's taxonomy) (cf. Table 7.94 and Table 7.224). Furthermore, the Delphi participants regarded it as important that the outcomes for group work should be clear and should be made known to the students (cf. Table 7.221). The literature supports the opinions of the respondents, and it is argued that students need to know exactly what is expected from them during group-work sessions. Furthermore, different group-work methods provide opportunities for achieving different outcomes, and, therefore, the method chosen for a session should support the outcomes of that session. Specific characteristics of outcomes or objectives have been described extensively in the literature (cf. 4.3.1.5). For the situation at the UFS, the lecturers especially, would find it easy to remember Race's (2000:18) description of SMART goals (specific, measurable, achievable, realistic and time-specific) for group-work sessions, which could be used to remind them of the different characteristics which specific outcomes for group work should have. This aspect of the design of group-work sessions therefore needs to be addressed properly during the training of lecturers in particular (cf. 8.2.3).

8.3.3 The preparation of students for a group-work session

"One cannot simply throw students together with their peers with no guidance or preparation and expect a successful collaborative learning experience to result. In fact, to do this would most likely be to perpetuate, perhaps even aggravate, the prevailing negative effects of peer group influences" (Flannery 1994:22). According to the literature, preparation for group-work sessions is essential for the success of group work (cf. 4.3.3.1), and all the respondent groups (including all seven Delphi participants) regarded this aspect of group work as very important (cf. Table 7.93 and Table 7.222). If students are not prepared for group-work, they will be more dependent on the facilitator. This might cause facilitators not to be available to all groups, since they would get stuck with groups who ask questions continuously.

The Delphi participants suggested various ways in which students could be encouraged to prepare for group work (cf. Table 7.223). Many suggestions have also been made in the literature (cf. 4.3.3.1). The staff members should be informed about all these different methods (this information could appear in the guide on group work). They should also be allowed to choose specific methods which are appropriate for the modules they present, and also for the approach they use.

For the situation at the UFS, the following methods could be used to encourage students to prepare: Firstly, it is essential that students know beforehand what is expected from them for each session. The work which they need to prepare for each session should be stated explicitly. Students could also be given small tasks to do for a next session which should then be evaluated. The first ten minutes of a session could also be spent on determining whether students have prepared for the session. This could be in the form of a presentation of the tasks which they had to complete as part of the preparation, writing a small test (which should count as part of the continuous assessment for the module), or a short quiz, which could be held to test the group members' knowledge about the topic under discussion (the group mark for the quiz could also count as part of the continuous assessment for the module, and students will be held accountable by their fellow group members in this way). Thus, if students do not prepare, they will not receive good marks. Other methods which could be used at the start of a session include rounds or five minutes each way (cf. 2.9). The best way to inform students about preparation for group-work sessions is in the workbook, since the lecturer presenting a specific session does not necessarily see the students during the previous session to inform them about preparation for his/her session. It is, however, important that students be constantly encouraged to prepare by all the different session presenters, so that the students can learn to take preparation seriously. Proper preparation will make the actual completion of the group task more effective, and students will then be able to participate properly in the group discussion.

8.3.4 The types and methods of group work

All the respondent groups regarded it as very important, both that the group-work method chosen for a specific session should support the purpose of that session, but also that a variety of methods should be used (cf. Table 7.101, Table 7.102 and Table 7.228). The literature is also in agreement with this (cf. 4.3.1.6). Thus, the students and staff need to be informed during their

training about the different group-work methods that exist, but also about the objectives which can be reached through the different methods (cf. 8.2.3). It is important to realise that, as one Delphi participant indicated, an assortment of methods should not be used just for the sake of variety, but rather that the various group-work methods which are used, must be appropriate for the purpose of specific sessions (cf. Table 7.228). Equally so, it would be difficult to reach all the objectives of group work with only one method, and the use of a variety of methods is therefore inevitable (cf. 4.3.1.6). In the light of the staff shortage at the UFS, group-work methods that encourage tutorless groups should be encouraged and used. These include, e.g., buzz groups, cross-over groups, fishbowls, role-play, and syndicate groups (cf. 2.9).

The Delphi participants also regarded it as important that the type of group work (i.e., task-based or problem-oriented) should support the specific purpose of the session (cf. Table 7.228). It is important for lecturers to keep this in mind when planning group work (cf. 2.8). Students are more likely to interact and participate if group work is centred around a problem (problem-oriented group work), but it is sometimes indicated to use a task-based approach, especially when the students do not have sufficient prior knowledge on a subject to be able to solve problems. Nevertheless, the use of a task-based approach does have a place in group work, when used for specific purposes, and appropriate methods could be used in support of such an approach (e.g., projects and poster tours – cf. 2.9). If a problem-oriented approach is followed, students should be aware of the different steps of solving problems (cf. 8.2.3), and the acronym IDEAL works well for this purpose, implying the following: Identify the problem, define and represent the problem, explore possible strategies to solve the problem, act on these strategies, and look back or reflect on the effect of the activities which took place during the process (cf. 4.3.3.3). However, when a task-based approach is used, it is advisable that the task be subdivided amongst the group members, so as to ensure that they all participate and are all held accountable for the group task (cf. 4.1.7). On the other hand, if group members only complete a part of the task, there is a very real danger that they would learn only part of the work, and therefore clear outcomes for a session are essential (cf. 4.3.1.8). Due to the fact that it is easier to compile straightforward tasks, rather than designing problems for group work, lecturers should guard against falling into the habit of using a task-based approach only.

All respondent groups, except the staff, also regarded it as very important that group work should be done in both small and large groups (cf. Table 7.103 and Table 7.228). The majority

of the staff members chose point 3 of the scale for this item (i.e., important). Group work in large groups would be more appropriate during ice-breaker sessions or during the first few minutes of sessions to determine whether students had prepared for the session. Specific group-work methods could be used for large groups, e.g., pyramids, line-ups, or debates (cf. 2.9). However, large group work is not indicated for group tasks, since there are many disadvantages involved with large groups which could lead to ineffective group work (cf. 4.1.1).

8.3.5 The tasks for group work

All the respondent groups regarded it as very important that assignments for group work should be appropriate for the purpose of the session, that students should know exactly what is expected of them, and that the tasks for group work should enhance co-operation and discussion amongst the group members (cf. Table 7.95, Table 7.96, Table 7.97 and Table 7.224). The importance of these aspects is confirmed in the literature (cf. 4.3.1.8). The Delphi participants suggested tasks which would enhance co-operation, e.g., using controversial or fun topics, or allowing presentations of the group work by the groups, or group projects for which they should divide the labour amongst the group members (cf. Table 7.225). Furthermore, one of the experts also suggested that any module should be suitable for group work, albeit sometimes requiring some creativity (cf. Table 7.226). Although the lecturers must be encouraged to use their creativity in the design of group tasks, and should always be allowed to choose suitable approaches for specific group-work sessions, the suggestions made by the Delphi participants could be useful for the situation at the UFS, and these suggestions should be included as examples in the guide for group work (cf. 8.2.2). Heimlich's (1996:42) suggestion of incorporating the aspects of conflict, cooperation, challenge and content into group tasks could be a useful guideline for lecturers when designing tasks for group work (cf. also 4.3.1.8). The group tasks should also provide for the five phases of learning, viz., engagement, exploration, transformation, presentation and reflection (cf. 4.3.1.8).

It is also imperative that lecturers use appropriate stimulus material for the group tasks that they design, so as to encourage discussion amongst group members (cf. 4.3.1.8). Some students suggested that case studies work best for them (cf. Table 7.126), and this is a useful trigger for stimulating discussion. Therefore, lecturers need to be aware of the principles of effective case design (cf. 2.10.1.11). However, lecturers would still need to explore other alternatives as well,

e.g., video clips, newspaper articles, a patient, etc. (cf. 4.3.1.8). The most important aspect of designing problems or tasks for group work is that they should represent a real-life situation, so as to ensure that students reflect and apply what they have learnt. This would ensure that the M.B.,Ch.B.-learning programme at the UFS lies on the fifth point of the continuum of problem-based learning, which implies problem-focused learning (cf. 2.10.1.10).

8.3.6 Conducting a group-work session

In response to the open-ended question on group-work sessions, many of the comments indicated that group work was not working properly at the time of the study. Most of these were in connection with poorly organised group-work sessions (cf. Table 7.127). Lecturers should take note of this and ensure that they follow the prescribed principles for the design of a group-work session (cf. 4.3.1). These principles should be addressed during training sessions and should be outlined in the guide for group work (cf. 8.2.2). It is also essential that the lecturers and facilitators of a specific group-work session collaborate better with the planning of the session, e.g., in the choice of the group-work method, the time allocated for group work, and even the provision of feedback. The ideal would be for the lecturer and facilitator to decide jointly on the method to be used during a specific group-work session, and that the facilitators be informed about the outcomes and the group task for a session.

All the respondent groups also regarded it as very important that the time spent on group work should be determined by the group task (cf. Table 7.113 and Table 7.236), which is supported by the literature (cf. 4.3.1.4). On the other hand, the majority of the first years, second years and the staff preferred group work to be scheduled for constant times, and also indicated that the time currently available for group work is adequate (cf. Table 7.114 and Table 7.115). The Delphi participants indicated that a three-hour group-work session should be flexible in terms of its structure (cf. Table 7.237). The literature also suggests that the content and order of a group-work session may be adjusted according to the aims and the topic of the session (cf. 4.3.1.7). Although group-work sessions at the UFS are currently scheduled for constant times (three hours, including the lecture), and probably need to be, it is advisable that lecturers and facilitators should be allowed to be flexible in the use of the time available, as well as in the structuring of the session (i.e., the time spent on lectures and group work). The time which is eventually spent on group work should therefore depend on the group task and the group-work

method chosen for the specific session (cf. 4.3.1.4). Furthermore, it appears as if there is no need to increase or decrease the time allocated for group-work sessions. It is, however, important that students not be allowed to leave early before the tasks are completed, and this can be accomplished by making the last few minutes of the session valuable. The best way to do this is to provide feedback on the session immediately after the completion of the group work. On the other hand, the time allowed for group work should not be too long, as having a time limit will assist groups to focus better on the group task.

All the respondent groups regarded it as very important that the same amount of emphasis be laid upon the common goal of the group as on the individual accountability of the group members (cf. Table 7.104 and Table 7.229). However, on answering the next item in which they had to differentiate the relative importance of the two, the Delphi participants regarded the common goal of the group as more important (cf. Table 7.230), while the majority of the staff and first years thought that individual accountability is more important, and the second years were divided (cf. Table 7.105). Many well-known authors on co-operative learning argue that both the common goal of the group and individual accountability are essential for effective co-operative learning (cf. 2.3.1.2.5). It is thus advisable that both of these aspects be regarded as important in their own right, since the common goal of the group encourages co-operation in a group, whereas individual accountability prevents members from relying on others to complete the group task. This dual emphasis may be achieved by subdividing the group task amongst members, but having the group present their findings, without knowing which person would be selected to provide feedback. Specific group-work methods could also be used to involve all members of a group, e.g., cross-over groups or the jigsaw method (cf. 4.3.1.6). Furthermore, marks could be allocated to groups for the group task or process, and also for the individual members' contributions (cf. 4.6.7).

No consensus was reached amongst the different respondent groups on the importance of inter-group competitions in enhancing group cohesion. The first years regarded it as very important, the second years and staff as not important, and the Delphi participants did not reach consensus (cf. Table 7.122 and Table 7.241). Some authors argue that inter-group competition could enhance the cohesion of a group, although competition amongst group members could also be destructive for the group process (cf. 4.2.1). Competition should thus be used with care and, therefore, this researcher is of the opinion that it should not be an essential element of group

work at the UFS, although it could be used during ice-breaker sessions to enhance cohesion in a group, or in the form of a quiz at the beginning of sessions to determine whether groups have prepared.

Consensus was also not reached amongst the respondents on the importance of rewards for group work. Although the Delphi participants regarded it as important, the second years and staff did not, while the first years did not reach consensus (cf. Table 7.120 and Table 7.240). There is also no clear consensus in the literature about this aspect of group work and arguments both for and against the use of rewards exist (cf. 4.3.4.3). However, from the literature it is clear that whole groups, rather than individual members, should be rewarded, so as to avoid competition amongst the members, and that care should be taken not to provide extrinsic rewards at the cost of intrinsic rewards or motivation. Most students and staff who suggested rewards which could be given for effective group work, suggested some form of marks, although a few also mentioned recognition as a reward (cf. Table 7.121). The majority of the Delphi participants also asserted that rewards should be in the form of good marks (cf. Table 7.240). Therefore, it appears as if extrinsic rewards such as gifts are not indicated in Phases I and II, but that effective group work may be rewarded extrinsically by appropriate marks, and also intrinsically by acknowledging students' contributions to effective group work. Successful group work could also be a reward in its own right (Dimock 1987:187).

All the respondent groups regarded it as very important to provide feedback on group-work sessions (cf. Table 7.116 and Table 7.238). Some comments made by the students and staff to the open-ended question on group-work sessions, confirmed the fact that they felt strongly about the provision of feedback (cf. Table 7.127). The literature is also in agreement that feedback is important, especially due to the fact that group work relies on experiential learning (cf. 4.3.4.2). "Feedback to learners is critically important and is widely regarded as one of the strengths of the small group process" (Ledingham & Crosby 2001:81). There is therefore no doubt that feedback is important and that group work would not be useful without it.

Both the student groups wanted the lecturer to provide feedback, the staff indicated that the groups should provide feedback, and the Delphi participants suggested that both the students and the facilitator should do so (cf. Table 7.117 and Table 7.239). The literature indicates that either the staff (lecturers or facilitators), or the groups could provide feedback (cf. 4.3.4.2).

However, if only the lecturer or facilitator were to provide feedback, students would not be encouraged to work in their groups, knowing that they will receive the answers from the lecturer or facilitator. Therefore, at the UFS, groups should first receive the opportunity to provide feedback by presenting the outcome of their group tasks or assignments to the rest of the class. The facilitator or lecturer could oversee this process and provide insights or corrective comments where necessary, and may even assess the outcome of the group task in the process. In this way, groups would be encouraged to do the group work themselves, but they should also be corrected if they do not find the right solutions, and students should therefore not be left in the dark about the outcome of their assignments. It would make more sense, for the situation at the UFS, if the lecturer would take charge of the feedback session, because the lecturer is the person who presents the lecture and designs the group tasks, and is in any case usually also a facilitator for the specific group-work session. They should thus be aware of the characteristics of constructive feedback (cf. 4.3.4.2). Only when necessary, could the facilitators fulfil this function.

All the groups, except the second years, preferred that feedback be provided directly after the specific session, whereas the second years wanted feedback during the following session (cf. Table 7.119 and Table 7.239). Although the choice of the second years could be sensible, as the students would then have had the opportunity to work through the subject matter and therefore be better prepared to participate in the feedback, the same lecturer is not necessarily involved in the following session of a module, and would then have to be available for both sessions. This could pose problems with the current time constraints that the staff members at the UFS are experiencing. Also, if students prepared properly for group work, participation in the feedback would not be a problem. Providing feedback during a following session would also take up valuable time of that session. It would thus be more feasible to provide feedback immediately after a particular session. Norman and Schmidt (1992:561) also argue that immediate and constructive feedback is essential for the success of a group-work session.

The students and staff also preferred that the feedback sessions be scheduled on the timetable (cf. Table 7.118). Although the students and staff indicated that the three-hour sessions are adequate for group work, it is debatable whether they provide sufficient time for feedback as well. The time needed for group work depends on the group task and the method chosen for the session, and it would not be advisable to rush group work for the sake of providing feedback,

since this would defeat the purposes of allowing students to do the work, and also being able to provide feedback on what they have done in their groups. It might therefore be necessary to extend the three-hour sessions with at least half-an-hour to provide sufficient time for feedback. This should be scheduled on the timetable to ensure that both students and staff are available for the feedback. However, due to the fact that a group-work session should be flexible, it should be made clear (to the staff especially), that it would not be compulsory to use the full time scheduled for every group-work session. This researcher is therefore of the opinion that the extra half-an-hour should be scheduled for group-work sessions in both Phases I and II, and that feedback should be provided directly after group-work sessions. In the light of the time constraints that staff members experience, being available for an extra hour (i.e., half-an-hour for each language class), would be a more economical use of time than being available for two subsequent sessions.

8.3.7 Facilitators for group-work sessions

All the respondent groups regarded it as very important that a facilitator should be appointed to a specific number of groups (cf. Table 7.106 and Table 7.231). The first years, second years and staff preferred two facilitators per class (cf. Table 7.109), and three of the Delphi participants preferred one group per facilitator. The others suggested ten, eight, two and five groups per facilitator (cf. Table 7.232). The literature does not describe the ideal number of facilitators for a group-work session clearly, although the most common situation (especially in a problem-based learning set-up) is one facilitator per group (cf. 4.3.2.1.6). On the other hand, of the respondents at the UFS, only the second years indicated that the number of facilitators, who are currently available for group work, is sufficient (cf. Table 7.107). One group per facilitator (as some of the Delphi participants indicated) is not feasible at the UFS, due to time constraints of staff, staff shortages, and the lack of financial resources to remunerate external facilitators. The literature suggests that tutorless groups or floating facilitators could be used if staff shortages exist (Crosby 1997:19; Gibbs 1995b:29). The majority of the respondent groups indicated that it would acceptable for facilitators to move around between groups to facilitate (cf. Table 7.108). Therefore, for the situation at the UFS, it would probably be ideal if two facilitators could be present for a specific language group during a group-work session. This would imply that each of the facilitators would have between six and seven groups to facilitate. However, this is often not possible, and, therefore, one needs to accept that one facilitator per

class will often have to suffice. It is therefore important to use appropriate group-work methods in order to encourage students to work independently (cf. 8.3.4). But it is equally important to train both students and staff properly in the principles of group work, so that group work can be more effective, and groups need less assistance from facilitators. If facilitators are well-trained, they will be able to handle problems or questions in a group effectively, spend less time at a group, and thus be better available to all groups. Clear outcomes and proper preparation amongst students would also contribute to successful group work without the constant supervision of a facilitator (cf. 8.3.2 and 8.3.3). Having only one or two facilitators available for group work would furthermore encourage students to become more independent and take responsibility for their own learning (cf. 4.3.2.1.2).

All the respondent groups also regarded it as very important that the same facilitators should be involved with all the group-work sessions of a module, so as to ensure continuity (cf. Table 7.111 and Table 7.234). Moreover, the Delphi participants did not regard it as important that the facilitators be experts in the subject field on which group work is done, whereas both student groups and the staff thought it very important (cf. Table 7.234 and Table 7.110). The literature shows equivocal findings about the use of expert facilitators for group work, although it appears as if most authors agree that it is more important to have skilled facilitators who can facilitate well, than to have facilitators who are experts in the particular subject field, but who do not possess good facilitation skills. However, the best option would be facilitators who are experts and who can facilitate well (cf. 4.3.2.1.6). For the situation at the UFS, it would be very difficult for staff members, who are involved with a specific discipline and who are regarded as experts only in that particular discipline, to facilitate for lecturers from other disciplines, due to other responsibilities which they might have in their particular departments, and due to the fact that they might be uncomfortable with facilitating group work outside their field of expertise (Hay & Katsikitis 2001:23; Sefton 2001:163). It is therefore usually persons from the same department or discipline who act as lecturers and facilitators for a specific group-work session, and therefore the facilitators are usually experts in the subject field under study. This is preferable, but this researcher is in agreement with the literature that these facilitators need to receive proper training in the skills necessary to facilitate, and also need to be made aware of the pitfalls which their "expert knowledge" could have for group work, e.g., talking too much rather than giving the students the opportunity to discuss a topic in their groups (cf. 4.3.2.1.6). Facilitators should also be properly trained in the principles, skills and approaches to facilitation (cf. 8.2.3 and 4.3.2.1). Training is especially necessary due to the fact that none of the staff

members involved with group work at the UFS are experts in group-work facilitation. Furthermore, due to financial constraints, it is very unlikely that the Faculty would have the financial resources available to use external experienced facilitators. Therefore, although ideal, it would also be very unlikely that the same facilitators can be used for all the sessions of a module, because the sessions are presented by more than one discipline. However, if more than one session or part of a session is based on a particular discipline (e.g., Physiology), it would be advisable that the same lecturers and facilitators be involved with these sessions, especially those modules which are presented by only one or two disciplines.

Apart from the staff members, who did not reach consensus, the other respondent groups also regarded it as very important that senior students could be used as facilitators for group work (cf. Table 7.112 and Table 7.235). Using senior students as facilitators could be a useful solution to staff shortages, but it is not without its own problems: These students need proper training in facilitation, need to be available, and also need to receive recognition for their work. There is no consensus in the literature about the use of senior students as facilitators, although the majority of authors do not support the use of students as facilitators for group work (cf. 4.3.2.1.6). Although it appears as if this would prove to be a meaningful exercise for both the junior and senior students, it would be difficult to implement such a system at the UFS at the moment, firstly due to the complex timetables of especially the students in Phase III, but also due to the fact that these students attend clinical training sessions in hospitals which are not near the UFS campus. Furthermore, these students would still need supervision from a member of staff, and one would also have no control over the information which the senior students give to the groups. Thus, a staff member would still have to oversee the process and provide feedback on the group work. If one staff member is in any case used as facilitator, it thus appears as if there is no need for senior students as facilitators at present. Once all five years of the medical curriculum have run for the first time, it might be clearer whether senior students would be available at certain times, and the possible use of senior students as facilitators could then be reviewed.

8.3.8 Co-operative learning in groups

Learning groups that provide the opportunity for students to meet after-hours to study together, is one way of providing academic support to groups (cf. 2.8). However, the first and second

years, as well as the staff, did not regard learning groups as important, and the Delphi participants felt neutral about it (cf. Table 7.123 and Table 7.242). On the other hand, they all preferred that students should choose these groups themselves, should they exist, although the majority of the students preferred to study alone (cf. Table 7.125 and Table 7.124). It is therefore clear that the students have not yet realised the value of co-operative learning and peer support, and these aspects need special attention during the training sessions (cf. 8.2.3). It also appears as if it would not be indicated to force learning groups onto students, although it could be suggested as a means of support, and students should be encouraged to form learning groups themselves.

8.3.9 Differences and similarities between Phases I and II regarding group-work sessions

Most respondents at the UFS did not think that there should be any differences between Phases I and II regarding group-work sessions (cf. Table 7.128). Although there were a few differences noted between the opinions of the first and second years on some items in this section of the questionnaire (cf. Table 7.129), there is no clear indication that the structure, design or conducting of group-work sessions should be different in Phases I and II. Obviously, the types of group tasks and the group-work methods chosen for specific sessions might differ due to the differences in the nature of some modules, especially the few modules in the first year which are less scientifically orientated (cf. Appendix A). However, the basic design and conducting of a group-work session, including the provision of feedback and the use of facilitators, need not be different.

8.4 SUPPORT FOR GROUP WORK

This section in the questionnaire had the second most items on which consensus was not reached in the opinion survey, and the most items in the Delphi questionnaire which had a neutral vote. No items were regarded as being unimportant by all the respondent groups. There were thus many different opinions about how support should be provided for group work.

The following indicators were regarded as **VERY IMPORTANT** by all the respondent groups:

- There must be a **support system for groups and group members** who experience problems with group work; and
- There must be **support available for lecturers and facilitators** who experience problems with group work.

NO CONSENSUS was reached on the following indicators regarding support for group work:

- The **lecturer** who presents a group-work session **must provide academic support** on the work done during the session;
- Academic support must be provided in a group context;
- Each group should have a **mentor** to provide support on the group process outside group-work time;
- **Senior students** may also act as **mentors** for groups;
- **After-hours social meetings** must be arranged to enhance inter-relations amongst group members; and
- Students must be able to contact their fellow group members after-hours if necessary.

8.4.1 The provision of support for group work

All the respondent groups regarded it as very important that both students and staff receive support regarding group work (cf. Table 7.130, Table 7.131 and Table 7.245). The literature is in agreement that support is essential for successful group work (cf. 4.5.1). When students' needs, interests and expectations are met, they will also be more willing to contribute to group work (Reynolds 1994:36). The same also applies for the staff members. All the respondent groups at the UFS indicated that they were not receiving sufficient support at the time of the study (cf. Table 7.142). It thus essential that the Faculty should provide this support in appropriate ways. Support for group work implies the provision of resources for group work, but also providing more personal support to the students and staff, as well as guidelines for effective group work. However, individuals who are involved with group work could also provide support to one another, e.g., lecturers could provide academic support to groups, fellow

group members could provide peer support, and mentors could also provide support to groups (cf. 4.5.2). Definite guidelines for the support of group work are therefore necessary at the UFS.

8.4.2 The types of support which are necessary

Firstly, sufficient resources should be provided for group work. Not only physical resources are important (cf. 8.3.1), but also resources in terms of manpower. Group work is more labour-intensive than some traditional instructional methods such as lectures. The reason for this is that not only is a lecturer needed, but also at least one facilitator who must assist with group work. However, there are ways of ensuring that group work is still effective, even if only one facilitator is available for a whole class (cf. 8.3.7). Therefore, the staff shortages should not be an insurmountable problem at the UFS.

Time is another resource often neglected. It is essential that lecturers plan group-work sessions properly so as to make the best use of the available time, and facilitators need to assist groups in planning their time properly for the completion of the group task (cf. 4.4.6.7.1). Staff members should receive administrative and organisational support to spare them time which they could rather spend on the planning of group-work sessions (see below).

All the respondent groups from the UFS regarded it as very important that academic support be provided in group context, but the Delphi participants felt neutral about this (cf. Table 7.134 and Table 7.247). Irrespective of whether the academic support is provided in group context or individually, the literature also suggests that academic support is necessary for students (cf. 4.5.3). Learning groups would provide a useful way of ensuring academic support in a group context, although it has been noted that students may only be encouraged, but not be forced, to form these groups (cf. 8.3.8). On the other hand, all the respondent groups at the UFS regarded it as very important that the lecturer who presents a group-work session, should also provide academic support on the work done during the session, whereas the Delphi participants again felt neutral about this (cf. Table 7.133 and Table 7.247). The literature also suggests peer-tutoring between senior and junior students, which implies that senior students could provide academic support to junior colleagues (cf. 4.5.4). However, this would not be feasible at the UFS for the reasons mentioned in 8.3.7. It is therefore rather indicated that the lecturers provide

academic support to groups and students at the UFS, since they presented the lectures, determined the outcomes for the group work, and designed the group tasks.

Students and groups do not only need academic support (related to the group task), but also personal support and support for the group process. Group support could be provided by mentors (cf. 4.5.2). However, no consensus existed amongst the respondent groups on the importance of having mentors for the support of groups: The first years regarded it as very important, the second years and staff as not important, and the Delphi participants felt neutral about this type of support (cf. Table 7.135 and Table 7.248). The majority of the staff also indicated that they would not be available to act as mentors, whereas the students preferred to choose their mentors themselves (cf. Table 7.137 and Table 7.136). However, on a further question, all the respondent groups, except the staff members (who did not reach consensus), regarded it as very important that senior students be allowed to act as mentors for groups (cf. Table 7.138 and Table 7.248). The fact that, apart from providing support to students and staff in general, the item on student mentors was the only item in the "support" section of the questionnaire which the Delphi participants unanimously regarded as very important, cannot be ignored. It is also suggested in the literature that students could act as mentors for groups, especially for personal and group-related problems, provided that these students receive proper training and that a member of staff is still available when serious problems are experienced (cf. 4.5.2). The majority of the respondents did indeed regard it as very important that mentors be thoroughly trained with regard to the group process (cf. 8.2.1). At the UFS, it is therefore advisable that the senior medical students who are willing, may be allowed to act as mentors for groups of junior students, in order to provide then with personal and group support. This could be hostel-related, where appropriate, since this would make it possible for the students to contact each other after-hours as well, thus obviating difficulties arising from time constraints. Goodlad (in Johnson & Johnson 1991:135) suggests seven golden rules of mentoring (and tutoring) schemes, viz., define the aims, define roles, train the mentors, structure the content, support the mentors, keep logistics simple, and evaluate the scheme. These rules provide a useful framework of managing such a support scheme. The student mentors need not only to be trained in the relevant aspects of the group process and basic counselling skills, but they also need to know where they can find help, should serious problems be encountered. The Division for Student Learning is probably the most appropriate place for students to receive support, as is the case at the moment. The students who act as mentors should do so voluntarily (as is the

case at the moment – i.e., no financial remuneration), and they should receive training at the beginning of each year during a formal training session arranged at a suitable time.

More personal support could also be provided to students by their fellow group members. All the respondent groups, except the Delphi participants (who felt neutral about it – cf. Table 7.249), regarded it as very important that students be able to contact their fellow group members after-hours if necessary (cf. Table 7.140). On the other hand, different opinions existed on the importance of after-hours social meetings: The second years and staff did not regard it as important, the first years did, and the Delphi participants again felt neutral about it (cf. Table 7.139 and Table 7.249). The literature suggests that peer support groups could be very helpful in meeting students' personal needs (cf. 4.5.4). Although these groups could be formed formally or informally, this researcher is of the opinion that this type of support should not be forced onto the students, but group members should rather be encouraged to exchange telephone numbers and e-mail addresses for after-hours contact and support when necessary. Peer support groups could even have the same composition as the learning groups (if students prefer to make use of these groups), in which case both academic and personal support would be provided by group members (i.e., self-help groups – cf. 4.5.4). The same applies for after-hours social meetings: If these are arranged formally or made compulsory, students' lives will be dictated by the Faculty, and they would not have the freedom to be independent individuals. It is, however, essential that a formal support system should exist for those who do experience problems, and for this purpose, the Division of Student Learning could fulfil a valuable and essential role. At the most, a social meeting could be arranged at the beginning of Phase I to provide an opportunity for the members of the newly formed groups to get to know one another, for teambuilding and to improve the cohesion of the groups.

Staff members do not only need academic support (i.e., support for the planning and design of group tasks for group-work sessions), but they also need administrative and organisational support to assist them with better time management (cf. 4.5.3 and 8.3.1). Although the first and second year students indicated that staff members should only receive academic support, the staff members and the Delphi participants preferred academic, organisational and administrative support for lecturers and facilitators (cf. Table 7.132 and Table 7.246). The Delphi participants also added moral and emotional support, which is in agreement with the literature (Johnson & Johnson 1987:30). There is thus no doubt that the Faculty needs to ensure that the staff

members involved with group work are supported adequately. Academic support could be provided in the form of guidelines for workbooks and the design and facilitation of group-work sessions. This information could be addressed during training sessions, but could also appear in a group work guide (cf. 8.2.2). This will ensure that staff members know what is expected from them, and that they are provided with guidelines and examples of how they should approach group work. Organisational support includes the provision of proper physical resources (cf. 8.3.1), but also ensuring that these resources are appropriate for group work, e.g., the arrangement of the furniture for group work. Furthermore, the timetables should be determined by an appointed person (as is done currently) to spare the lecturers the trouble of sorting out lecture times. Lecturers, especially the module leaders, would also find administrative support valuable, e.g., the provision of attendance registers, copying of study material, processing of marks, etc. To a great extent, these needs are currently addressed by the Faculty. However, the current practice should not be regarded as the only way in which support could be provided, and staff members should have the liberty to request other ways in which they might need support. A central group-work committee could oversee these needs and ensure that staff members receive sufficient support regarding group work. Although the literature suggests self-help groups amongst the staff members (cf. 4.5.4), it is unlikely to be feasible at the UFS, due to the lack of staff time and a lack of experience in assisting these groups. On the other hand, it is also essential that staff members receive emotional and moral support. This researcher is of the opinion that, if the staff members' needs regarding group work were addressed through the provision of sufficient support, training, resources and guidelines for group work, staff members would, in general, be emotionally and morally content. Addressing their needs includes attending to their requests and attempting to grant the requests as far as possible, and also recognising teaching excellence in concrete ways (Tiberius 1999:152-153). One other way in which support could be provided to both students and staff is through appropriate documentation in the form of guides for group work (cf. 4.5.4). The need for appropriate guides is confirmed by the fact that all the respondent groups except the second years regarded it as very important to have guides on group work (cf. 8.2.2).

8.4.3 Differences and similarities between Phases I and II regarding the support for group work

The majority of the respondents at the UFS indicated that there should not be any differences between Phases I and II regarding support for group work (cf. Table 7.143). However, from the responses to the different items in this section of the questionnaire, it is clear that there were some differences in the need for support between the first and the second years, e.g., the first years regarded it as very important to have mentors and to arrange after-hours social meetings within groups, whereas the second years did not regard these as important (cf. Table 7.143). It is therefore clear that, as one second year student commented in response to the opportunity to suggest differences between Phases I and II (cf. Table 7.144), the first years probably need more personal and group-related support than the second years. It would therefore be advisable to have student mentors available for the first years, in order to provide personal and group-related support where necessary (cf. 8.4.2). It would probably be best for the second years to fulfil this duty, since it might be difficult for more senior students to do so, due to the increased workload in their studies. An after-hours social meeting could also be arranged for the students at the beginning of Phase I (as suggested before – cf. 8.4.2), and although this should not be forced onto the students in Phase II, students could be advised to do so each time after new groups have been formed. However, all the students involved in Phases I and II also need to be reminded about the possibility of forming learning groups or self-help groups at the beginning of each study year, and should receive academic support from the lecturers where necessary. The formal support service (at the Division of Student Learning), should also be available as support for all groups of students in Phases I and II.

8.5 EVALUATION/ASSESSMENT OF GROUP WORK

This section in the questionnaire for the opinion survey had the greatest number of items which were not regarded as important and the second least which were regarded as very important, whereas all but one item in this section were regarded as very important by the Delphi participants. There were thus different opinions between the respondents at the UFS and the Delphi participants on assessment of group work.

The following items were regarded as **VERY IMPORTANT** in the opinion of all the respondent groups:

- There should be **guidelines for determining assessment criteria** for the assessment of group work;
- The **criteria and methods** of assessment of group work must be **known to students** beforehand;
- Clear **guidelines** must be available for the awarding of **marks for a group task**;
- Clear **guidelines** must be available for the awarding of **marks for a group process**;
- All members must assess the group with regard to group work;
- **Ground rules** must exist for the assessment of individuals by fellow group members (i.e., **peer assessment**);
- The **lecturer** must have **final control over the awarding of marks** to students, even if assessment by fellow group members did take place;
- **Support** should be available for groups that experience problems with the assessment of group work;
- A variety of group tasks must be assessed;
- Groups and group members should receive **feedback** on the assessment of group work;
- **Strategies to improve the group process** must be planned according to the outcome of the assessment of the group process;
- Students should get the opportunity, at the end of a module, to **evaluate the way in which assessment of group work took place** in the specific module;
- The lecturer's involvement/**appropriateness of the group tasks** should be evaluated; and
- Group-work **facilitators** should be evaluated according to the effectiveness with which they facilitated group-work sessions.

NO CONSENSUS was reached on the following items in this section:

- Both the **group task and group process** should be assessed;
- Regular assessment of the group tasks should take place;
- Regular assessment of the group process should take place;
- The assessment of the **group task** should form **part of the semester mark** of a module;
- The assessment of the **group process** should form **part of the semester mark** of a module;
- A group must **prove** that **self-evaluation/assessment** has taken place before members can obtain a semester mark for the specific module;
- Individual **students** must **evaluate themselves** regarding their contribution to group work;
- **Peer assessment** should take place on members' contributions to group work;
- The **group leader** should be evaluated by the group members regarding the fulfilment of his/her role and duties as group leader;
- Groups must report the outcome of their group tasks in various ways;
- The **knowledge, skills and attitudes** that students develop through doing group work must be assessed;
- Specific **assessment instruments** must be available for the assessment of the group process; and
- The outcomes of **group tasks** must be covered in **exams and tests**.

8.5.1 Criteria for assessment

Assessment of group work is essential in order to ensure that students take group work seriously, and without it, the entire approach to, and objective of, group work would be unsuccessful (cf. 4.6.2). If group work does not count marks, students could easily opt out to study on their own for tests and exams (Michaelsen 1999:3). Therefore, the assessment of group work is important, in spite of the fact that some respondents indicated that it should not be assessed (cf. Table 7.178 and Table 7.259). However, several approaches to the assessment

of group work exist, and an attempt should be made to find the most appropriate approach for the situation at the UFS.

All the respondent groups regarded it as very important that guidelines for determining assessment criteria for assessing group work should exist, but also that the criteria and methods of assessment should be made known to students beforehand (cf. Table 7.147, Table 7.146 and Table 7.254). This is in agreement with the literature, since many authors agree that the format of assessment drives students' approach to learning, and that the approach to assessment should support the course objectives (cf. 4.6.5). Explicit assessment criteria would ensure fair, reliable and valid assessments (cf. 4.6.4.2). There is therefore no doubt that the Faculty needs to provide guidelines for the methods of, and criteria for, the assessment of group work. This is especially necessary due to the fact that the assessment of group work is not a straightforward process. These guidelines should be determined by the group-work committee and could appear in the guide on group work for staff members (cf. 8.2.2). Furthermore, the criteria and methods for assessment in each module should also be included in the student workbooks.

8.5.2 Assessing the group task

In general, there was no consensus about the different aspects of assessing the group tasks between the respondent groups at the UFS, whereas the Delphi participants regarded most of these items as very important. However, all the respondent groups except the first years (who did not think so) regarded it as very important that the group task should be assessed (cf. Table 7.145 and Table 7.251), although, if one looks at their responses to the other items on the assessment of the group task, they also had different opinions about how it should be done. The importance of assessment of the group task and -process appeared as one item in the questionnaire for the students and staff at the UFS, but as two separate items for the Delphi study. The staff and the second years regarded the item as a whole as very important, and one could therefore assume that they thought it important to assess both the group task and -process. On the other hand, the first years regarded it as not important. The literature also supports the fact that group tasks should be assessed (cf. 4.6.4.3).

All the respondent groups regarded it as very important that a variety of group tasks should be assessed (cf. Table 7.167 and Table 7.258). The staff members and Delphi experts also

regarded it as very important that groups should report the outcomes of their group tasks in various ways, and that the outcomes of group tasks should be covered in tests and exams. The second years did not think these aspects important, and the first years could not reach consensus on their importance (cf. Table 7.171, Table 7.174 and Table 7.258). Furthermore, the second years were the only group who could not reach consensus on the importance of assessing (in tests or exams) the knowledge, skills and attitudes which had been developed through group work (cf. Table 7.168 and Table 7.258). The literature supports the notion that knowledge, skills and attitudes should be assessed. It is for this reason that the assessment of a variety of group tasks, and allowing students to report the outcomes of their group tasks in various ways, is inevitable, since no single approach could provide for the assessment of all three these aspects of student learning (cf. 4.6.4.1). Furthermore, appropriate questions should be asked to include higher-order thinking skills when assessing knowledge, since group work promotes the development of these skills (Kimber 1996:11). Different approaches and a variety of methods could therefore be used to assess the group task, firstly to ensure that the range of knowledge, skills and attitudes are assessed, but also to provide the opportunity to students to report the outcome of their group tasks in various ways, e.g., role-plays or projects could be given for students to deal with a problem in their group task, and posters, presentations, reports or learning journals could be used by students to report on their group tasks (cf. 4.6.4.3). "*If you want to change student learning then change the methods of assessment*" (Brown et al 1997:7). Examples of the different assessment methods could be included in the staff members' guide for group work (cf. 8.2.2). Moreover, the group-work method chosen for a specific session could also provide opportunities to assess or evaluate the group task in various ways. Although the students preferred to choose the ways in which they should report the outcome of the group task themselves (cf. Table 7.171), this would not necessarily ensure that all the outcomes are met, and, therefore, the lecturer would still have to have control over the process, at least by determining a few ways of reporting the outcome of a group task from which the students could choose. Since the group tasks are based on the outcomes for a module, the same outcomes would have to be covered in tests and exams, although the specific format of questioning need not be the same as the group tasks during group-work sessions. It is essential that a deep approach to learning, encouraging students to reflect on and apply what they have learnt, is encouraged through the format of assessments (cf. 4.1.2.7).

Furthermore, the staff and Delphi participants thought it important that assessment of the group task should form part of the semester mark of a module, whereas the first years did not reach

consensus and the second years did not regard it as important (cf. Table 7.148 and Table 7.254). As noted before, students would not take group work seriously if it is not being assessed, and assessment in which the marks do not contribute to the final mark is useless. Awarding marks for group tasks would not only assist students in striving for effective group work, but it would also help them to achieve the outcomes of the particular module. At the UFS, the marks awarded for the group tasks should therefore contribute to the continuous assessment mark which forms part of the semester mark (normally not more than 20% of the mark). The number of assessment opportunities and the amount of marks awarded for the group task during these opportunities, should, however, be decided amongst the members of the module team. In spite of the freedom the staff have in this regard, it should be compulsory for them to produce a continuous assessment mark for each module, based on assessments of the group task.

All the respondent groups also regarded it as very important that clear guidelines exist for the awarding of marks for the assessment of the group task (cf. Table 7.151 and Table 7.254). However, they had different opinions on how the marks should be allocated to group members: The two student groups preferred that all members in the group receive the same marks, but the staff members and Delphi participants preferred that marks be allocated according to individual members' contributions (cf. Table 7.152 and Table 7.255). It is argued in the literature that awarding marks for group work would hold individual students accountable to their groups (cf. 4.6.7). In spite of this, members could still be "free riders" if the group members receive a common mark, and therefore the suggestion of the staff members and Delphi participants that marks be allocated according to each member's contribution to the group task, seems to be more appropriate. Students could also be dragged down by poor achievers, especially when the groups are heterogeneous in terms of academic achievement, and this is even more reason to incorporate assessment of individual contributions into the marks for group tasks. Several principles for this, and ways in which it could be done, have been described in the literature (cf. 4.6.7). Although these principles could be addressed during training and be included in the staff members' guide for group work, it would be preferable if the same approach towards the mark allocation is followed by all the lecturers of the different modules, so as to ensure a fair and reliable approach. The Faculty should therefore decide on a specific approach to allocating marks for group tasks, and then determine criteria for the approach, which should then be made known to all the staff members. The "peer assessment" approach would probably be the most feasible and acceptable approach: This implies that a group receives a mark for the group task, but that members add or subtract 5-10% for each member according to his/her contribution to

the group task, provided that the average of these marks is the same as the original mark (cf. 4.6.7). However, there is a danger in awarding marks for individual contributions to the group task, which includes the fact that the task could eventually be subdivided amongst the members, and that students would therefore only learn part of the work (cf. 8.1.5). This problem could be overcome by covering the outcomes in tests and exams.

The staff members and Delphi participants also regarded it as very important that group tasks be assessed regularly, the second years did not think so, and the first years did not reach consensus on it (cf. Table 7.162 and Table 7.251). All the respondent groups, except the staff members, preferred that the assessment of group tasks should take place only after the completion of a module, but the staff indicated that it should take place after every group-work session (cf. Table 7.163). The Delphi participants also suggested that it take place in every module (cf. Table 7.252). Although different opinions exist in the literature on the frequency of group task assessment, it appears as if regular evaluation or assessment of the group tasks is indicated to ensure that any problems encountered with the group work, be identified as early as possible (cf. 4.6.6). Continuous assessment might also lose its "power" if there is no summative component (i.e., the awarding of marks) (Willis et al 2002:500).

For the UFS, it is therefore advisable that the group tasks be regularly assessed in every module (cf. Hassall & Lewis 1994:170). In order to be able to assess a variety of group tasks, assessment of the group tasks only once, after the completion of the module, is not indicated. However, one should guard against over-assessment of modules, since there are already two semester tests as well as an exam for each module. It therefore seems best for the module team, consisting of all the lecturers who present sessions in a module, to decide collectively how frequently and in which format assessment of the group tasks should take place, and which of the assessments would take place before, during or after group-work sessions (cf. 4.6.6). The purpose should be to compile a mark for continuous assessment, consisting of several small assessments of a variety of group tasks. This would ensure that different tasks are assessed, and that the approach towards assessment in the module would be consistent. It is also advisable that the group tasks be assessed in every module, since this would encourage students to prepare for the group-work sessions. Furthermore, since the effort is being made to allocate time for it, the evaluation might as well count marks (i.e., assessment). These small assessments of the group task could then contribute towards a 20% continuous assessment mark for each module

(in addition to the two semester tests which could each count 40% of the semester mark). Although the students currently do have to generate a continuous assessment mark for some of the modules, these marks are often based on individual assessments, rather than assessing the group tasks.

8.5.3 Assessing the group process

Although the respondents at the UFS (except the first years) regarded it as very important that the group process be assessed (cf. Table 7.145), they regarded most other aspects of the assessment of the group process as unimportant. Conversely, the Delphi participants regarded the assessment of the group process (cf. Table 7.251), and also most other related aspects as very important. The literature supports the fact that the group process needs to be assessed, so as to ensure that students take it seriously (cf. 4.6.4.2). However, assessing the group process is more problematic than assessing the group task, since it is not a tangible assignment which can be assessed.

Assessment instruments could be used for this purpose, and all the respondent groups, except the second years (who did not reach consensus), regarded it as very important that specific assessment instruments should exist for the assessment of the group process (cf. Table 7.169 and Table 7.258). Due to the fact that assessing the group process implies assessing the interaction within a group, as well as taking into consideration several properties of the group process, it would be very difficult to assess the group process without any checklists or other assessment instruments of some sort. However, most existing assessment instruments only address certain components of the group process, and it would therefore be advisable to make use of a number of different instruments (cf. 4.6.4.2), provided that the assessment instruments are valid, reliable and feasible (McAleer 2001a:303).

Although the Delphi participants regarded it as very important that the assessment of the group process should form part of the semester mark of a module, none of the respondent groups at the UFS thought it important (cf. Table 7.254 and Table 7.149). However, all the respondent groups regarded it as very important that clear guidelines exist for the awarding of marks for the group process (cf. Table 7.153 and Table 7.254). The students also preferred that all the members get the same mark for the group process, whereas the staff and the Delphi participants

suggested that the marks should be divided amongst the members according to each one's performance in the group (cf. Table 7.154 and Table 7.256). On the other hand, none of the first years, second years or staff regarded it as important that groups should be able to prove that self-evaluation of the group process had taken place before members of the group could obtain a semester mark for a module, and the majority of the Delphi participants felt neutral about this (cf. Table 7.150 and Table 7.254).

It is thus clear that, for Phases I and II, guidelines should be determined for the awarding of marks for the group process, and that individuals should receive marks according to their performance in the group, in order to hold them accountable (cf. 2.3.1.2.5). The same principles suggested in the literature for awarding marks to the group task, also apply to the group process (cf. 4.6.7). These principles include the fact that ground rules should exist for peer assessment, the facilitator or lecturer should intervene when members are being assessed unfairly, students should know beforehand how the marks will be allocated, marks should be allocated fairly according to each member's contribution and the latter is best assessed by students' peers, marks should be allocated according to the mastery of knowledge, skills and attitudes but should not be overemphasised to prevent competition, different assessment methods should be used to assess the full range of outcomes, and feedback should be provided on assessment, including peer assessment.

In Phase I, the MEA 112 module is specifically aimed at developing transferable skills, and therefore, it is essential that the group process, as well as individuals' performances in the group, be assessed. Valuable research has already been done in the Faculty in this regard (cf. Beylefeld 2002). It is also advisable that the groups themselves assess the group process, although they could be assisted by the facilitator when necessary (cf. 4.6.4). However, it appears as if it would not be advisable to assess the group process as part of the semester mark in every single module of Phase I and II, especially since some of the other modules are core modules which have specific outcomes related to the content of the module. Specific assessments of the group process could also take up valuable time which could have been spent covering the syllabus in the different modules. Despite this, students would need to realise that this is no reason not to take group work seriously. Therefore, they will have to be encouraged to regularly evaluate the group process, even if it does not contribute to the semester mark for a specific module. Rudduck's (1978:39) suggestion for the approach to assessing the group

process seems to be most appropriate for evaluating the group process in the modules other than MEA 112: Groups need to evaluate themselves in terms of the group process and the contributions of the different members, as a prerequisite not to be formally assessed on the group process at all. Furthermore, several criteria for, and ways in which, the group process could be evaluated or assessed are described in the literature (cf. 4.6.4.2). Some of these methods include a presentation of the group's evaluations of the group process, e.g., through group records, log-books and portfolios. It is, however, important that groups not only complete checklists or logbooks, but that they also include evidence of the strategies they have devised to enhance the group process according to outcomes of their evaluations (cf. 4.6.4.2). All the respondent groups agreed with the literature that this is very important (cf. Table 7.173 and Table 7.258). At the UFS, students would need to develop the habit of evaluating the group process, and also of reflecting on the outcome of the evaluation and determining strategies to improve the way in which they function. They would often need assistance with this, and here, the facilitator and mentors would have an important role to fulfil (cf. 8.4.2). From all the different methods suggested in the literature, this researcher is of the opinion that a portfolio with all the documentation regarding each evaluation would be most appropriate for this purpose.

On the other hand, none of the respondent groups at the UFS thought it important to assess the group process regularly, but the Delphi participants did (cf. Table 7.164 and Table 7.251). There was also no consensus on the frequency of assessing the group process: The two student groups preferred it to take place once a year, the staff did not reach consensus and the Delphi participants thought it should be done once a month in every module (cf. Table 7.165 and Table 7.253). Although there are no clear guidelines in the literature on the exact frequency, the authors are in agreement that the group process should be evaluated regularly, even if assessment (i.e., awarding marks) does not take place that often. It therefore appears from the literature that regular evaluation of the group process is more essential than regular assessment (cf. 4.6.4.2). Some authors also warn against too frequent assessment of the group process, because it could inhibit the development of groups (cf. 4.6.6).

Therefore, for Phases I and II, groups would need to compile a portfolio of the evaluation of the group process each time new groups are formed. Since groups would exist for six months in Phase I (as suggested before), these groups would have to compile a portfolio within a semester,

whereas the groups in Phase II would have to do it once a year (cf. 8.1.4). Deadlines would have to be given for the completion of these portfolios, so as to provide sufficient time to determine which groups would have to undergo formal assessment of the group process (i.e., those who did not compile a proper or complete portfolio). These formal assessments could include observation of the group and interviews, although several other approaches would also be feasible, such as checklists, self-reports, video playbacks, or role-playing (cf. 4.6.4.2). Observation of the group could take place during an ordinary group-work session, and thus no extra time would have to be allocated for this purpose. It would be difficult to incorporate the marks awarded for these assessments into any of the core modules because the groups might have to be assessed at different stages of their studies, which might not easily be related with any specific module. Therefore, the best option would be to extend the MEA112 module over the entire Phase I and II for this purpose, although this would have implications for the amount of credits allocated to this module. This would imply that students would have to compile portfolios on the group process in their own time (without specific contact time), unless problems are encountered in any of the groups, in which case the facilitators or mentors could assist them. This researcher is of the opinion that this would be the only feasible way of ensuring that group work, especially the group process, is given sufficient attention and is properly valued by the students. Those groups, who completed the self-evaluation of the group process in the form of a portfolio, could therefore get exemption from formal assessment of the group process, and a mark could be awarded for the portfolio. This mark could consist of the group's evaluation of the group process, but should also include an individual component for the group members' performance in the group (cf. 8.5.4). Jaques' (2000:230) suggestion of an 80/20 division (for the group mark and individual mark respectively) seems to be appropriate for this purpose. The same could even apply for the other transferable skills which students need to develop, and if students from the different health professions follow the same module, the same could apply to them (cf. 8.1.7).

8.5.4 The evaluation/assessment of individuals

No consensus was reached on the importance of individuals evaluating themselves on their contributions to group work: The staff members and second years did not regard it as important, the first years did not reach consensus, and the Delphi experts regarded it as very important (cf. Table 7.155 and Table 7.257). On the other hand, all the respondent groups,

except the second years, who did not reach consensus, regarded it as very important that peer assessment should take place and that group leaders should be evaluated by their fellow group members with regard to their role and duties in a group (cf. Table 7.157, Table 7.159 and Table 7.257). Several authors also assert that both self- and peer assessment and evaluation in groups should take place and that students would not take group work seriously if not being assessed. (cf. 4.6.3). Self-assessment could also assist students in "learning to learn" (i.e., metacognition), since it develops cognitive processes to enhance learning (Brown et al 1997:181). However, most of them agree that peer assessment should not take place too often, and that the marks awarded for these assessments should not be enough to fail students (Walton & Matthews 1989:78). Self- and peer assessment (especially of the group task) could also be appropriate in saving staff time, which could be very valuable, due to the staff shortages at the UFS (cf. 8.5.2). It therefore appears to be advisable that, in Phases I and II, group members evaluate themselves and their peers with regard to group work. This should include the group leaders, since this is an important skill which students need to develop (cf. 4.1.6.1). Furthermore, all the respondent groups regarded it as very important that ground rules exist for peer assessment and that the lecturers have final control over the awarding of marks by fellow group members (cf. Table 7.160, Table 7.161 and Table 7.257), which is also in agreement with the literature (cf. 4.6.3). However, the danger does exist that lecturers are not always up to date with what is happening in the groups, since other facilitators are often involved in facilitating their group-work sessions. Lecturers should therefore award these marks in consultation with the facilitators if they are not facilitating the groups themselves.

The students preferred peer assessment to take place confidentially (cf. Table 7.158). It is important that students know whether their evaluations would be taking place either confidentially or as an open discussion in the group, as this could influence their behaviour in the group (Gibbs 1992b:13). At the UFS, it thus appears as if these evaluations should take place confidentially, since the students preferred this, and this could therefore be included in the ground rules of the groups. Determining these ground rules could happen during the first training opportunity on group work (i.e., at the beginning of Phase I – cf. 8.1.6).

At the UFS, it would be best if self-evaluation, peer evaluation and evaluation of the group all form part of the evaluation of the group process, since the performance of individuals also contributes to the group process. This would include the role and duties of the group leader,

and other aspects such as the roles which the individuals play, their attendance and punctuality, the assistance and support they provide to fellow members, and also the skills which they exhibit when doing group work (cf. 4.6.3). The entire group should thus be evaluated on the different dimensions of the group process (cf. 4.6.4.2), and also on whether the group adheres to the ground rules originally determined by the group (cf. 8.1.6). These evaluations should be included in the portfolios of the group members for the MEA112 module, and should contribute to the module mark (possibly 20% as suggested before – cf. 8.5.3). However, the lecturers and facilitators involved with the different group-work sessions should review the marks allocated to students by their peers, and should have the authority to adjust the marks if they think they were not allocated fairly (cf. 4.6.7). Thus, although self- and peer evaluation and evaluation of the group would take place continuously in all the modules, only one portfolio would be compiled for the lifetime of each group and that for the MEA 112 module. It is important to determine certain minimum requirements for the portfolio, e.g., the minimum number of self- or peer evaluations, using different assessment instruments (which could be provided to the students), including the ground rules of the group, the evidence of reflection on the evaluations and planning of strategies to improve the group process, etc.

Evaluating group-work facilitators and lecturers on their role in group work (facilitating group work and designing tasks for group work respectively) was also regarded as very important by all the respondent groups (cf. Table 7.176, Table 7.177 and Table 7.258). The literature supports the importance of this, because it would provide useful feedback to staff members on how the students experienced their role in group work (cf. 4.6.3). However, it often happens that students are very explicit in their critiques, and therefore this approach needs to be handled with care. Appropriate questionnaires should be designed to structure the evaluation and lead students' thoughts in a constructive way.

Lecturers and facilitators should not only be scrutinised by the students, but also by themselves, according to the role they play in group work, and they could be supported in this through the provision of inventories or checklists (cf. 4.6.3). This should take place as part of the general evaluation of group work. Due to the fact that the staff members at the UFS are not used to evaluating themselves or their peers, it would be advisable to begin with self-evaluation, since peer evaluation might be overwhelming at this stage and it might make them more negative towards group work than they are at the moment. It is also necessary to get some feedback

from the staff on their experiences of group work, and furthermore, it is essential to consider this feedback and to act on suggestions or problems which they might experience. This would be a proof that their opinions are valued and would also provide a means of support to them (cf. 8.4.2).

8.5.5 General aspects of the assessment of group work

All the respondent groups also thought it very important that group members assess the group as a whole with regard to group work (cf. Table 7.156 and Table 7.257). This would imply the overall outcome of either the group task or process. The literature is in agreement about this, although it is emphasised that individual accountability should not be negated (cf. 4.6.3).

All the respondent groups regarded it as very important that support should exist for groups who experience problems with the assessment of group work, and also that feedback should be provided to groups and group members on the assessments (cf. Table 7.166, Table 7.172 and Table 7.258). The support could be provided by ensuring that students know the assessment criteria beforehand, that guidelines exist for the awarding of marks and approaches to assessment, and that groups are assisted with planning strategies to improve the group process. In order to do this, is it essential that groups and group members receive feedback on the assessment. The literature suggests that trial runs could also be given to students to prepare them for formal assessments (cf. 4.6.5). However, it is doubtful whether this would be feasible at the UFS, due to a lack of time and staff to do so. It would thus rather be essential for students to know exactly what is expected from them during assessments and that they also be aware of the different assessment techniques which could be used for assessing different aspects of group work. Furthermore, students could experience problems in their groups with members who rely on others for good marks, or who fear to evaluate fellow members lest they be rejected (cf. 4.6.8). These groups would need proper support and it could best be provided by the facilitator, mentor or the Division for Student Learning

Additionally, all the groups thought it very important that students receive the opportunity to evaluate the assessment that took place in a specific module (cf. Table 7.175 and Table 7.258). This would form part of quality assurance, since it would provide useful feedback on how the students experienced the assessments and whether they thought they were fair (cf. 4.7). It is

essential to take note of their evaluations and consider their suggestions in the replanning of the assessment of group work.

Group-work sessions also need to be evaluated regularly by the students, lecturers, and staff, in order to ensure that improving the quality always stays the main focus (cf. 4.3.4.5). Checklists are provided in the literature for this purpose (cf. 4.7). Group-work sessions should be evaluated in several phases, viz., before, during, after and in between group-work sessions (Jaques 2000:161-162). The literature agrees that this is an important tool to assist lecturers in planning group-work sessions more effectively and for facilitators to handle the groups better (cf. 4.6.4.4). Useful guidelines are provided in the literature on dealing with different problems related to group-work sessions, and these could be included in the guide on group work (cf. 4.3.4.4).

8.5.6 Differences and similarities between Phases I and II regarding the assessment of group work

Although most respondents at the UFS did not think that there should be any differences between Phases I and II regarding the assessment of group work, the "assessment" section in the questionnaire had the most items on which the first and second years had different opinions (cf. Table 7.179). Most of these items, related to the assessment of the group task, were not regarded as important by the second years, whereas the first years did not reach consensus. On the other hand, the first years regarded peer assessment and evaluation of the group leader as very important while the second years did not reach consensus on these aspects (cf. Table 7.157 and Table 7.159). However, both student groups regarded the assessment of the group process as unimportant. Due to the fact that group work is a transferable skill (and is therefore specifically addressed in the MEA 112 module), it would be necessary to approach the assessment of group work differently in Phases I and II, unless the MEA 112 module is extended over the entire Phase I and II. The group tasks will have to be assessed in both the Phases, since different modules are presented in the two Phases. The assessment of the group process will play a more prominent role in Phase I, despite the fact that the students did not regard it as important. Assessing the group, the group process and the members of the group (either self- or peer assessment), would have to be included in these assessments and the evidence thereof needs to be included in a portfolio (cf. 8.5.3 and 8.5.4). As suggested before,

formal assessment of the group process in Phase II would only take place if groups fail to provide a portfolio with reports on how they evaluated themselves, their peers and the group process, and planned strategies to improve the group process (cf. 8.5.3). The general aspects of assessing group work should, however, be the same for the two Phases (cf. 8.5.5).

8.6 QUALITY ASSURANCE

This section was the section with the most items regarded as very important in the opinion survey, and 100% of the items were also regarded as very important by the Delphi participants. None of the items in this section of the questionnaire was regarded as being unimportant.

The following items were regarded as **VERY IMPORTANT** in the opinion of all the respondent groups:

- Clear **guidelines for the implementation** of group work should be available;
- ***Students' opinions on their experiences** regarding group work should be taken into consideration;
- ***External evaluation** by another institution should be part of quality assurance;
- A **group-work team/committee** should be appointed for the implementation of group work; and
- The following possible functions of a group-work committee:
    - Planning of strategies to improve group work in Phases I and II;
    - Ensuring that the objectives for which group work was implemented, are reached;
    - Ensuring that proper training of students regarding group work takes place;
    - Ensuring that proper training of staff (lecturers and facilitators) regarding group work takes place;
    - Providing a support system for students and staff regarding group work;
    - Providing guidelines for the assessment of group work; and
    - Providing assessment instruments for the assessment of group work.

NO CONSENSUS was reached on the following possible function of a group-work committee:

- Regular evaluation of the process of implementation of group work.

8.6.1 Assuring the quality of group work

The respondent groups regarded the following means of quality assurance as very important: Providing guidelines for the implementation of group work and appointing a group-work committee to oversee the implementation of group work (cf. Table 7.181, Table 7.182 and Table 7.260). The Delphi participants also regarded it as very important to take students' opinions into consideration, but additionally also to have external evaluation by another institution as part of quality assurance (cf. Table 7.260). The importance of quality assurance for group work is confirmed by the literature (cf. 4.7), and there is therefore no doubt that the Faculty needs to design a plan to ensure effective group work. Since it is an innovative instructional approach, the RPTIM model of Wood (in Holcomb 1996:10) seems appropriate for this purpose, implying readiness, planning, training, implementation and maintenance (cf. 4.7). Furthermore, Stone (1994:59) suggested three modes of management, of which one is "decision by delegation." This implies that the responsibility of overseeing the implementation of group work could be delegated to an appointed committee, consisting of a few staff members and possibly even some students (cf. 4.7). However, students could also be involved in this process by determining, through questionnaires, their needs, such as aspects of training or resources for group work which are not sufficient, or their experiences of group work (Center for Excellence in Learning and Teaching (The Pennsylvania State University) 1995:111). The "collective consensus method" could also be used, which implies that students' comments on group work are obtained through action research (Virtanen et al 1999:275). It is essential that these needs be addressed in order to ensure that students realise that group work is taken seriously by the Faculty (cf. 4.7). Therefore, this researcher is of the opinion that such a group-work committee should be appointed at the UFS, consisting of a few members of staff involved with the M.B.,Ch.B.-learning programme and the Division of Student Learning, and that students should be involved through the use of questionnaires and focus group interviews, provided that their opinions are taken into consideration. A group-work committee could relieve the lecturers and facilitators of the burden of the general evaluation of group work, and could also provide the urgently needed guidelines for group work. External evaluation of group

work could form part of the accreditation process of the M.B.,Ch.B.-learning programme by the Medical and Dental Professions Board of the Health Professions Council of South Africa, as is the case at the moment. However, the panel that does the evaluation for accreditation should look closely at the various aspects of group work and not only attempt to get an overview of group work in general. In preparation for the accreditation, the Faculty should evaluate its own approach to group work by asking critical questions and using definite criteria to do so (cf. 4.7).

8.6.2 Functions of the group-work committee

The possible functions of the persons responsible for quality assurance (e.g., a group-work committee) which were regarded as very important by all the respondents, include the following: Strategies to improve group work, ensuring that the objectives of group work are reached, ensuring proper training and support for students and staff, and also, providing guidelines and assessment instruments for the assessment of group work (cf. Table 7.184 to Table 7.190 and Table 7.261). At the UFS, the group work committee could adopt a "think, pair, share" approach to its functions (Holcomb 1996:32). It also has to incorporate several dimensions into its managerial role (cf. 4.7). It is self-evident that training for students and staff should take place, especially the new staff members and first years who become involved with group work for the first time (cf. 8.2). However, the needs of students and staff for specific aspects to be dealt with in the training should also be addressed during follow-up training sessions. These needs could be determined by the committee through the use of questionnaires (cf. 8.2.2). Support of students and staff is also essential, and different types of support needs to be provided where appropriate (cf. 8.4). The committee should oversee the support system by providing guidelines for the different ways in which support could be provided (cf. 8.4). As mentioned before, guidelines for the assessment of group work are also necessary – not only in terms of the criteria for mark allocation, but also how and when the group tasks and the group process should be assessed or evaluated (cf. 8.5). Assessment instruments need to be provided for the different aspects of assessment or evaluation of group work, although it is asserted in the literature that the learning outcomes should be taken into consideration when deciding upon specific instruments (Speck 2000:181). The committee should not only fulfil these responsibilities, but could also attend to the evaluations of the students and the way in which assessment takes place in different modules (cf. 8.5.5). Furthermore, the evaluation committee could determine the composition of groups according to the specified criteria (cf. 8.1).

Although the Delphi experts, first years and staff regarded it as very important that the group-work committee should evaluate the process of implementation of group work, the second years did not reach consensus on this function of the committee. However, their opinions were divided between the ranges 3 and 4-5 of the scale, which implies that they still regarded it as important (cf. Table 7.183 and Table 7.261). A few students and staff indicated that group work should not be overemphasised or over-regulated (cf. Table 7.193). Nevertheless, without appropriate attention being paid to the existing problems and needs of the students and staff, and without proper guidelines, group work would never reach its potential as an instructional method. Thus, not only is regular evaluation of the process of implementation necessary, but attempts should also be made to ensure that the objectives of group work are met (cf. 4.7). The role-players, i.e., students and staff, should not only evaluate the group-work sessions (cf. 8.5.5), but also need to evaluate themselves and the roles they play in group work, reflect on these evaluations, and plan strategies to improve the quality of their involvement (cf. 4.6.3).

8.7 CONCLUDING REMARKS

If one looks at the various aspects of group work, it is evident that group work could very easily become ineffective and unsuccessful without proper guidelines. The results obtained from the opinion survey at the UFS and the Delphi study were discussed in the context of the literature in an attempt to determine some guidelines for group work. It is evident from studying the literature, and from examining the responses of people involved in group work (from both sides of the experience, i.e., both students doing group work, and lecturers and facilitators presenting group work), as well as from experts in the field of group work, that any model which seeks to give adequate guidelines for group work, will have to encompass the spectrum of a very broad number of related aspects, all of which congeal into that entity called "group work." These aspects refer to the various role players, without whom there would be no group work, and how they are equipped for, and behave in, the exercising of group work, as well as the practise and purpose of group work, as represented in the group process and the group task. Lastly, the environment within which all of this takes place is of cardinal importance to such a model. The institution which requires group work to be done (in this instance, the Faculty of Health Sciences, UFS) provides training, support and quality assurance for group work. Furthermore, all the role players are accountable to it for their contributions to group work.

Several suggestions have subsequently been made for group work in Phases I and II in the M.B.,Ch.B.-learning programme at the UFS, based on the results of the investigation and the findings of the literature. These suggestions prepare the way for a model for group work, which is presented in the next chapter.

CHAPTER 9
A MODEL FOR GROUP WORK: DISCUSSION AND RECOMMENDATIONS

Applying conventional models of educational design to group-based approaches is of limited value if they rest on the assumption that it should be possible to predict the outcome. This places too much emphasis on the design and not enough on what happens in its implementation

(Reynolds 1994:35)

This study was conducted in an attempt to design a model for group work. From the previous chapter it became very clear that group work is a multi-dimensional instruction method, and that guidelines are necessary to ensure its effectiveness. In order to produce a model, it is therefore necessary to consider the factors which influence the effectiveness of group work, since these factors will determine and affect the implementation of the model. Therefore it was necessary to attempt to answer the following questions about group work (Barrows 1994:128):

- Are other instructional methods more appropriate than group work for a specific purpose?
- Should the group work be designed for the whole class or small groups?
- How many students should be assigned to a group?
- How many facilitators should be available during group-work sessions?
- Are the facilitators properly trained in the principles of facilitation?
- How are facilitators evaluated on their performance?
- How are students assessed on their group work?
- How are the problems designed which are used as stimulus material during group-work sessions?
- How well does group work meet the educational objectives of the curriculum?

Furthermore, since no universal model for group work exists (since models are specific to the needs, character and style of a specific institution), a specific model had to be developed for Phases I and II of the M.B.,Ch.B.-learning programme of the University of the Free State (UFS), and is presented in this chapter.

9.1 A MODEL FOR GROUP WORK

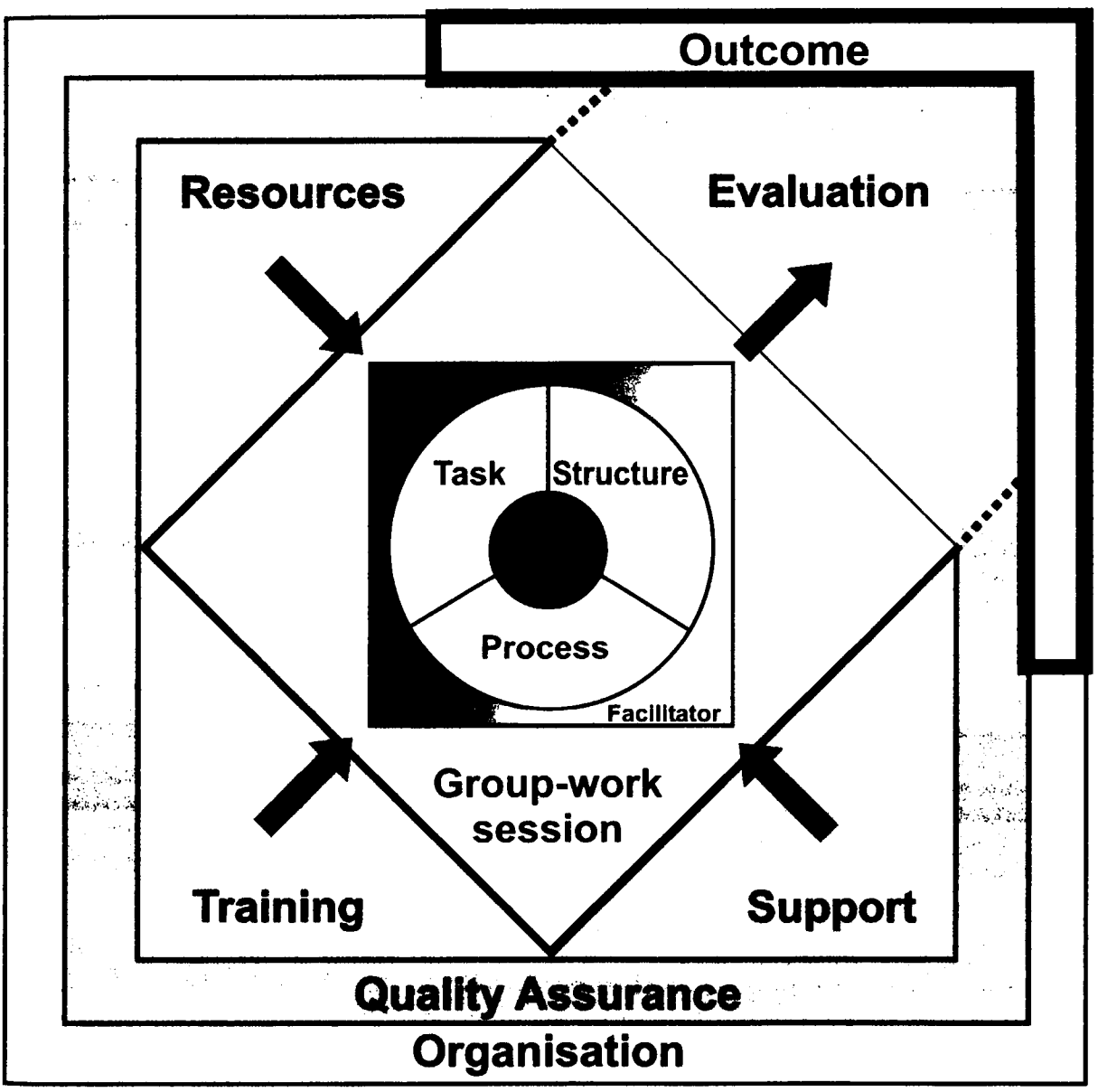


Figure 9.1 A model for group work

Figure 9.1 presents a model for group work for Phases I and II of the M.B.,Ch.B.-learning programme at the UFS. The small group (G) is at the heart of the model, since this is what it is all about. The group consists of students, who have a responsibility towards the group. Three aspects, intrinsically part of any group, are the group composition or structure, the group process and the group task. The group composition determines the structure of the group, and also involves the roles and responsibilities of the group members. The group process implies the way in which the group functions, and completing the group task is the aim of the group.

Apart from the students, there are also other role-players in group work, which include the lecturers and facilitators. The lecturers are responsible for the design of group-work sessions, and facilitators assist the groups during the completion of their group tasks. Therefore, the group-work session is the factor which binds together the students, lecturers and facilitators. However, since most of the lecturers at the UFS are also facilitators, and visa versa, a definite separation between these two role-players is not really possible, thus the continuous representation of lecturers and facilitators in the model.

For groups to function effectively and for group work to be successful, certain inputs are required, viz., training, resources and support. "Simply placing students in groups and telling them to work together does not, in and of itself, produce co-operation – and certainly not the higher achievement and positive social outcomes that can result from cooperative learning groups" (Johnson & Johnson 1989a:29). On the other hand, to ensure that the outcome and objectives of group work are reached, evaluation of the group (including the task and process), the individuals involved, and the group-work sessions is necessary. The outcome itself should be subjected to "triangulated assessment," implying that staff members, the students themselves, and their peers should determine whether the outcomes have been met. Overall, quality assurance is needed in order to ensure that the objectives of group work are reached. This includes, to some extent, the evaluation of group work. The objective of group work is learning in terms of knowledge, skills and attitudes, and thus, assuring the quality of group work would imply a process of reviewing, reflecting and reacting, in the striving for effective group work. All these elements of group work operate in the environment of the organisation which, in this case, is the Faculty of Health Sciences, UFS ("The Faculty"). The Faculty is therefore ultimately responsible for effective group work in Phases I and II of the M.B.,Ch.B.-learning programme, and should ensure that all these elements of group work receive the necessary

attention. The Faculty is also accountable to the Health Professions Council of South Africa (HPCSA) for the outcome of group work.

9.1.1 The group

"[T]he students themselves must connect to form an effective working group" (Miller et al 1994:40). The group is the centre of group work, especially due to the fact that a student-centred approach to learning has become the norm in higher education. The group members have a responsibility towards their own learning and towards the group (cf. 9.1.6). Not only does the physical set-up for group work influence the effectiveness of groups, but also the internal environment of the group. Group members should have an understanding of themselves, of their fellow group members, and of the way in which a group functions and develops, before they can successfully engage in group work (Armstrong & Yarbrough 1996:34). They should therefore develop interdependence amongst themselves and pay attention to the different stages of group development (cf. 4.2.2). The internal environment is also determined by the characteristics of the individual members, e.g., age, gender, socio-economic status, ability and experience (Armstrong & Yarbrough 1996:36). The composition of groups should therefore be managed with care.

The group has several dimensions which influence its functioning, viz., the structure (or composition), the group process and the group task. According to Miller et al (1994:42) the composition of groups is one of the factors which influence the success of group work that can be manipulated. However, all three these factors are intrinsically part of every group, and it is necessary to ensure that they contribute to the group's well-being in a constructive way. Therefore, specific guidelines are necessary for each of these aspects to ensure an effective group. Although discussed before (cf. Chapter 8), these guidelines deserve to be mentioned briefly again:

9.1.2 The group structure/composition

For Phases I and II, the following guidelines have been suggested (cf. 8.1) for the composition of the home groups ("permanent" groups for the duration of a group's lifetime):

- Groups should consist of 5-6 members and could have an even or an odd number of members.
- The following should be taken into consideration when forming groups:
    - Groups should consist of members with the same language of instruction;
    - Groups should be heterogeneous in terms of gender, population group, age and academic achievement (the latter only applicable for Phase II);
    - The needs of students should be considered with care, and preferably only after groups have been formed and serious problems occur;
- Groups in Phase I should be formed randomly.
- Groups in Phase II should be formed by taking students' choices into consideration, but with a random element, i.e., students could form groups of three, and two such groups could then be randomly joined.
- The composition of the groups could be socially engineered where necessary, so as to ensure heterogeneous groups.
- Groups in Phase I and II should have a lifetime of a semester and a year respectively.
- Specific roles should be assigned to the group members, although they should rotate these roles and students should choose the roles themselves.
- Groups should have group leaders who should be appointed by the groups themselves.
- A different leader should be appointed for each module, so as to provide all the members the opportunity of developing leadership skills.
- Specific tasks can be assigned to group members by the group, although the group task could also be done by the group as a whole, as long as all members contribute.
- Ice-breakers should be used at the beginning of Phase I to assist group members in getting to know one another, but should not be compulsory for group-work sessions.
- Groups should not be allowed to choose their own names for the groups, but a uniform naming system should rather be used for all groups.
- Inter-group competitions can be held during ice-breakers in order to enhance the cohesion of a group.

- Each group should determine ground rules for itself, in order to ensure effective functioning in the group, and these ground rules should be reviewed often, so as to determine whether the group members are adhering to them.
- Contracts should be compiled to determine the working procedures in a group, and should also be reviewed often.
- It is not indicated to arrange formal opportunities for medical students from different year groups to work together in groups.
- Students from different health professions could co-operate in groups in their first year by following the same module to develop transferable skills, could attend clinical skills sessions at the same time, and could again work together in groups in the solving of clinical problems during academic afternoons, in their senior (clinical) years. These groups should consist of students from different health professions.
- Large group work is only indicated for ice-breakers and the first few minutes of a group-work session, where it can be used to determine whether students have prepared for the session or not (cf. 8.3.4).

9.1.3 The group process

"Cohesion is the glue that holds groups together and if factors inside or outside the group start to decrease this cohesion, the group will begin to fall apart" (Dimock 1987:27). The group process is essential for the survival and effectiveness of a group. Maintaining the group process is also necessary, since dysfunctional groups would need much time spent on the group process (Albanese & Mitchell 1993:73). The group process does not only involve group dynamics, but has several properties which should receive attention in its evaluation (cf. 4.2.1). Groups undergo several stages of development and it is important to realise that they cannot be productive from the moment the group has been formed (cf. 4.2.2). Other factors which influence the group process include communication and social skills, the interaction and pattern of participation in the groups, and also the ability to handle problems in the group such as conflict and multi-cultural issues.

For Phases I and II at the UFS, the following guidelines have been determined for the group process through this study (cf. 8.2.3, 8.4.2 and 8.5.3):

- Students should receive training in communication and social skills, handling personality and racial clashes, multi-cultural issues, as well as conflict management.
- The group process needs to be maintained through regular evaluation of its different elements, as well as the performance of individuals.
- Strategies need to be planned according to the outcome of the evaluations for the improvement of the group process.
- Groups need support when problems related to the group process occur, which could be provided by the facilitator, student mentor, or Division for Student Learning.
- The group process should be assessed in the MEA 112 module and evaluated in the other modules through the compilation of a portfolio (cf. also 9.1.10).

9.1.4 The group task

The purpose of groups in higher education is learning through the completion of group tasks. Group tasks are therefore an essential part of the group, without which groups would not have much reason to exist. However, group tasks are also a fundamental part of the group-work sessions, and can therefore not be regarded in isolation. The entire process of design and completion of the group task by lecturers and groups respectively, should fit into the purpose and structure of group-work sessions.

For Phases I and II, the following guidelines have been determined for group tasks, although one cannot separate these from the group-work sessions (cf. 8.2.3, 8.3.5, 8.5.2 and also 9.1.6):

- The group task can be task-based or problem-oriented.
- The group task should represent a real-life situation.
- The group task should be suited to the purpose of the session.
- Group tasks should be clearly understandable, so that students know exactly what is expected from them.
- The elements of conflict, co-operation, challenge and content should be incorporated into group tasks (cf. 4.3.1.8).

- Group tasks need to provide for the phases of learning, which include engagement, exploration, transformation, presentation and reflection (cf. 4.3.1.8).
- Tasks for group work should enhance co-operation and discussion amongst group members, e.g., through the use of controversial or fun topics, presentations of the work done in groups, or group tasks where the labour is divided amongst group members.
- Appropriate stimulus material should be used, and preferably, also a variety.
- If case studies are being used, they should be designed according to the principles of effective case design (cf. 2.10.1.11).
- Groups should report the outcome of group tasks in various ways, e.g., presentations, a poster, a written assignment, and the lecturer should control the process.
- Group tasks should be assessed regularly, taking the performance of the group as a whole, as well as the individual contributions of group members, into consideration (cf. also 9.1.10).

9.1.5 Lecturers and facilitators

According to Boschee (1989:75), "great teachers" exhibit enthusiasm, dedication, humility, purpose and simplicity, and effective lecturers exhibit warmth, cognitive organisation and indirectness (i.e., using various instructional methods) (Boschee 1989:22). Lecturers and facilitators play an essential role in group work, although they have different responsibilities. This research study describes the responsibilities of lecturers and facilitators separately, in order to distinguish between the preparation of the group-work session, the presentation of the lectures and the actual group work.

Lecturers play a key role in group work. Harden and Crosby (2000:343) describe twelve roles of a teacher, and therefore the function of a lecturer is very complex. According to them, the specific role required would depend on the aims of the course, the stage of development of the students, the nature and goals of the curriculum involved, and also the culture of the specific institution. Because lecturers have traditionally only presented lectures to students, they need to adjust their approach to instruction drastically when getting involved with group work. In hybrid instruction systems, they will still present lectures, although on a much smaller scale

than what they are used to. Therefore, they need not only to change their method of instruction, but also have to acquire the skills and knowledge to plan, design and present group-work sessions (cf. 9.1.6). The lecturer therefore assumes a new role in group work which includes the following: The determining of outcomes for the students the writing of course material for group-work sessions, deciding upon assessment criteria and methods, and also evaluation of the course (Gregory & Thorley 1994b:184).

The facilitators for group work in Phases I and II are most often lecturers, and, therefore, the staff members involved need to be aware of the distinction between the roles of the lecturer and the facilitator. Facilitation of group work is not a natural skill to most people, and, therefore, the facilitators involved with group work need to prepare themselves well for this task. They also need to collaborate closely with the lecturers who present the sessions for which they act as facilitators, so as to ensure that they know exactly what is expected from them for the specific group-work session (cf. 9.1.6).

9.1.6 Group-work sessions

Since a group-work session is the element which connects the groups, lecturers and facilitators, it deserves special attention, since the planning and preparation for, and the design and conducting of, a group-work session have an important influence on the effectiveness, and therefore the successful outcome, of group work. The factors involved in the group-work sessions which need definite guidelines relate to the individual responsibilities that lecturers, facilitators and group members each have during the planning and conducting of group-work sessions, as well as the general outline of these sessions. These are as follows:

For the situation at the UFS, the **lecturers** will therefore have the following responsibilities towards group-work sessions in Phases I and II (cf. 4.3.1 and 8.3):

- The module team (i.e., lecturers of the different disciplines involved in a specific module) should plan the group-work sessions co-operatively, so as to ensure that a variety of methods are used.
- A variety of methods should be used for different group-work sessions, in order to ensure that all the outcomes of a specific module are met.

- Lecturers need to ensure that the structure of group-work sessions is suited to the physical environment of group work.
- They need to ensure that appropriate resources are available for group work.
- They should ensure that the outcomes for a group work session are specific, measurable, achievable, realistic and time-specific (SMART goals – cf. 8.3.2), and that facilitators are aware of these outcomes.
- The group-work method for a specific session should be chosen in co-operation with the facilitator for the session, and should support the purpose and outcomes of the session.
- Lecturers need to ensure that the type of group work (i.e., task-based or problem-oriented) supports the purpose of the session.
- They need to design proper tasks for group-work sessions (cf. 9.1.4), and inform the facilitators about these.
- They need to encourage students to prepare for group-work sessions by including the work to be prepared in the module workbooks, by giving students small tasks to do for following sessions, by using the first ten minutes of a session to determine whether the students have prepared for the group work, e.g., by using specific group-work methods at the start of a session to evaluate what students know about the topic under discussion (cf. 8.3.3).
- The time allocated for a group-work session should be determined by the group task and should be planned in co-operation with the facilitator.
- Lecturers need to provide feedback on group work or could involve facilitators in giving feedback, provided that the facilitators are informed about the outcomes and group tasks for the session.
- They need to inform students about the specific approach towards evaluation and assessment which will be followed in a module (cf. 9.1.10).

The **facilitators'** responsibilities during a group-work session in Phases I and II entail the following (cf. 4.3.2 and 8.3):

- They need to collaborate with the lecturers during the planning of group-work sessions.

- They need to be aware of the principles of effective facilitation.
- They need to know which skills are necessary to facilitate and strive at developing these skills.
- Since they are usually experts in the subject field, they need to take care not to talk too much or be too directive towards groups, and should receive training in proper facilitation skills.
- They need to assist groups with the completion of their tasks, and ultimately, achieving the outcomes of group work.
- They need to assist groups with maintaining the group process and provide support to groups where necessary and possible.
- They need to encourage equal participation amongst group members.
- They need to assist group members with self- and peer evaluation.
- Senior students should not act as facilitators for group work.

The **group members** in Phases I and II also have responsibilities during a group-work session, which include the following (cf. 4.3.3 and 8.3):

- Students need to prepare for group-work sessions.
- They must rearrange the furniture after the lecture to ensure face-to-face interaction during group work.
- They must plan their time for the group work properly, in order to ensure that they finish on time.
- They must determine an agenda for group work, and stick to it, so as to prevent discussions which are not related to the topic.
- They should assign specific roles to group members for each session and should ensure that the roles are rotated amongst the group members.
- They could subdivide the group task amongst members, so as to hold everyone accountable, but should ensure that each member achieves all the outcomes of a group-work session (cf. 9.1.1).

- They must encourage participation from all of the group members.
- They should follow the steps for solving problems when completing a group task (cf. 4.3.3.3).
- They should aim at achieving the outcomes of group work, which includes the development of the skills necessary to do group work.
- They must strive to be independent from the facilitator during group work, and not expect the answers from him/her.

The following **general guidelines for group-work sessions** in Phases I and II have also been determined (cf. 8.3):

- The furniture needs to be arranged in such a way that it ensures face-to-face interaction between group members, and, therefore, students need to be reminded to rearrange the furniture after the lecture.
- The contents and order of a group-work session could be adjusted according to the objectives and topic of the session (i.e., the structure of the session).
- Preferably two, but if not possible, one facilitator should be available to facilitate a group-work session, and they should move around between groups.
- The problem with the lack of facilitators can be overcome by using methods that encourage tutorless groups, by training students and staff properly in the principles of group work, and by encouraging students to prepare for group work.
- The same facilitator should be involved throughout a module where possible (i.e., for all the sessions presented by the same discipline).
- It does not seem feasible to use senior students as facilitators for group work at this stage, although this may be reconsidered in the future, once the entire M.B.,Ch.B.-learning programme has run through to completion for the first time.
- Both the group goal and individual accountability need to be encouraged through the use of specific group-work methods, by dividing the group task amongst members, by allowing

any member of the group to provide feedback on their group task, or by allocating marks for the group task to both the group and individuals (cf. 8.3.6).

- The three-hour sessions can be flexible in terms of the time spent on the group task.
- Students should be discouraged from leaving early after group work by providing feedback at the end of the group-work session.
- Although three hours are enough to cover a topic, an extra half-an-hour needs to scheduled for feedback on the group work.
- Groups should first be allowed the opportunity of providing feedback on their group tasks, although the lecturer or facilitator should oversee the process and provide corrective comments where necessary.
- Effective group work should be rewarded by appropriate marks and acknowledging students' contributions to their groups.

9.1.7 Training for group work

Group work cannot be successful unless the role-players (i.e., students, lecturers and facilitators) receive proper training in group work (cf. 4.4). The basic principles of, and approach towards, group work, however, need to be the same for the students and staff. This also includes the rationale for using group work as an instructional tool.

The following guidelines for training in group work have been determined for Phases I and II (cf. 8.2):

- It is the responsibility of the group-work committee to ensure that proper training of students and staff regarding group work takes place.
- The Division for Student Learning should present the training sessions for students, and the Division for Educational Development should do so for staff members.
- The training of students and staff must be congruent with each other.
- Student mentors should receive training in the group process.
- A full training course for group work should have the following contents (cf. 8.2.3):

- The general aspects of group work, such as the rationale, importance, advantages and objectives of group work;
- The group structure, such as the roles which group members could play;
- The different aspects of learning in a group, such as co-operative learning, learning styles and the skills that are developed through doing group work;
- The different aspects of the group process (cf. 9.1.3);
- The design and completion of the group task (cf. 9.1.4);
- The approach to group-work sessions in terms of planning or preparation for, design and conducting of group-work sessions;
- Training in effective group work, including the characteristics of effective and ineffective groups, handling problems in a group and planning strategies to enhance the effectiveness of groups; and
- Training in assessment and evaluation of group work.

- A full training course should be presented to all new staff members, as well as the new students entering the M.B.,Ch.B.-programme (i.e., at the beginning of Phase I).

- The training for students should be repeated at the beginning of the second semester of Phase I and the beginning of Phase II (i.e., the students' second year of study). These training sessions should only include aspects of group work which are problematic or which the students think they need further training in (cf. 8.2.2).

- Advanced training sessions should be held on an ongoing basis for staff members who have already been involved with group work, and each specific session should be repeated at least once, so as to ensure that most staff members can attend the session.

- During the full training course at the beginning of Phase I, the "permanent" groups for the first six months should be formed, and ice-breakers and inter-group competitions can be used to assist the group members to get to know one another and building group cohesion. Groups should also determine their ground rules and contracts during this time.

- Different group-work methods should be used during the training sessions, and trainees should preferably work in groups (e.g., solving a problem related to group work in their groups).

- A video demonstration of the functioning of groups should be shown to student and staff trainees, and students can play a game to identify their roles as group members (cf. 4.4.5).

- A guide on group work should be made available to students and staff, although the contents of the guides for the two groups would differ to some extent (cf. 8.2.2).

9.1.8 Resources for group work

Since group work is a relatively resource-intensive instructional approach, the involved organisation (in this case the Faculty of Health Sciences, UFS), should ensure that proper resources exist for group work. The group-work committee should oversee the provision and availability of resources, so as to ensure effective group work. Several types of resources are required, including physical resources, time, as well as financial and manpower resources. The lecturer or facilitator should also be regarded as a valuable "resource" who could provide useful input into the effective functioning of groups and the acquisition of knowledge by the students (Harris et al 1994:138).

The following guidelines have been determined for resources for group work in Phases I and II (cf. 8.3):

- The Faculty should keep on providing proper venues for group work.
- The existing loose furniture available is appropriate, due to the mixed structure of sessions, (i.e., consisting of lectures and group work). However, students should be reminded and encouraged by the facilitators to arrange the furniture appropriately for group work to ensure face-to-face interaction.
- Sufficient resources, related to learning, should be provided for all groups to share amongst the group members. These resources include:
    - Computers and Internet access;
    - Books (especially reference books), dictionaries and journals;
    - Photocopy facilities; and
    - Workbooks containing relevant information for group-work sessions (cf. 8.3.1).
- The limitations imposed by the staff shortage at the UFS can be overcome by using specific ways of ensuring effective group work with only one facilitator available, e.g., proper training of students and facilitators in the principles of effective group work, encouraging students to prepare for group-work sessions, using tutorless group methods, and encouraging students to take responsibility for their own learning. Feedback on the group work is also essential in order to ensure that students achieve the outcomes for a session in an appropriate way.

- A survey to determine the sufficiency of resources should be conducted regularly (this could be done as part of assuring the quality of group work).

9.1.9 Support for group work

The role-players in group work (i.e., the students and staff) need support for group work in various ways. For the UFS, proper training, sufficient resources and clear guidelines for the practice of group work are the most important and needed ways in which support should be provided.

The following guidelines have been determined for support for group work in Phases I and II (cf. 8.4):

- Both students and staff need support regarding group work.
- The group-work committee needs to provide proper and sufficient support to the staff members.
- The group-work committee should ensure that proper support is provided to students and groups through student mentors, staff members and the Division of Student Learning.
- The Faculty needs to provide sufficient resources for group work (cf. 9.1.8).
- The Faculty needs to provide proper guidelines for the practice of group work in the form of guides on group work for the students and staff.
- Individuals involved in group work should also provide support to one another in the following ways:
    - The lecturer who presents a session should provide academic support to groups on the work done during the session;
    - Students could be encouraged to form learning groups after-hours to provide academic support to one another, and they should be allowed to choose these groups themselves;
    - Senior students could act as mentors for groups, so as to assist them with the group process, and groups should be allowed to choose their own mentors;
    - Assistance should be available for mentors when serious problems are encountered in groups and the Division of Student Learning could fulfil this responsibility;
    - Group members should be encouraged to exchange contact numbers and e-mail addresses for after-hours peer support;

- Students should be encouraged to form peer support groups after-hours for personal support amongst group members;
- An after-hours social meeting should only be arranged formally at the beginning of Phase I to assist group members in getting to know one another, and these meetings could be encouraged amongst groups in Phase II, but should not be compulsory.
- Self-help groups amongst staff members are not indicated at the moment;

- Lecturers and facilitators need academic support in terms of training and guidelines for the planning, design, presentation, and conducting of group work sessions, as well as the evaluation of group work.
- If the Faculty were to provide sufficient administrative and organisational support to staff members, they would have more time to plan and design group-work sessions properly (cf. 4.5.3 and 8.4.2).
- Through addressing the needs of staff and rewarding teaching excellence, the staff would also receive moral and emotional support.

9.1.10 Evaluation of group work

Firstly, as mentioned before, students will not take group work seriously if it is not assessed, and this applies to both the group process and -task. Furthermore, without evaluation of the implementation of group work, its quality and effectiveness cannot be assured. Group work, in all its different dimensions, therefore needs to be evaluated.

Since "triangulated assessment" of group work has been suggested for the evaluation/assessment of group work in Phases I and II, the following guidelines have been determined (cf. 8.5):

- Guidelines should exist for determining assessment criteria for group work. This would best be fulfilled by the group-work committee and the guidelines should appear in the guide for staff on group work.
- Clear guidelines should exist for the assessment of the group task and -process, and should appear in the guide for staff on group work.
- Students should know the criteria and methods of assessment beforehand, and these should therefore be included in the workbooks of the different modules.

- The knowledge, skills and attitudes that students develop through doing group work should be assessed, and therefore a variety of assessment methods needs to be used.
- Appropriate questions or assignments should be used in order to provide for the development of higher-order thinking skills (according to Bloom's taxonomy – cf. 4.3.1.5).
- A deep approach to learning (i.e., reflecting on and applying what has been learnt) needs to be encouraged through the format of assessments.
- The group task should be assessed regularly in every module, although the number of opportunities, the timing, and the ways in which it is done, should be determined by the members of the module team.
- A variety of group tasks should be assessed and students should be allowed to present their group tasks in various ways (cf. 8.5.2).
- The outcomes of group tasks need to be covered in tests and exams in order to ensure that all members achieve the outcomes of modules, even if the group task was subdivided.
- Assessment of the group tasks should count as part of continuous assessment and should specifically count 20% of a semester mark of a module.
- Group members should be allowed to add or subtract 5-10% of the mark awarded to the group for the group task, for each member according to his/her contribution, provided that the average of the individual marks is the same as the original mark.
- The group process should be assessed in the MEA 112 module and evaluated regularly in all the other modules.
- Groups could compile a portfolio, containing the evidence of regular evaluation of the group process, as a prerequisite not to be formally assessed on the group process.
- Evidence of regular evaluation of the group process, as well as the group's reaction to the evaluation (i.e., planning strategies to improve), should be included in a portfolio of the group process.
- Minimum requirements should be determined for the portfolio in terms of the number of self- and peer evaluations and group process evaluations, and also evidence of strategies planned to improve the group process and reviews of the ground rules of the group (cf. 8.5.4).

- The portfolios have to be completed during a group's existence, i.e., six months in Phase I and a year in Phase II, although deadlines (before the end of the semester or year) should be determined beforehand, so as to provide time to formally assess those groups who did not met the prerequisites.
- Formal assessments of the group process are best done during ordinary group-work sessions, through observation of the group and interviews with the group members, although other approaches can also be followed (cf. 4.6.4.2).
- Marks from the formal assessments of the group process should contribute to the MEA 112 module mark.
- Groups could receive a mark for the portfolio with an 80/20 division for the group mark and individual marks respectively.
- Group members should be assessed by their peers according to their performances and contributions to the group process, using specific instruments for the purpose.
- Ground rules should exist for peer assessment in groups.
- Peer evaluation/assessment should take place confidentially, and this aspect should be included in the ground rules of the group.
- Individual members' performances (including the group leaders') should be evaluated or assessed according to specific criteria, so as to hold them accountable for their contributions to the group process (cf. 8.5.4), although these marks should not be enough to fail students (appropriate for the MEA 112 module).
- Several different instruments should be available with which to assess/evaluate the group process, in order to ensure that all the properties of the group process are taken into consideration (cf. 4.6.4.2).
- The group-work committee should provide appropriate instruments for the assessment/evaluation of the group process.
- Facilitators or mentors need to assist groups with the evaluation of the group process and support those who experience problems.
- The lecturer should have final control over the awarding of marks to students by their peers, although the facilitator could also assist.

- The role of the lecturer and facilitator should be evaluated by the students in order to provide feedback on students' experiences of group work and to assist staff members in improving their approach to group work. Evaluations done by students should be structured, so as to prevent inappropriate remarks.
- Feedback should be provided on the assessment or evaluation of all the aspects of group work, whether the group task, -process, or of individuals.
- Groups should receive the opportunity to evaluate the way in which assessment took place in a module. This would imply the group process for the MEA 112 module, and the group task in the other core modules.
- "Trial" assessments are not indicated at the UFS due to staff shortages and lack of time.

9.1.11 Assuring the quality of group work

Quality assurance is an essential and overarching element of group work. Attempting to ensure the effectiveness of group work implies evaluation of the product, process and performance (Brown et al 1997:173). Thus, all the previously mentioned aspects or group work should be taken into consideration during the planning, implementation and monitoring of group work. Guidelines are also needed for all these aspects, as has been suggested.

For group work in Phases I and II, the following guidelines for quality assurance have been determined (cf. 8.6):

- Guidelines need to be provided for the group composition, process and task, as well as group work sessions, training, support and evaluation of group work. Lecturers and facilitators also need to know what their role and responsibilities are for group work. "Faculty who make collaborative assignments and fail to provide specific guidelines or models for successful work may find students struggling to get group projects off the ground" (Center for Teaching and Learning (Stanford University) 1999:3). The same applies for group work in general.
- The RPTIM model for change could be implemented as an approach to implementing group work in Phases I and II (i.e., readiness, planning, training, implementation and maintenance).

- A group-work committee, consisting of a few staff members and members from the Division of Student Learning, should be appointed to oversee the implementation of group work and assure the quality of the process and outcome.
- Group work at the UFS needs to be evaluated externally as part of the accreditation process done by the Medical and Dental Professions Board of the HPCSA.
- Students should be involved in the quality assurance process through questionnaires and focus group interviews, so as to determine their needs and problems related to group work.
- Lecturers and facilitators need to evaluate themselves in terms of their role in group work, reflect on the outcome of these, and plan strategies to improve their involvement.
- Peer evaluation amongst staff members does not seem advisable at the moment.
- The following functions of the group-work committee seem advisable (cf. 8.6.2):
    - Ensuring proper training of students and staff – as mentioned before, the training for students could be provided by the Division of Student Learning and that of the staff by the Division for Educational Development;
    - Ensuring proper support for students and staff involved with group work through the provision of sufficient resources, taking their opinions about group work into consideration, and providing guidelines for support (cf. 9.1.9);
    - Providing a guide on group work for students and staff;
    - Providing guidelines and instruments for the assessment and evaluation of group work, including guidelines for the awarding of marks for group work;
    - Staff should be provided the opportunity of evaluating group work and identifying problems and areas of need (in terms of training, resources and support);
    - Students' evaluations of the assessment of group work should be taken into consideration (cf. 9.1.10);
    - Group-work sessions need to be evaluated by students and staff with the aid of checklists or questionnaires and attempts should be made to act on the outcomes of these evaluations (cf. 8.5.5);
    - Determining the composition of groups according to specific criteria; and
    - The process of implementation of group work needs to be evaluated and strategies planned accordingly, in order to improve the quality of group work.
- The group-work committee needs to adopt a "think, pair, share" approach to its functioning.
- In order to know whether group work is successful and effective, it should be determined whether the objectives set for it have been reached, and thus the outcomes of group work should be evaluated. This implies determining whether learning has taken place amongst students in terms of knowledge, skills and attitudes.

9.1.12 The outcome of group work

The outcome of group work implies learning, which, in its turn, involves knowledge, skills and attitudes that students need to exhibit. The skills do not only include group-work skills, but also skills such as self-directed skills and social skills (Holen 2000:485). These outcomes can be determined on several levels, of which the group-work session is the smallest unit. Through clear objectives for, and feedback on, group-work sessions, students can receive information regarding their progress on the pathway towards achieving the outcomes of the M.B.,Ch.B.-learning programme, which implies becoming competent practitioners, able to function effectively in a health care team. However, every study year and every Phase of the medical curriculum also has its own objectives. Thus, achieving the outcomes in one group-work session is only a small, but essential building block in the overall objective of group work. The outcomes of each level should be evaluated in order to determine whether students and groups are progressing according to the predetermined plan. Thus, all the preceding aspects of group work should eventually contribute to the outcome of group work, and therefore, none of these elements may be ignored or neglected.

9.1.13 The organisation

The context of the group, in the light of the social, cultural and institutional set-up in which it functions, also influences the group's behaviour and the members' expectations of the group (Reynolds 1994:39). Therefore, the outcome and success of group work are influenced, not only by the academic climate, but also by the mission and vision of the higher education institution (Schwarz 1994:33-34). Groups should therefore not be regarded as isolated entities, but the entire context of the group should be taken into consideration when determining the effectiveness of groups. The teaching environment, as well as the boundaries set for students, all influence the outcome of group work (Gregory & Thorley 1994b:186).

For this group-work model, the Faculty of Health Sciences (UFS) is the responsible organisation. The social, cultural and academic atmosphere of the Faculty will therefore influence the way in which group work will be perceived by the various role-players. Therefore, the Faculty has an important responsibility towards the outcome of group work.

Through the assurance of quality as outlined above (cf. 9.1.11), this responsibility can be fulfilled to a great extent. It is also necessary for the Faculty to provide, not only guidelines and suggestions about the effective performance of groups, but also definite feedback on the groups' actual performances (Schwarz 1994:35). The main concern should be to provide a learning context in which students can make direct links between the academic content and the actual experience of working and functioning as a member of an active group in an health care set-up, and to encourage personal reflection upon these experiences (Cuthbert 1994a:84).

9.2 FURTHER NOTES AND RECOMMENDATIONS REGARDING THE MODEL

In order to remember the structure of the group-work model and the elements of effective group work, the acronym **SOCRATES** is appropriate:

- Sessions for group work;
- **O**bjectives/outcome of group work;
- **C**omposition/structure of groups;
- **R**esources for group work;
- **A**ssuring the quality of group work;
- **T**raining for all role-players with regard to group work;
- **E**valuation and assessment of group work; and
- **S**upport for all the role-players.

This acronym is appropriate since Socrates was one of the first persons who inspired talking within groups in order to stimulate critical thinking, and thus the Socratic method, a well-known group-work method, is attributed to him (cf. 2.9.25). This model should especially be remembered by those responsible for implementing effective group work, and for assuring the quality of group work (i.e., the Faculty of Health Sciences (UFS) and the group-work committee).

Since group-work sessions have so many factors that need to be taken into consideration, a separate acronym, **PLATO**, is appropriate, since Plato was one of Socrates' students who preserved his comments:

- **P**lanning and preparation for group work and the importance of the group process: Students should prepare for group work and plan how they should conduct a group task. The staff members need to encourage students to prepare by means of either pre-testing or presentations, and also need to plan the topic, objectives, workbooks and resources for the session. The group process should also receive attention during group-work sessions;
- **L**ayout of the session, implying the structure of the session, the group-work method, the type of group work and the time spent on group work;
- **A**ssignments or group tasks should be problem-oriented as far as possible, should enhance interaction and co-operation amongst group members, should be outcomes-based and should have clear instructions;
- **T**est the outcome, i.e., evaluate or assess the group task and –process, as well as the individual group members, and reflect on these evaluations/assessments;
- **O**ffer feedback and support to students regarding group work.

The Socrates and Plato model, as suggested here, is aimed at improving the effectiveness of group work in Phases I and II of the M.B.,Ch.B.-learning programme at the UFS by enhancing the effort to achieve the objectives of group work. The model is, however, dynamic, and therefore changes in one aspect could influence the other aspects of group work, e.g., improving the support, resources and training for group work could contribute to a better evaluation of group work, and thus also a closer attainment of the objective of group work. This should be kept in mind when reviewing the effectiveness of group work, since all the elements of group work need to be examined, and attempts should be made to improve the outcome of group work through enhancing the quality of the "input" factors of group work. On the other hand, it is also important to note that a weakness in one aspect of group work may not necessarily be compensated for by the strength of another factor, and thus all the elements of group work need to be reviewed independently as well.

The model is also multi-dimensional, since learning inputs and outcomes occur at different levels, viz., the individual students, the group, as well as the organisation. This fact certainly

causes the evaluation and quality assurance of group work to be a challenge. As Reynolds (1994:35) also argues, more emphasis should be placed on the implementation of a process such as group work. Therefore, continuous evaluation of the different aspects of group work is necessary. Group work should not only be evaluated by those responsible for quality assurance, but rather, everybody involved in group work, including the students and staff, should review its effectiveness, reflect on these evaluations, and react by planning strategies to improve the quality and effectiveness of group work. "Teams do not automatically work successfully, however, and the potential advantages can be lost if students are not helped to exploit the opportunities of team work" (Gibbs 1992b:17).

It is imperative to realise that the acronyms (Socrates and Plato) suggested for the group-work model do not reflect all the dynamics and complexities of the model. The temptation thus exists to reduce it to a linear model, rather than the complex entity it actually is. It is therefore vital to everyone who becomes involved in the implementation and application of the model to realise that the acronyms only serve as signposts which assist them in identifying and recollecting the main components of the group-work model, but that more will be required of them than the recital of two acronyms.

It is also important to realise that no universal model for group work exists, and the contents and structure of a group-work model need to suit the needs, character and style of the particular institution. The Socrates and Plato model has thus been designed specifically for the UFS, and the guidelines for group work presented here have been determined, on the basis of the literature and the outcomes of the investigation of this study, for the needs of, and set-up at, the Faculty. An attempt was made to design a model which could be implemented in practice, rather than a theoretical one which would not be viable.

Furthermore, as is clear from the title of this research study, this model is not meant to be the final answer to group work in Phases I and II of the M.B.,Ch.B.-learning programme at the UFS. It certainly serves as a basis and a point of departure for addressing the problems related to group work, as experienced by the students and staff at the UFS, but it is inevitable that further investigation will be needed to refine, adjust and improve it so as to ensure an optimal product, providing appropriate and essential guidelines.

The following recommendations are therefore made with regard to this model: The model should be considered for implementation in the M.B.,Ch.B.-learning programme, provided that everyone involved is informed about the guidelines for group work and that the implementation of the model is reviewed through a further research study. Such a review needs to involve the students and staff, and structured questionnaires should preferably be used to ensure that all the different aspects of group work are reviewed. The students and staff also need to be aware of the fact that group work will not automatically be successful, and that it will take time to address the needs and problems that currently exist. "We urge teachers, including ourselves, not to be discouraged by failures but instead to analyze why groups succeed and fail and to let the participants grow through their experience" (Miller et al 1994:43). Also, "[p]erhaps one of the nicest things about group work is that in our present state of ignorance students and teachers have to learn together, because the best way to learn about group work is to get on and do it" (Terry cited in Abercrombie 1977:45).

A further study should also be conducted to determine the students' and staff members' satisfaction with the group-work guidelines, and one could even allow them to determine limits for each indicator (e.g., the preferred range for the size of groups or mark allocation for assessments of group work).

A guide on group work should also be developed in another study, containing the essential guidelines for students and staff regarding group work, as well as giving assistance for the practice of group work, e.g., examples of feasible assessment methods (cf. 8.2.2). Specific assessment instruments, especially for the evaluation or assessment of individuals' contributions or performances, as well as all the different elements of the group process in Phases I and II, should also be designed through further study, and it should be ensured that these instruments are reliable and valid.

The possibility of using senior students as facilitators for group work should be investigated further once all five years of the M.B.,Ch.B.-learning programme have run for the first time (i.e., after the year 2004). Once the staff members are accustomed to evaluating themselves on their contributions to group work, peer evaluations should be considered. Consideration should also be given to encouraging staff members to form support groups.

9.3 CONCLUDING REMARKS

A model for group work needs to be multi-dimensional, since many different aspects influence its effectiveness, and thus the quality of the outcome of group work. The Socrates and Plato model has been suggested for Phases I and II of the M.B.,Ch.B.-learning programme at the UFS, providing for "input" and "output" factors of group work. The role-players, viz., the students, lecturers and facilitators, are connected with one another through group-work sessions, since it is here where the actual group work takes place. The Faculty is responsible for overseeing the process of implementation and practice of group work, ensuring its quality, and producing a successful and acceptable outcome from the process. Certain recommendations pertaining to the model have also been made in this chapter, since the model was specifically designed for the UFS. In the next chapter, a conclusion is drawn to this research study, stating the value and limitations of this research study and preparing the ground for further study on group work.

CHAPTER 10
CONCLUSION

In the light of the research problem (cf. 1.3) posed for this study, its aim was to develop a group work model and provide the urgently needed guidelines for group work in Phases I and II of the M.B.,Ch.B.-learning programme at the University of the Free State (UFS). The role of group work in higher education, and specifically also in medical education, was investigated. Furthermore, aspects of group work which influence its effectiveness and success were identified and considered for inclusion in the model. A scientific investigation was conducted in order to determine the importance of these factors and eventually those which were regarded important, were included in the model. The literature, and also the opinions of the students and staff at the UFS, as well as the experts in group work and medical education who participated in the Delphi study, were taken into consideration during this stage of the study.

The structure of the model is thus based on factors that determine the effectiveness of group work, although the group forms the centre of the model. However, the group has three dimensions of functioning, viz., the structure or composition, the group process and the group task. Lecturers and facilitators have their own specific roles and responsibilities in group work, although they have to collaborate closely during the planning and presentation of group-work sessions. Group-work sessions unite the students, lecturers and facilitators, since this is where they co-operate and interact. Certain "input" factors are necessary for effective group work, viz., proper training and sufficient support for students and staff, and also adequate resources for group work. In order to determine the effectiveness of group work, it is necessary to evaluate and assure the quality of its different aspects. Overall, the organisation (in this instance the Faculty of Health Sciences, UFS) is responsible for providing a suitable environment for group work to take place in, in order to ensure that the objectives are met and that the outcome of group work is a quality product.

10.1 LIMITATIONS OF THE STUDY

This model does not claim to be all-inclusive, although an attempt was made to include the most relevant and essential elements of group work. This research study was also not without problems and limitations: Firstly, there were some limitations with the investigation, which includes the fact that the opinion survey at the UFS was conducted during one opportunity only. It was thus impossible to compare the opinions of the respondents at the UFS at different stages so as to determine whether group work had improved or deteriorated since it was first implemented in 2000. It might well be that the opinions of the students and staff changed because of the experience which they have gained since the survey for this study was completed. It was therefore also not possible to compare the responses of the students who were in their first year at the time of the investigation, with their responses during their second year, especially in order to determine whether differences should exist between the Phases I and II of the M.B.,Ch.B.-learning programme.

The 50% response rate of the staff members, although acceptable according to the literature (Sukcharoen 1997:592), compares poorly with the high response rates of the students and the 100% response rate in the Delphi study. This could reflect a general lack of interest amongst the staff members, or they could have been deterred by the length of the questionnaire. Furthermore, the Delphi panel who participated in this study did not represent all the countries where group work forms a prominent part of undergraduate medical learning programmes, and there is thus a possibility that their opinions were not representative of the existing pool of knowledge on group work. However, the panel was selected on the grounds that the M.B.,Ch.B.-learning programme is based on the approach of one of the universities in the United Kingdom. The gender, age and cultural differences of the Delphi participants were also not specifically taken into consideration, since the other criteria used to select the participants were regarded as more important and appropriate (cf. 6.4.1).

The length of the questionnaires used in this study could have led to "completion fatigue," especially amongst the students and staff at the UFS, and there is a possibility that this could affect the trustworthiness of their responses. However, since this research study was based on a case study approach, in-depth exploration of the issues related to group work was necessary,

and it was therefore impossible to omit any sections from the questionnaires in an attempt to reduce their length.

Although it was considered necessary to provide for a neutral vote in the Likert scale used for the Delphi study, the Likert scale used in the questionnaires for the opinion survey did not provide for a neutral vote, as an attempt was made to avoid the error of central tendency (Huysamen 1989:168). This made comparisons of items rated on the third point of the scale between the opinion survey and the Delphi study difficult (i.e., "important" and "neutral" respectively). Fortunately, not many items in the opinion survey were rated on the third point of the scale.

No items regarding the repetition of training for lecturers and facilitators (including the time of training and aspects which need to be repeated) were asked in the questionnaires. This would, however, have been helpful, since it would have provided insight into the needs of the staff members especially, highlighting specific aspects which need to be repeated in their training on group work. However, these needs may still be determined through further study.

Furthermore, in the questionnaire for the opinion survey, items 25, 92 and 128 (the importance of a guide for students and staff, assessing the group task and product, and providing support to students and staff as a means to assure the quality of group work respectively), were ambiguous in that each tapped two ideas instead of only one (in spite of this researcher's effort to avoid this). These were corrected in the questionnaire for the Delphi study, but it was difficult to compare the results in the two studies for these items. The wording of a few items was also changed for the Delphi study, and although this was done in order to ensure clear statements without ambiguity, there is a possibility that these items did not test the same concept in the two studies. The concepts of evaluation and assessment of group work and the differences between these two concepts could also have been outlined better and separated more clearly in the questionnaires. There were three items (6, 8 and 88) in the Delphi study on which no consensus and no majority votes were reached, but rather stability of votes. However, these items (respectively, the importance of groups choosing their own names for the group, providing opportunity for medical students from different year groups to co-operate in groups, and inter-group competitions to enhance the cohesion of groups) were omitted from the questionnaire after the second round on the basis of stability of votes. Nevertheless, with hindsight, since

there were only three items involved, these items could have been included in subsequent rounds until consensus or at least a majority vote was reached, and thus the rigid definition of stability should probably not have been followed for these three items. On the other hand, none of these items were eventually regarded as important for group work at the UFS (cf. 8.1.6, 8.1.7 and 8.3.6), and therefore, this is not a big issue.

The overall value of the study could have been enhanced to a great extent if the proposed model was actually implemented in Phases I and II of the undergraduate curriculum at the UFS and its appropriateness and usefulness scientifically investigated. However, this was not within the original scope of the study, and thus, further study is definitely needed to explore this aspect of the model.

10.2 VALUE OF THIS STUDY

A complete study of the literature (cf. Chapter 2 to Chapter 5) was considered essential for this research study, since the questionnaires for the opinion survey and the Delphi study were compiled on the basis of the findings from the literature. It was also necessary for the development of a detailed model and proper guidelines for group work. The extensive literature study could also act as a useful reference guide for group work at the UFS, and could serve as a basis for the compilation of the guides on group work for students and staff. Furthermore, it could serve as a basis for further research on group work.

The fact that all seven participants were involved with all five rounds of the Delphi study could be an indication that they were motivated to participate, revealed their interest in the study and that they may have regarded the study as meaningful, even though it is relatively easy to obtain a high response rate in such a small study. Because they were all experts in group work and medical education, their responses were regarded as valuable contributions, worth noting, when the model for group-work was designed. The Delphi study therefore provided qualitative and quantitative results which were very useful in this research study.

The guidelines which have been suggested through the design of the Socrates and Plato model for group work, could contribute to better working conditions for staff members and a safe

environment for students to do group work in, since it is aimed at meeting their needs through training, support and the provision of resources. The study could therefore contribute to more positive attitudes amongst the students and staff towards group work, and could also increase their levels of satisfaction and enjoyment of this multi-dimensional instructional approach. They could thus learn to appreciate group work as one of the most creative and promising means of learning and use it to its full potential.

The model designed through this study could make a valuable contribution to the quality and effectiveness of group work in Phases I and II, since it is aimed at providing guidelines to ensure that the objectives of group work are reached. The objective of group work should be learning, and if this objective is reached, medical students at the UFS will develop the knowledge, skills and attitudes necessary to function effectively and competently in a health care team. This study could therefore also make a significant contribution to the preparation of medical students for their professional career by enhancing their competence to do so.

10.3 FURTHER RECOMMENDATIONS

Since the model was designed specifically for the core modules of Phases I and II of the M.B.,Ch.B.-learning programme (cf. 1.7), further investigation is needed regarding group work in the clinical skills module and Phase III. Since the Special Study module in the learning programme involves a research project, it also provides an opportunity for students to work in groups, and, therefore, further research is needed on group work in this module (cf. Appendix A). One could also evaluate the team-working skills of the students who follow the new M.B.,Ch.B.-learning programme (once they have graduated) with those who completed the old curriculum. This would provide insight into the effectiveness of group work in Phases I and II. "Clinical ratings of medical school graduates by residency supervisors and others are often considered excellent indices of the adequacies of undergraduate instruction" (Albanese & Mitchell 1993:65).

The co-operation of students from different health professions, as suggested for the UFS (cf. 8.1.7) should also be investigated further. This does not only include the possibility of first year students from the different health professions following the same module for the

development of transferable skills, but especially also opportunities for these students to co-operate in groups during their clinical years.

Although this model was specifically designed for the set-up at the UFS, the basic structure could be adopted to suit other higher education institutions' needs for group work. It would, however, be necessary to determine guidelines suitable for the involved institutions. Further research is necessary to test the implementation of the model and to determine whether the aspects of group work presented in the model do indeed contribute to a quality product through achieving the objectives of group work.

10.4 FINAL REMARKS

Group work "should not be considered as a panacea for learning" (Ledingham & Crosby 2001:76). It is thus important to realise that group work is not the alpha and omega of medical education, and is therefore not appropriate for all types and occasions of learning. "Variety is important: we need to provide a learning environment which recognizes that different people have different ways of learning and that some will find group-learning uncongenial and difficult" (Thorley & Gregory 1994:179). Thus, a balance between the range of delivery methods and the learning content should be maintained.

It is also important to plan, implement and practice group work in the context of the particular learning programme and the organisational set-up. There is no sense in attempting to ensure effective group work in isolation, since it has a specific place in medical education. The entire approach to group work should therefore fit into the context in which it has been implemented. "Small-group teaching must not be seen in isolation from the rest of the curriculum or its associated culture" (Jaques 2000:189).

However, group work has great potential if planned and implemented correctly and if reviewed regularly through proper steps of quality assurance. "The group as a social unit constitutes an ideal locus for change, whether its purpose is learning, training or the completion of a task" (Jaques 2000:291). A change in knowledge, skills and attitudes amongst students as a result of effective group work, might make the difference between isolated, self-centred doctors attempting to manage patients on their own, and skilled and approachable doctors who are

willing to function in a health care team to provide patients with optimal care. Furthermore, staff members could also learn in the process to collaborate better with their colleagues, face the challenges of change together, and become instruments to assist students in becoming lifelong learners who are competent in providing excellent health care.

> *Groups permeate all levels of institutional life and insofar as we regard any institution as a social system, effective groupwork in one area is likely to be mirrored in others. The culture of collaboration is infectious and a very necessary support in the change process, whether we are talking about academics and better teaching, or students and improved learning strategies*
>
> (Jaques 2000:290)

SUMMARY

KEY WORDS

Group work
Small-group learning
Group-work model
Group-work methods
Problem-based learning
Cooperative learning
Undergraduate medical education
Delphi method

Drastic changes in the guidelines for medical education have taken place over the past few years which have resulted in the adjustment of undergraduate medical learning programmes of medical schools. One of the prerequisites for being regarded as competent medical practitioners is the ability to function effectively in a health care team. This implies that group work needs to be incorporated as an instructional learning method in undergraduate medical education. The Faculty of Health Sciences, University of the Free State (UFS) implemented a transformed M.B.,Ch.B.-learning programme in 2000, consisting of a hybrid curriculum with lectures, group work and directed self-study as the main components of instruction. However, group work was implemented without guidelines and it currently appears not to be reaching the objectives it was intended to. This study was conducted in an attempt to provide guidelines for the implementation and practice of group work through an appropriate model. An opinion survey was conducted amongst the students and staff involved in Phases I and II of the M.B.,Ch.B.-learning programme at the UFS, so as to determine the importance of various indicators for a group-work model, using the literature as a basis for the compiling of suitable questionnaires. The opinions of national and international experts in group work and medical education were also obtained through a Delphi study in an attempt to reach consensus amongst the experts on the importance of the indicators for the group-work model. The model was eventually designed by considering the literature and the results from these two investigations in order to determine its structure. The group, consisting of students, forms the centre of the model, whereas the role-players (i.e., students, lecturers and facilitators) are united through group-work sessions. The important input factors which could influence the effectiveness of group work include training, support and resources for group work. All aspects of group work need to be evaluated for various reasons: Not only should the group process and -task be evaluated and assessed, for students to receive marks and thus progress in their studies, but all the elements of group work should be reviewed as part of assuring the quality of group work. However, quality assurance

also entails reflecting and reacting on the evaluations in order to ensure that the outcome of group work (i.e., learning in terms of knowledge, skills and attitudes) is reached. The organisation (in this instance, the Faculty of Health Sciences, UFS) needs to provide a suitable environment and academic climate for group work to take place in. This study may therefore contribute to the quality of the undergraduate medical education at the UFS, assisting students to develop the skills necessary to function as competent health care professionals.

OPSOMMING

SLEUTELWOORDE

Groepwerk
Kleingroep leer
Groepwerkmodel
Groepwerk metodes
Probleem-gebaseerde leer
Koöperatiewe leer
Voorgraadse mediese onderwys
Delphi-metode

Drastiese veranderinge in die riglyne vir mediese onderwys het oor die afgelope paar jaar plaasgevind wat aanleiding gegee het tot aanpassings van voorgraadse mediese leerprogramme van mediese skole. Een van die voorvereistes om as 'n bevoegde mediese praktisyn beskou te word, is die vermoë om effektief in 'n gesondheidsorg-span te kan funksioneer. Dit impliseer dat groepwerk as 'n onderrigmetode in voorgraadse mediese onderrig geïnkorporeer moet word. Die Fakulteit Gesondheidswetenskappe, Universiteit van die Vrystaat (UV) het in 2000 'n getransformeerde M.B.,Ch.B.-leerprogram geïmplementeer wat bestaan uit 'n hibride kurrikulum met lesings, groepwerk and gerigte selfstudie as die hoof komponente van onderrig. Groepwerk was egter sonder riglyne geïmplementeer en huidiglik blyk dit dat die beoogde doelwitte daarvan nie bereik word nie. Hierdie studie was uitgevoer in 'n poging om d.m.v. 'n toepaslike model, riglyne vir die implementering en uitvoer van groepwerk te voorsien. 'n Opname van die opinies van die studente en personeel betrokke in Fases I en II van die M.B.,Ch.B.-leerprogram by die UV was gedoen om die belangrikheid van verskeie indikatore vir 'n groepwerkmodel te bepaal. Die bevindings van die literatuur was gebruik as 'n basis vir die opstel van toepaslike vraelyste. Die opinies van nasionale en internasionale kundiges in groepwerk en mediese onderwys was ook verkry d.m.v. 'n Delphi-studie in 'n poging om konsensus te bereik oor die belangrikheid van die indikatore vir die groepwerkmodel. Die model was uiteindelik ontwerp deur die literatuur sowel as die resultate van hierdie twee ondersoeke in ag te neem vir die bepaling van die struktuur van die model. Die groep, bestaande uit studente, vorm die middelpunt van die model en die rolspelers (m.a.w. die studente, dosente en fasiliteerders) word saamgebind deur groepwerksessies. Die belangrike inset faktore wat die effektiwiteit van groepwerk kan beïnvloed, sluit opleiding, ondersteuning en hulpbronne vir groepwerk in. Al die aspekte van groepwerk behoort geëvalueer te word vir verskeie redes: Nie net moet die groepproses en –taak geëvalueer en geassesseer word sodat studente punte kan verdien en kan vorder in hulle studies nie, maar alle elemente van groepwerk

moet hersien word as deel van die versekering van die gehalte van groepwerk. Gehalteversekering impliseer egter ook oordenking van die evaluerings en reaksie daarop om te verseker dat die uitkoms van groepwerk (nl. leer in terme van kennis, vaardighede en houdings) bereik word. Die organisasie (in hierdie geval die Fakulteit Gesondheidswetenskappe, UV) moet 'n geskikte omgewing en akademiese klimaat voorsien waarin groepwerk kan plaasvind. Hierdie studie kan daarom bydra tot die kwaliteit van voorgraadse mediese onderrig by die UV deurdat dit die studente kan help om die nodige vaardighede te ontwikkel om as bekwame gesondheidsorgwerkers te kan funksioneer.

Reference List

Abercrombie, M L J 1977. *Aims and Techniques of Group Teaching.* 3rd ed. University of Surrey, Guildford, Surrey: Society for Research into Higher Education.

Adler, M & Sainsbury, R 1996. Alternative approaches to the computerisation of social security: Reflections on a Delphi exercise. In: Adler, M & Ziglio, E (eds.) *Gazing into the oracle: The Delphi method and its application to social policy and public health*, pp. 176-192. London: Jessica Kingsley.

Albanese, M A 2000. Problem-based learning: Why curricula are likely to show little effect on knowledge and clinical skills. *Medical Education* 34:729-738.

Albanese, M A & Mitchell, S 1993. Problem-based learning: A review of literature on its outcomes and implementation issues. *Academic Medicine* 68 (1):52-81.

Allan, S D 1991. Ability-grouping research reviews: What do they say about grouping and the gifted? *Educational Leadership* 48 (6):60-65.

Alleyne, T, Shirley, A, Bennett, C, Addae, J, Walrond, E, West, S & Pinto Pereira, L 2002. Problem-based compared with traditional methods at the Faculty of Medical Sciences, University of the West Indies: A model study. *Medical Teacher* 24 (3):273-279.

Alperstein, M & Olckers, L 2000. Introducing health sciences students to multidisciplinary teamwork. Poster presented at the 9th International Ottawa Conference on Medical Education, Cape Town.

Anderson, M B 2000. A snapshot of medical students' education at the beginning of the 21st century: Reports from 130 schools. *Academic Medicine* 75 (September Supplement):Si-S453.

Argote, L, Gruenfeld, D & Naquin, C 2001. Group learning in organizations. In: Turner, M E (ed.) *Groups at work: Theory and research*, pp. 369-411. Mahwah: Lawrence Erlbaum.

Armstrong, J L & Yarbrough, S L 1996. Group learning: The role of environment. In: Imel, S (ed.) *Learning in groups: Exploring fundamental principles, new issues, and emerging opportunities*, pp. 33-39. San Francisco: Jossey-Bass.

Australian Medical Council [s.a.]. *Goals and objectives of basic medical education* Available from: <http://www.amc.org.au/accredgoals.asp> [Accessed 15 August 2003].

Babbie, E R 1999. *The practice of social research.* revision of 8th ed. Belmont: Wadsworth.

Babbie, E & Mouton, J 2001. *The practice of social research.* Cape Town: Oxford University Press.

Barlow, C A, Blythe, J A & Edmonds, M 1999. *A handbook of interactive exercises for groups.* Boston: Allyn and Bacon.

Barron, A & Foot, H 1991. Peer tutoring and tutor training. *Educational Research* 33 (3):174-185.

Barrows, H S 1983. Problem-based, self-directed learning. *Journal of the American Medical Association* 250 (22):3077-3080.

Barrows, H S 1986. A taxonomy of problem-based learning methods. *Medical Education* 20:481-486.

Barrows, H S 1992. *The tutorial process.* revised ed. Springfield: Southern Illinois University, School of Medicine.

Barrows, H S 1994. *Practice-based learning: Problem-based learning applied to medical education.* Springfield: Southern Illinois University, School of Medicine.

Bellet, P S 1998. Magical moments: The importance of dialogue in the teaching and learning of medicine. *Medical Teacher* 20 (4):376-377.

Bellis, I 1997. Outcomes-based education. Issues of competence and equity in curriculum and assessment. *South African Qualifications Authority (SAQA) Bulletin* 2 (2):4-16.

Benjamin, J, Bessant, J & Watts, R 1997. *Making Groups Work. Rethinking Practice.* St Leonards: Allen & Unwin.

Bess, J L 2000a. The future of teaching: Creating a new academy identity. In: Bess, J L (ed.) *Teaching alone, teaching together: Transforming the structure of teams for teaching*, pp. 236-244. San Francisco: Jossey-Bass.

Bess, J L 2000b. *Teaching alone, teaching together: Transforming the structure of teams for teaching.* San Francisco: Jossey-Bass.

Beylefeld, A A 2002. Integration and assessment of critical outcomes in a learning programme for first-year medical students. PhD thesis, University of the Free State, Bloemfontein.

Beylefeld, A A & Jama, M P 2002. Incorporating transferable skills in an undergraduate medical curriculum: Learning from experience. *South African Journal of Higher Education* 16 (1):113-121.

Bezuidenhout, M J 1998. Verslag: Bosberaad. Clarens 18-19 Junie 1998. Skool vir Geneeskunde, Fakulteit Gesondheidswetenskappe, Universiteit van die Vrystaat [Report: Retreat. Clarens 18-19 June 1998. School of Medicine, Faculty of Health Sciences, University of the Free State] (Unpublished). Bloemfontein: Division of Educational Development, Faculty of Health Sciences, University of the Free State.

Bezuidenhout, M J 2002. Report: Evaluation of the new M.B.,Ch.B. programme: School of Medicine. UFS (Unpublished). Bloemfontein: Division of Educational Development, Faculty of Health Sciences, University of the Free State.

Bezuidenhout, M J, Nel, C J C & Vosloo, Y 2000. An innovative programme for medical education. Paper presented at the 9th International Ottawa Conference on Medical Education, Cape Town.

Bezuidenhout, M J, Nel, M M & Nel, C J C 2001. *A programme for professional medicine.* Bloemfontein: Division of Educational Development, Faculty of Health Sciences, University of the Free State.

Bhattacharya, N 1998. Students' perceptions of problem-based learning at the B.P. Koirala Institute of Health Sciences, Nepal. *Medical Education* 32:407-410.

Bijl, R 1996. The use of the Delphi method in construing scenarios on the future of mental health and mental health care. In: Adler, M & Ziglio, E (eds.) *Gazing into the orade: The Delphi method and its application to social policy and public health*, pp. 133-155. London: Jessica Kingsley.

Bitzer, E 2001. Understanding co-operative learning: A case study in tracing relationships to social constructivism and South African socio-educational thought. *South African Journal of Higher Education* 15 (2):98-104.

Black, S 1992. Effective, ineffective small learning groups are easy to spot. *Curriculum Review* 32 (4):17.

Blatt, B, Kallenberg, G & Walker, G 2000. "Advising Oliver Mann" - A case-based, small-group orientation to medical school. *Academic Medicine* 75 (8):858-860.

Bligh, D 2000. *What's the point in discussion?* Exeter: Intellect Books.

Bligh, J 1995. Problem based, small group learning. An idea whose time has come. *British Medical Journal* 311 (7001):342-343.

Bligh, J 2000. Problem-based learning: The story continues to unfold. *Medical Education* 34:688-689.

Boaden, N & Leaviss, J 2000. Putting teamwork in context. *Medical Education* 34 (11):921-927.

Bochner, D, Gibbs, G & Wisker, G 1995. *Teaching more students no. 6: Supporting more students.* Oxford: The Oxford Centre for Staff Development.

Boon, J M, Meiring, J H & Richards, P A 2002. Clinical Anatomy as the basis for clinical examination: Development and evaluation of an introduction to clinical examination in a problem-oriented medical curriculum. *Clinical Anatomy* 15:45-50.

Bormann, E G & Bormann, N C 1980. *Effective small group communication.* 3rd ed. Minneapolis: Burgess.

Boschee, F 1989. *Grouping = Growth.* Dubuque: Kendall/Hunt.

Boschee, F 1991. Small-group learning in the information age. *Clearing House* 65 (2):89-92.

Bosworth, K 1994. Developing collaborative skills in college students. In: Bosworth, K & Hamilton, S J (eds.) *Collaborative Learning: Underlying processes and effective techniques*, pp. 25-31. San Francisco: Jossey-Bass.

Brandt, R 1988. On students' needs and team learning: A conversation with William Glasser. *Educational Leadership* 45 (6):38-45.

Bridges, D 1976. The silent student in small group discussion. In: Simons, H, Squires, G & Rudduck, J (eds.) *Small group teaching: Selected papers*, pp. 118-127. London: Nuffield Foundation.

Brinton, D A, Jarvis, J Q & Harris, D L 1984. A small-group instruction experiment in medical education. *Journal of Medical Education* 59:13-18.

Broadfoot, P M 1996. *Education, assessment and society.* Buckingham: Open University Press.

Brockhoff, K 1975. The performance of forecasting groups in computer dialogue and face-to-face discussion. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 291-322. London: Addison-Wesley.

Broomfield, D & Humphris, G M 2001. Using the Delphi technique to identify the cancer education requirements of general practitioners. *Medical Education* 35:928-937.

Brown, G & Atkins, M 1988. *Effective teaching in higher education.* London: Routledge.

Brown, G, Bull, J & Pendlebury, M 1997. *Assessing student learning in higher education.* London: Routledge.

Brualdi, A C 1996. *Multiple intelligences: Gardner's theory* Available from: <http://www.ed.gov/databases/ERIC_Digests/ed410226.html> [Accessed 18 November 2002].

Bruffee, K A 1987. The art of collaborative learning: Making the most of knowledgeable peers. *Change* 19:42-47.

Burns, N & Grove, S K 1993. *The practice of nursing research: Conduct, critique & utilization.* 2nd ed. Philadelphia: W.B. Saunders.

Burns, R B 2000. *Introduction to research methods.* International ed. London: SAGE.

Caplow, J A H, Donaldson, J F, Kardash, C & Hosokawa, M 1997. Learning in a problem-based curriculum: students' conceptions. *Medical Education* 31:440-447.

Center for Excellence in Learning and Teaching (The Pennsylvania State University) 1995. *When students learn in groups* Available from: <wysiwyg://202/http://www.psu.edu/celt/newsletter/ID_March95.html> [Accessed 12 February 2002].

Center for Teaching and Learning (Indiana State University) [s.a.]. *Using small groups effectively* Available from: <http://web.indstate.edu/ctl/ctl1/tips/tips4_11.html> [Accessed 12 February 2002].

Center for Teaching and Learning (Stanford University) 1999. Cooperative learning: Students working in small groups. *Speaking of Teaching* 10 (2):1-4.

Center for Teaching and Learning (Wright State University) [s.a.]. *Managing teacher-student conflict in small-group or one-to-one teaching* Available from: <http://www.wright.edu/ctl/faculty/resources/conflict.html> [Accessed 19 February 2002].

Chang, S 1993. The effect of group reward on student motivation, interaction, emotion, and achievement in cooperative learning small groups. PhD thesis, University of California, Los Angeles.

Charlin, B, Mann, K & Hansen, P 1998. The many faces of problem-based learning: A framework for understanding and comparison. *Medical Teacher* 20 (4):323-330.

Clayton, M J 1997. Delphi: A technique to harness expert opinion for critical decision-making tasks in education. *Educational Psychology* 17 (4):373-186.

Coates, J F 1975. In defense of Delphi: A review of Delphi assessment, expert opinion, forecasting, and group process by H. Sackman. *Technological Forecasting and Social Change* 7:193-194.

Coelho, E 1994. *Learning together in a multicultural classroom.* Markham: Pippin.

Cohen, J, Dannefer, E F, Seidel, H M, Weisman, C S, Wexler, P, Brown, T M, Brieger, G H, Margolis, S, Ross, L R & Kunitz, S J 1994. Medical education change: A detailed study of six medical schools. *Medical Education* 28:350-360.

Cohen, J J 2000. Defining international standards in basic medical education: The World Federation for Medical Education has initiated a timely discussion. *Medical Education* 34:600-601.

Collaborative learning: Working together in small groups. 1996. Directed by Bull, R. Murdoch University, Perth: Gripping Films [video: VHS].

Collier, G & Clarke, R 1986. Syndicate methods: Two styles compared. *Higher education* 15 (6):609-618.

Colliver, J A 2000. Effectiveness of problem-based learning curricula: Research and theory. *Academic Medicine* 75 (3):259-266.

Colliver, J A, Feltovich, P J & Verhulst, S J 2003. Small group learning in medical education: A second look at the Springer, Stanne and Donovan meta-analysis. *Teaching and learning in medicine* 15 (1):2-5.

Cooke, C 1997. Reflections on the Health Care Team. *JAMA* 277 (13):1091.

Cramer, S F 1994. Assessing effectiveness in the collaborative classroom. In: Bosworth, K & Hamilton, S J (eds.) *Collaborative Learning: Underlying processes and effective techniques*, pp. 69-81. San Francisco: Jossey-Bass.

Cranton, P 1996. Types of group learning. In: Imel, S (ed.) *Learning in groups: Exploring fundamental principles, new issues, and emerging opportunities*, pp. 25-32. San Francisco: Jossey-Bass.

Crisp, J, Pelletier, D, Duffield, C, Adams, A & Nagy, S 1997. The Delphi method? *Nursing Research* 46 (2):116-118.

Critcher, C & Galdstone, B 1998. Utilizing the Delphi technique in policy discussion: A case study of a privatized utility in Britain. *Public Administration* 76:431-449.

Crosby, J 1997. *AMEE Education Guide no. 8: Learning in small groups.* Dundee: Centre for Medical Education, University of Dundee.

Curry, L 1999. Cognitive and learning styles in medical education. *Academic Medicine* 74 (4):409-413.

Cuthbert, K 1994a. Facilitating understanding of group dynamics. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 83-88. London: Kogan Page.

Cuthbert, P 1994b. Self-development groups on a diploma in management studies course. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 89-99. London: Kogan Page.

Dajani, J S, Sincoff, M Z & Talley, W K 1979. Stability and agreement criteria for the termination of Delphi studies. *Technological Forecasting and Social Change* 13:83-90.

Dambisya, Y M 2001. Problem-based learning students' view on pharmacology lectures at UNITRA medical school. *Medical Education* 35:84-85.

Das Carlo, M, Swadi, H & Mpofu, D 2003. Medical student perceptions of factors affecting productivity of problem-based learning tutorial groups: Does culture influence the outcome? *Teaching and Learning in Medicine* 15 (1):59-64.

Das, M, Mpofu, D, Dunn, E & Lanphear, J H 1998. Self and tutor evaluations in problem-based learning tutorials: Is there a relationship? *Medical Education* 32:411-418.

Davis, B G 1993. *Tools for Teaching.* San Francisco: Jossey-Bass.

Davis, M H & Harden, R M 1999. AMEE Medical Education Guide no. 15: Problem-based learning: A pratical guide. *Medical Teacher* 21 (2):130-140.

Davis, W K, Nairn, R, Paine, M E, Anderson, R M & Oh, M S 1992. Effects of expert and non-expert facilitators on the small-group process and on student performance. *Academic Medicine* 67 (7):470-474.

Davis, W K, Oh, M S, Anderson, R M, Gruppen, L & Nairn, R 1994. Influence of a highly focused case on the effect of small-group facilitators' content expertise on students' learning and satisfaction. *Academic Medicine* 69 (8):663-669.

Dawson, C, Lord, P & Baggott, J 1994. The effects of group composition upon students' perceptions of their learning. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 70-75. London: Kogan Page.

Day, L H 1975. Delphi research in the corporate environment. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 168-194. London: Addison-Wesley.

De Grave, W S, Dolmans, D H J M & Van der Vleuten, C P M 1998. Tutor intervention profile: Reliability and validity. *Medical Education* 32:262-268.

De Grave, W S, Dolmans, D H J M & Van der Vleuten, C P M 2001. Student perceptions about the occurrence of critical incidents in tutorial groups. *Medical Teacher* 23 (1):49-54.

De Volder, M L 1982. Discussion groups and their tutors: Relationships between tutor characteristics and tutor functioning. *Higher Education* 11:269-271.

Dechant, K, Marsick, V J & Kasl, E 1993. Towards a model of team learning. *Studies in Continuing Education* 15 (1):1-14.

Dee, J 1976. Group discussions in Biological Sciences. In: Simons, H, Squires, G & Rudduck, J (eds.) *Small group teaching: Selected papers*, pp. 57-75. London: Nuffield Foundation.

Delva, M D, Woodhouse, R A, Hains, S, Birtwhistle, R V, Knapper, C & Kirby, J R 2000. Does PBL matter? Relations between instructional context, learning strategies, and learning outcomes. *Advances in Health Sciences Education* 5:167-177.

Department of Psychology (University of York) 2000. *Enhancing small-group learning and teaching: Using C&IT resources effectively* Available from: <ehttp://www.google.com/search?q=cache:CuC...r_2.pdf+%22small+group+learning%22&hl=en> [Accessed 12 February 2002].

Dequeker, J & Jaspaert, R 1998. Teaching problem-solving and clinical reasoning: 20 years experience with video-supported small-group learning. *Medical Education* 32:384-389.

Des Marchais, J E 1999. A Delphi technique to identify and evaluate criteria for construction of PBL problems. *Medical Education* 33:504-508.

Dils, A K & Ziatz, D H 2000. The application of teacher education curriculum theory to interscholastic coaching education: Learning outcomes associated with a quality interscholastic athletic program. *Physical Educator* 57 (2):88-98.

Dimock, H G 1987. *Groups: Leadership and group development.* Revised ed. San Diego: Pfeiffer.

Dimock, H G 1993. *How to observe your group.* 3rd ed. Ontario: Captus Press.

Division of Educational Development: Faculty of Health Sciences (University of the Free State) 2000. Verslag: Skool vir Geneeskunde. Dosentekursus 27-28 Julie 2000 [Report: School of Medicine. Lecturers' course 27-28 July 2000] (Unpublished). Bloemfontein: Division of Educational Development, Faculty of Health Sciences, University of the Free State.

Doig, K & Werner, E 2000. The marriage of a traditional lecture-based curriculum and problem-based learning: Are the offspring vigorous? *Medical Teacher* 22 (2):173-178.

Dolmans, D H J M, Snellen-Balendong, H, Wolfhagen, I H A P & Van der Vleuten, C P M 1997. Seven principles of effective case design for a problem-based curriculum. *Medical Teacher* 19 (3):185-189.

Dolmans, D H J M, Wolfhagen, I H A P & Van der Vleuten, C P M 1998. Thinking about student thinking. Motivational and cognitive processes influencing tutorial groups. *Academic Medicine* 73 (October Supplement):S22-S24.

Dolmans, D H J M, Wolfhagen, I H A P, Van der Vleuten, C P M & Wijnen, W H F W 2001. Solving problems with group work in problem-based learning: Hold on to the philosophy. *Medical Education* 35:884-889.

Eagle, C J, Harasym, P H & Mandin, H 1992. Effects of tutors with case expertise on problem-based learning issues. *Academic Medicine* 67 (7):465-469.

Eshach, H & Bitterman, H 2003. From case-based reasoning to problem-based learning. *Academic Medicine* 78 (5):491-496.

Faculty of Health Sciences: School of Medicine (University of the Free State) 2002a. Accreditation: School of Medicine, University of the Free State. Self-evaluation report. 5 February 2002 (Unpublished). Bloemfontein: University of the Free State.

Faculty of Health Sciences: School of Medicine (University of the Free State) 2002b. *MEA 112 Workbook.* Bloemfontein: University of the Free State.

Faculty of Health Sciences (University of Cape Town) 1999. Curriculum 2002. Discussion document (Unpublished). Cape Town: University of Cape Town.

Faculty of Health Sciences (University of Cape Town) 2003a. Completed self-assessment questionnaire with the view to accreditation of the MBChB degree by the Medical and Dental Professional Board of the HPCSA . February 2003 (Unpublished). Cape Town: University of Cape Town.

Faculty of Health Sciences (University of Cape Town) 2003b. *Student guide to problem-based learning.* Cape Town: University of Cape Town.

Faculty of Health Sciences (University of Stellenbosch) 2003. Accreditation self-assessment report, MB,ChB programme. February 2003 (Unpublished). Stellenbosch: University of Stellenbosch.

Faculty of Health Sciences (University of the Witwatersrand) 2001. South African Medical and Dental Schools/Faculties: Self-assessment with a view to accreditation. April 2001 (Unpublished). Johannesburg: University of the Witwatersrand.

Faculty of Health Sciences (University of Transkei) 2003a. *Prospectus 2003.* Umtata: University of Transkei.

Faculty of Health Sciences (University of Transkei) 2003b. *Undergraduate medical education and training programme. The five year curriculum.* Umtata: University of Transkei.

Falchikov, N 1988. Self and peer assessment of a group project designed to promote the skills of capability. *Programmed Learning and Educational Technology* 25 (4):327-339.

Falchikov, N 2001. *Learning together: Peer tutoring in higher education.* London: Routledge Falmer.

Fallsberg, M B & Wijma, K 1999. Student attitudes towards the goals of an inter-professional training ward. *Medical Teacher* 21 (6):576-581.

Fazio, L S 1985. The Delphi: Education and assessment in institutional goal setting. *Assessment and Evaluation in Higher Education* 10 (2):147-158.

Felder, R M & Brent, R 1994. *Cooperative learning in technical courses: Procedures, pitfalls, and payoffs* Available from: <http://www2.ncsu.edu/unity/lockers/users/f/felder/public/Papers/Coopreport.html> [Accessed 20 February 2002].

Finucane, P & Nair, B 2002. Is there a problem with the problems in problem-based learning? *Medical Education* 36 (279-281).

Finucane, P, Nicholas, T & Prideaux, D 2001. The new medical curriculum at Flinders University, South Australia: From concept to reality. *Medical Teacher* 23 (1):76-79.

Finucane, P, Nichols, F, Gannon, B, Runciman, S, Prideaux, D & Nicholas, T 2001. Recruiting problem-based learning (PBL) tutors for a PBL-based curriculum: The Flinders University experience. *Medical Education* 35:56-61.

Flannery, J L 1994. Teacher as co-conspirator: Knowledge and authority in collaborative learning. In: Bosworth, K & Hamilton, S J (eds.) *Collaborative Learning: Underlying processes and effective techniques* , pp. 15-23. San Francisco: Jossey-Bass.

Forbes, H, Duke, M & Prosser, M 2001. Students' perceptions of learning outcomes from group-based, problem-based teaching and learning activities. *Advances in Health Sciences Education* 6:205-217.

Forman, D & Nyatanga, L 1999. The evolution of shared learning: Some political and professional imperatives. *Medical Teacher* 21 (5):489-496.

Fraser, R C & McAvoy, B R 1988. Teaching medical students at Leicester: The general practice approach. *Medical Teacher* 10 (2):209-217.

Freeman, R & Lewis, R 1998. *Planning and implementing assessment.* London: Kogan Page.

Gabbert, B, Johnson, D W & Johnson, R T 1986. Cooperative learning, group-to-individual transfer, process gain, and the acquisition of cognitive reasoning strategies. *Journal of Psychology* 120 (3):265-278.

Galbraith, M W & Maslin-Ostrowski, P 2000. The mentor: Facilitating out-of-class cognitive and affective growth. In: Bess, J L (ed.) *Teaching alone, teaching together: Transforming the structure of teams for teaching* , pp. 133-150. San Francisco: Jossey-Bass.

General Medical Council 1993. *Tomorrow's Doctors: Recommendations on Undergraduate Medical Education.* London: General Medical Council.

Gercama, A J & Gans, R O B 1997. Problem-based learning: Always small or sometimes large? In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education* , pp. 101-103. Dordrecht: Kluwer.

Gerlach, J M 1994. Is this collaboration? In: Bosworth, K & Hamilton, S J (eds.) *Collaborative Learning: Underlying processes and effective techniques* , pp. 5-14. San Francisco: Jossey-Bass.

Gibbs, G 1992a. *Teaching more students no. 1: Problems and course design strategies.* Oxford: The Polytechnics & Colleges Funding Council.

Gibbs, G 1992b. *Teaching more students no. 5: Independent learning with more students.* Oxford: The Polytechnics & Colleges Funding Council.

Gibbs, G 1995a. *Learning in teams: A tutor guide.* Oxford: The Oxford Centre for Staff Development.

Gibbs, G 1995b. *Teaching more students no. 3: Discussion with more students.* Oxford: The Oxford Centre for Staff Development.

Gibbs, G, Gregory, R & Moore, I 1997. *Teaching more students no. 7: Labs and Practicals with more students and fewer resources.* Oxford: The Oxford Centre for Staff Development.

Gibbs, G & Habeshaw, T 1989. *Preparing to teach. An introduction to effective teaching in higher education.* Bristol: Technical and Educational Services Ltd.

Gladstein, D L 1984. Groups in context: A model of task group effectiveness. *Administrative Science Quarterly* 29:499-517.

Goldschmidt, P 1996. A comprehensive study of the ethical, legal and social implications of advances in biochemical and behavioural research and technology. In: Adler, M & Ziglio, E (eds.) *Gazing into the oracle: The Delphi method and its application to social policy and public health*, pp. 89-132. London: Jessica Kingsley.

Goldschmidt, P G 1975. Scientific inquiry or political critique? Remarks on *Delphi assessment, expert opinion, forecasting, and group process* by H. Sackman. *Technological Forecasting and Social Change* 7:195-213.

Goldstein, E [s.a.]. *Cooperative or small group learning* Available from: <http://www.ccny.cuny.edu/ctl/handbook/goldstein.html> [Accessed 12 February 2002].

Goldstein, N H 1975. A Delphi on the future of the steel and ferroalloy industries. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 210-226. London: Addison-Wesley.

Goodman, C M 1987. The Delphi technique: A critique. *Journal of Advanced Nursing* 12:729-734.

Grant, A 1994. Group-project work: Two enterprise case studies. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 127-135. London: Kogan Page.

Gregory, R & Thorley, L 1994a. The development of a 'learning in groups' course for academic staff. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 64-69. London: Kogan Page.

Gregory, R & Thorley, L 1994b. Present challenges. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 179-186. London: Kogan Page.

Habeshaw, S, Gibbs, G & Habeshaw, T 1988. *53 Interesting things to do in your seminars and tutorials.* 3rd ed. Bristol: Technical and Educational Services.

Hagberg, L 1999. *Dynamics of learning groups - Meeting the needs of all students* Available from: <wysiwyg://111/http://adhd.kids.tripod.com/groups.html> [Accessed 20 February 2002].

Hak, T & Maguire, P 2000. Group process: The black box of studies on problem-based learning. *Academic Medicine* 75 (7):769-772.

Hall, P & Weaver, L 2001. Interdisciplinary education and teamwork: A long and winding road. *Medical Education* 35:867-875.

Harden, R M 1998. AMEE Guide no.12: Multiprofessional education: Part 1 - effective multiprofessional education: a three-dimensional perspective. *Medical Teacher* 20 (5):402-408.

Harden, R M & Crosby, J 2000. AMEE Guide no. 20: The good teacher is more than a lecturer - the twelve roles of the teacher. *Medical Teacher* 22 (4):334-347.

Harden, R M, Crosby, J, Davis, M H, Howie, P W & Struthers, A D 2000. Task-based learning: The answer to integration and problem-based learning in the clinical years. *Medical Education* 34:391-397.

Harden, R M & Davis, M H 1998. The continuum of problem-based learning. *Medical Teacher* 20 (4):317-322.

Harden, R M, Laidlaw, J M, Ker, J S & Mitchell, H E 1996. AMEE Medical Education Guide no. 7: Task-based learning: an educational strategy for undergraduate, postgraduate and continuing medical education, Part 1. *Medical Teacher* 18 (1):7-13.

Harden, R M, Sowden, S & Dunn, W R 1984. Educational strategies in curriculum development: The SPICES model. *Medical Education* 18:284-297.

Harris, R G, Bramhall, M D & Robinson, I M 1994. Development of group skills using a linked assignment. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 136-140. London: Kogan Page.

Hassall, T & Lewis, S 1994. The development and implementation of group-based learning on an accounting degree. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 166-170. London: Kogan Page.

Hay, P J & Katsikitis, M 2001. The 'expert' in problem-based and case-based learning: Necessary or not? *Medical Education* 35:22-26.

Hays, R B, Mudge, P R, Veitch, P C, Harte, J & La Brooy, J T 1997. Inter-disciplinary clinical teaching. In: Scherpbier, A J J A, Van der Vleuten, C P M, Rethans, J J & Van der Steeg, A F W (eds.) *Advances in medical education*, pp. 759-761. Dordrecht: Kluwer Academic Publishers.

Health Professions Council of South Africa 1999. *Education and training of doctors in South Africa: Undergraduate medical education and training. Guidelines by the Medical and Dental Professional Board.* Pretoria: Medical and Dental Professional Board.

Heimlich, J E 1996. Constructing group learning. In: Imel, S (ed.) *Learning in groups: Exploring fundamental principles, new issues, and emerging opportunities*, pp. 41-49. San Francisco: Jossey-Bass.

Helmer, O 1975. Foreword. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. xix. London: Addison-Wesley.

Heron, J 1993. *Group facilitation: Theories and models for practice.* London: Kogan Page.

Herzberg, J 1999. Tribes or teams? The challenge of multiprofessional education. *Hospital Medicine* 60 (7):516-518.

Hesketh, E A & Laidlaw, J M 2002. Developing the teaching instinct. *Medical Teacher* 24 (3):245-248.

Hirokawa, R Y 1983. Group communication and problem-solving effectiveness: An investigation of group phases. *Human Communication Research* 9 (4):291-305.

Holcomb, E L 1996. *Asking the right questions: Tools and techniques for teamwork.* Thousand Oaks: Corwin Press.

Holen, A 2000. The PBL group: Self-reflections and feedback for improved learning and growth. *Medical Teacher* 22 (5):485-488.

Hornby, A S 1989. *Oxford Advanced Learner's Dictionary.* 4th ed. Oxford: Oxford University Press.

Horsburgh, M, Lamdin, R & Williamson, E 2001. Multiprofessional learning: The attitudes of medical, nursing and pharmacy students to shared learning. *Medical Education* 35:876-883.

Huysamen, G K 1989. *Psychological and Educational Test Theory.* Bloemfontein: Author.

Imel, S & Tisdell, E J 1996. The relationship between theories about groups and adult learning groups. In: Imel, S (ed.) *Learning in groups: Exploring fundamental principles, new issues, and emerging opportunities* , pp. 15-24. San Francisco: Jossey-Bass.

Jaques, D 1991. *Learning in groups.* 2nd ed. London: Kogan Page.

Jaques, D 2000. *Learning in groups. A Handbook for improving group work.* 3rd ed. London: Kogan Page.

Jewett, L S, Greenberg, L W, Foley, R P, Goldberg, R M, Spiegel, C T & Green, C 1987. Another look at career choice and learning preferences. *Medical Education* 21:244-249.

Jillson, I A 1975. Developing guidelines for the Delphi method. *Technological Forecasting and Social Change* 7:221-222.

Johnson, D W & Johnson, R T 1987. Research shows the benefits of adult cooperation. *Educational Leadership* 45 (3):27-30.

Johnson, D W & Johnson, R T 1989a. Social skills for successful group work. *Educational Leadership* 47 (4):29-33.

Johnson, D W & Johnson, R T 1989b. Toward a cooperative effort: A response to Slavin. *Educational Leadership* 46 (7):80-81.

Johnson, D W & Johnson, R T 1991. *Learning together and alone: Cooperative, competitive, and individualistic learning.* 3rd ed. Boston: Allyn and Bacon.

Jones, C G 1975. A Delphi evaluation of agreement between organizations. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications* , pp. 160-167. London: Addison-Wesley.

Jones, J & Hunter, D 1995. Consensus methods for medical and health services research. *British Medical Journal* 311:376-380.

Joubert, D D & Steyn, A F 1972. *Groepsdinamika [Group dynamics].* Stellenbosch: University Publishers.

Kamin, C S & Hawkins, J 1997. A protocol to assess the curricular validity of cases for PBL. *Teaching and Learning in Medicine* 9 (3):215-220.

Kaufman, D, Sutow, E & Dunn, K 1997. Three approaches to cooperative learning in higher education. *Canadian Journal of Higher Education* 27 (2,3):37-66.

Kaufman, D M & Holmes, D B 1998. The relationship of tutors' content expertise to interventions and perceptions in a PBL medical curriculum. *Medical Education* 32:255-261.

Kaufman, D M & Mann, K V 1996. Students' perceptions about their courses in problem-based - learning and conventional curricula. *Academic Medicine* 71 (January Supplement):S52-S54.

Kettle, S F A & Seddon, G M 1976. Extracts from interviews about small group work with first year chemistry students at a university. In: Simons, H, Squires, G & Rudduck, J (eds.) *Small group teaching: Selected papers* , pp. 111-117. London: Nuffield Foundation.

Kimber, D 1996. *Collaborative learning in management education: Issues, benefits, problems and solutions: A literature review* Available from: <http://www.ultibase.rmit.edu.au/Articles/june96/kimbe1.htm> [Accessed 22 January 2001].

Kohn, A 1991. Group grade grubbing versus cooperative learning. *Educational Leadership* 48 (5):83-87.

Kolars, J C, Gruppen, L D, Traber, P G, Paine, M E, Davis, W K & Woolliscroft, J O 1997. The effect of student- and teacher-centred small-group learning in medical school on knowledge acquisition, retention and application. *Medical Teacher* 19 (1):53-57.

Kropiunigg, U, Pucher, I & Weckenmann, M 2002. Learning in groups: Teamshaping in the teaching of medical psychology. *Medical Education* 36 (4):334-336.

Kwizera, E N, Dambisya, Y M & Aguirre, J H 2000. Tutor's subject-matter expertise does not influence student achievement in problem-based learning. Paper presented at the 9th International Ottawa Conference on Medical Education, Cape Town.

Ladage, R C & Crone-Kraaijeveld, E 1997. Presentation skills; A student learning-activity. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 777-779. Dordrecht: Kluwer Academic Publishers.

Laing, A 1976. An introductory paper. In: Simons, H, Squires, G & Rudduck, J (eds.) *Small group teaching: Selected papers*, pp. 16-27. London: Nuffield Foundation.

Larson, C E & LaFasto, F M J 1989. *Teamwork. What must go right / What can go wrong.* Newbury Park: SAGE.

Larson, E & Wissman, J R 2000. Critical academic skills for Kansas community college graduates: A Delphi study. *Community College Review* 28 (2):43-56.

Ledingham, I M & Crosby, J R 2001. Small group sessions. In: Dent, J A & Harden, R M (eds.) *A practical guide for medical teachers*, pp. 74-85. Edinburgh: Churchill Livingstone.

Leung, K, Lue, B & Lee, M 2003. Development of a teaching style inventory for tutor evaluation in problem-based learning. *Medical Education* 37:410-416.

Lewkonia, R, Baumber, J, Gupta, D & Walji, A H 1997. A comparative study of medical curriculum outcomes: Opinions of the graduates of a traditional curriculum and an innovative curriculum. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 554-556. Dordrecht: Kluwer Academic Publishers.

Leypoldt, M M 1967. *40 ways to teach in groups.* Valley Forge: The Judson Press.

Lieberman, S A, Stroup-Benham, C A, Peel, J L & Camp, M G 1997. Medical student perception of the academic environment: A prospective comparison of traditional and problem-based curricula. *Academic Medicine* 72 (October supplement 1):S13-S15.

Linstone, H A 1975. Eight basic pitfalls: A checklist. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 573-586. London: Addison-Wesley.

Linstone, H A & Turoff, M 1975a. Introduction. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 3-12. London: Addison-Wesley.

Linstone, H A & Turoff, M 1975b. Introduction: Computers and the future of Delphi. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 489-496. London: Addison-Wesley.

Linstone, H A & Turoff, M 1975c. Introduction: Evaluation. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 229-235. London: Addison-Wesley.

Linstone, H A & Turoff, M 1975d. Introduction: Specialized techniques. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 385-386. London: Addison-Wesley.

Lio, P A, Martin, S A & Seifter, J L 2001. A "Medical Team" format for tutorial groups and cases. *Academic Medicine* 76 (5):527-528.

Lloyd-Jones, G, Margetson, D & Bligh, J G 1998. Problem-based learning: A coat of many colours. *Medical Education* 32:492-494.

Ludlow, J 1975. Delphi inquiries and knowledge utilization. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 102-123. London: Addison-Wesley.

Magill, M K, Gil, D, Hale, F, Munning, K, Bobula, J, Cushing, K & Chandler, K 1988. A computer-assisted system for analysis of interaction in problem-based learning groups. *Evaluation and the Health Professions* 11 (3):318-332.

Maguire, P 1990. Can communication skills be taught? *British Journal of Hospital Medicine* 43:215-216.

Makaram, S 1995. Interprofessional cooperation. *Medical Education* 29 (Supplement 1):65-69.

Martin, K 1996. *Small group learning* Available from: <http://www.csd.uwa.edu.au/newsletter/issue0396/smallgroup.html> [Accessed 12 February 2002].

Mathews, B 1994. Peer evaluation in practice: Experience from a major group project. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 76-80. London: Kogan Page.

Mathie, A 1997. Team working. *Medical Education* 31 (Supplement 1):29-30.

Maudsley, G & Strivens, J 2000. Promoting professional knowledge, experiential learning and critical thinking for medical students. *Medical Education* 34 (7):535-544.

McAleer, S 2001a. Choosing assessment instruments. In: Dent, J A & Harden, R M (eds.) *A practical guide for medical teachers*, pp. 303-313. Edinburgh: Churchill Livingstone.

McAleer, S 2001b. Formative and summative assessment. In: Dent, J A & Harden, R M (eds.) *A practical guide for medical teachers*, pp. 293-302. Edinburgh: Churchill Livingstone.

McAvoy, P A & Fraser, R C 1990. Teaching the teachers at Leicester: The general practice approach. *Medical Teacher* 12 (1):33-38.

McCrorie, P 1997. Assessment of self directed learning. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 370-373. Dordrecht: Kluwer Academic Publishers.

McHardy, P & Henderson, S 1994. Management indecision: Using group-work in teaching creativity. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 141-147. London: Kogan Page.

McKnight, J, Edwards, N, Pickard, L, Underwood, J, Voorberg, N & Woodcox, V 1991. The Delphi approach to strategic planning. *Nursing management* 22 (4):55-57.

McLean, M 2000. Student groupings: voluntary or assigned? - Implications. Paper presented at the 9th International Ottawa Conference on Medical Education, Cape Town.

McNally, J 1994. Working in groups and teams. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 113-120. London: Kogan Page.

Medical Council of India 1997. *Graduate medical education regulations* Available from: <http://www.mciindia.org/know/rules/rules_mbbs.htm> [Accessed 15 August 2003].

Medical school (University of Dundee) [s.a.]. *Teaching tomorrow's doctor in Dundee. A five year strategy 1999-2003.* Dundee: University of Dundee.

Metz, J C M, Stoelinga, G B A, Pels Rijken-Van Erp Taalman Kip, E H & Van den Brand-Valkenburg, B W M 1994. *Blueprint 1994: Training of doctors in The Netherlands.* University of Nijmegen, The Netherlands: University Publication Office.

Michaelsen, L K 1999. Myths and methods in successful small group work. *The National Teaching & Learning Forum* 8 (6):1-8. Available from: <http://www.udel.edu/cte/ntlf/v8n6/myths.htm>.

Miller, A P, Schwartz, P L & Loten, E G 2000. 'Systems integration': A middle way between problem-based learning and traditional courses. *Medical Teacher* 22 (1):51-58.

Miller, J E, Trimbur, J & Wilkes, J M 1994. Group dynamics: Understanding group success and failure in collaborative learning. In: Bosworth, K & Hamilton, S J (eds.) *Collaborative Learning: Underlying processes and effective techniques*, pp. 33-44. San Francisco: Jossey-Bass.

Milman, U, Alperin, M, van Raalte, R & Reis, S 1997. Determining teaching objectives for the family medicine clerkship in medical school: A national Delphi survey. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 37-39. Dordrecht: Kluwer Academic Publishers.

Mires, G J, Williams, F L R, Harden, R M, Howie, P W, McCarey, M & Robertson, A 1999. Multiprofessional education in undergraduate curricula can work. *Medical Teacher* 21 (3):281-285.

Mitchell, V 1992. Using Delphi to forecast in new technology industries. *Marketing Intelligence & Planning* 10 (2):4-9.

Mpofu, D J S, Das, M, Murdoch, J C & Lanphear, J H 1997. Effectiveness of problems used in problem-based learning. *Medical Education* 31:330-334.

Mpofu, D J S, Lanphear, J, Stewart, T, Das, M, Ridding, P & Dunn, E 1998. Facility with the English language and problem-based learning group interaction: Findings from an Arabic setting. *Medical Education* 32:479-485.

Muller, J H 2000. Increasing the value of small-group learning. *Academic Medicine* 75 (5):518.

Murry, J W jr & Hammons, J O 1995. Delphi: A versatile methodology for conducting qualitative research. *The Review of Higher Education* 18 (4):423-436.

Nagata, K & Ronkowski, S 1998. *Collaborative learning: Differences between collaborative and cooperative learning* Available from: <wysiwyg://183/http://www.id.ucsb.edu/IC/Resources/Collab-L/xxx.html> [Accessed 12 February 2002].

Napier, R W & Gershenfeld, M K 1983. *Making groups work. A guide for group leaders.* Boston: Houghton Mifflin.

Nasmith, L, Saroyan, A, Steinert, Y, Daigle, N & Franco, E D 1997. Long-term impact of faculty development workshops: A pilot study. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 237-240. Dordrecht: Kluwer Academic Publishers.

Neame, R L B & Powis, D A 1981. Toward independent learning: Curricular design for assisting students to learn how to learn. *Journal of Medical Education* 56:886-893.

Neville, A J 1999. The problem-based learning tutor: Teacher? Facilitator? Evaluator? *Medical Teacher* 21 (4):393-401.

Newble, D I & Clarke, R M 1986. The approaches to learning of students in a traditional and in an innovative problem-based medical school. *Medical Education* 20 (4):267-273.

Newble, D I & Entwistle, N J 1986. Learning styles and approaches: Implications for medical education. *Medical Education* 20:162-175.

Newble, D I & Gordon, M I 1985. The learning style of medical students. *Medical Education* 19:3-8.

Newble, D I & Jaeger, K 1983. The effect of assessments and examinations on the learning of medical students. *Medical Education* 17:165-171.

Ngeow, K Y 1998. *Enhancing student thinking through collaborative learning* Available from: <http://www.ed.gov/databases/ERIC_Digests/ed422586.html> [Accessed 12 February 2002].

Nias, J 1993. *The human nature of learning. Selections from the work of M.L.J. Abercrombie.* Buckingham: Society for Research into Higher Education and Open University Press.

Nicholls, D 1994. History resource packs for schools. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 160-165. London: Kogan Page.

Niero, M & Robertson, A 1996. Delphi estimates on clients' perceptions of family planning services. In: Adler, M & Ziglio, E (eds.) *Gazing into the oracle: The Delphi method and its application to social policy and public health*, pp. 213-239. London: Jessica Kingsley.

Norman, G R & Schmidt, H G 1992. The psychological basis of problem-based learning: A review of the evidence. *Academic Medicine* 67 (9):557-565.

Norman, G R & Schmidt, H G 2000. Effectiveness of problem-based learning curricula: Theory, practice and paper darts. *Medical Education* 34:721-728.

O'Neill, P A, Morris, J & Baxter, C 2000. Evaluation of an integrated curriculum using problem-based learning in a clinical environment: The Manchester experience. *Medical Education* 34:222-230.

O'Sullivan, T, Rice, J, Rogerson, S & Saunders, C 1996. *Successful group work.* London: Kogan Page.

Olivier, C 1998. *How to educate and train outcomes-based.* Pretoria: JL van Schaik.

Oppenheim, A N 1992. *Questionnaire design, interviewing and attitude measurement.* New ed. London: Pinter.

Parsell, G & Bligh, J 1998. Educational principles underpinning successful shared learning. *Medical Teacher* 20 (6):522-529.

Parsell, G, Spalding, R & Bligh, J 1998. Shared goals, shared learning: Evaluation of a multiprofessional course for undergraduate students. *Medical Education* 32:304-311.

Pastoll, G 1992. *Tutorials that work.* Cape Town: Arrow.

Patel, V L, Groen, G J & Norman, G R 1991. Effects of conventional and problem-based medical curricula on problem solving. *Academic Medicine* 66 (7):380-389.

Patten, M L 2001. *Questionnaire research: A Practical guide.* 2nd ed. Los Angeles: Pyrczak.

Paul, V K 1993. Innovative programmes of medical education: I. Case studies. *Indian Journal of Pediatrics* 60 (6):759-768.

Peel, S 1998. An innovative problem-solving assessment for groups of first-year medical undergraduates - Think Tanks. *Medical Education* 32:35-39.

Peplow, P 1996. Videoconferencing for small-group discussion sessions of a case-based learning programme in Anatomy. *Medical Teacher* 18 (4):309-317.

Percac, S & Armstrong, E G 1998. Introducing a problem-based Anatomy course in a traditional curriculum: A Croatian experience. *Medical Teacher* 20 (2):114-117.

Peters, A S, Greenberger-Rosovsky, R, Crowder, C, Block, S D & Moore, G T 2000. Long-term outcomes of the new pathway program at Harvard Medical School: A randomized controlled trial. *Academic Medicine* 75 (5):470-479.

Philp, J R & Camp, M G 1990. The problem-based curriculum at Bowman Gray School of Medicine. *Academic Medicine* 65 (6):363-364.

Pigeon, Y 2001. Medical student learning groups. *Academic Medicine* 76 (5):503-504.

Pirrie, A, Hamilton, S & Wilson, V 1999. Multidisciplinary education: Some issues and concerns. *Educational Research* 41 (3):301-314.

Pirrie, A, Wilson, V, Harden, R M & Elsegood, J 1998. AMEE Guide no.12: Multiprofessional education: Part 2 - promoting cohesive practice in health care. *Medical Teacher* 20 (5):409-416.

Preece, R A 1994. *Starting research: An introduction to academic research and dissertation writing.* London: Cassell.

Pressnell, M 1994. A case study of a group-project in aerospace design engineering. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 123-126. London: Kogan Page.

Preston-Whyte, M E, Clark, R, Petersen, S & Fraser, R C 1999. The views of academic and clinical teachers in Leicester Medical School on criteria to assess teaching competence in the small-group setting. *Medical Teacher* 21 (5):500-505.

Preston-Whyte, M E, McCulloch, R & Fraser, R C 1996. Establishing the face validity of the criteria of teaching competence in the Leicester package for the assessment of teaching skills (L-PAST) for tutor-led, task-oriented small-group teaching. *Medical Teacher* 18 (2):135-139.

Price, C R 1975. Conferencing via computer: Cost effective communication for the era of forced choice. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 497-516. London: Addison-Wesley.

Price, D A 1997. Tutor training for problem-based learning: The experience of a large medical school. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 241-243. Dordrecht: Kluwer Academic Publishers.

Prinz, J F, Yip, H Y, Tipoe, G L, Lucas, P W & Lenstrup, M 1998. Techniques for rapid quantitative assessment of activity levels in small-group tutorials. *Medical Education* 32:422-425.

Prystowsky, J B, DaRosa, D A & Thompson, J A 2001. Promoting collaborative teaching in clinical education. *Teaching and Learning in Medicine* 13 (3):148-152.

Punch, K F 1998. *Introduction to social research: Quantitative & qualitative approaches.* London: SAGE.

Putnam, J W 1997. *Cooperative learning in diverse classrooms.* Upper Saddle River: Prentice Hall.

Putnam, J W, Spiegel, A N & Bruininks, R H 1995. Future directions in education and inclusion of students with disabilities: A Delphi investigation. *Exceptional Children* 61 (6):553-576.

Race, P 2000. *500 Tips on group learning.* London: Kogan Page.

Race, P & Brown, S 1998. *The lecturer's toolkit.* London: Kogan Page.

Raskin, M S 1994. The Delphi study in field instruction revisited: Expert consensus on issues and research priorities. *Journal of Social Work Education* 30 (1):75-89.

Reid, J, Forrestal, P & Cook, J 1989. *Small group learning in the classroom.* Scarborough: Chalkface Press.

Republic of South Africa 1998. Regulations under the South African Qualifications Authority Act, 1995 (Act no. 58 of 1995). In: *Government Gazette no.18787, 28 March 1998* Pretoria: Government Printer.

Republic of South Africa (Department of Health) 1997. *White Paper for the transformation of the health system in South Africa.* Pretoria: Department of Health.

Reynolds, M 1994. *Groupwork in education and training: Ideas in practice.* London: Kogan Page.

Richardson, A G & Fergus, E E 1993. Learning style and ability grouping in the high school system: Some Caribbean findings. *Educational Research* 35 (1):69-76.

Roberts, C, Howe, A, Winterburn, S & Fox, N 2000. Not so easy as it sounds: A qualitative study of a shared learning project between medical and nursing undergraduate students. *Medical Teacher* 22 (4):386-391.

Robson, J 1994. Facilitating the formation of effective and creative working groups. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 40-44. London: Kogan Page.

Rogerson, S 1996. Time management. In: Rogerson, S, Saunders, C, O'Sullivan, T & Rice, J (eds.) *Group work skills*, pp. A1-A33. London: Kogan Page.

Rose, A D 1996. Group learning in adult education: Its historical roots. In: Imel, S (ed.) *Learning in groups: Exploring fundamental principles, new issues, and emerging opportunities*, pp. 3-13. San Francisco: Jossey-Bass.

Rotondi, A & Gustafson, D 1996. Theoretical, methodological and practical issues arising out of the Delphi method. In: Adler, M & Ziglio, E (eds.) *Gazing into the oracle: The Delphi method and its application to social policy and public health*, pp. 34-55. London: Jessica Kingsley.

Rowe, G, Wright, G & Bolger, F 1991. Delphi: A reevaluation of research and theory. *Technological Forecasting and Social Change* 39:235-251.

Rudduck, J 1976. Small group learning and teaching. In: Simons, H, Squires, G & Rudduck, J (eds.) *Small group teaching: Selected papers*, pp. 3-15. London: Nuffield Foundation.

Rudduck, J 1978. *Learning through small group discussion.* Surrey: Society for Research into Higher Education, University of Surrey.

Sapon-Shevin, M & Schniedewind, N 1989. Selling cooperative learning without selling it short. *Educational Leadership* 47 (4):63-65.

Saroyan, A 2000. The lecturer: Working with large groups. In: Bess, J L (ed.) *Teaching alone, teaching together: Transforming the structure of teams for teaching*, pp. 87-107. San Francisco: Jossey-Bass.

Saunders, C, O'Sullivan, T & Rice, J 1996a. Managing your learning. In: Rogerson, S, Saunders, C, O'Sullivan, T & Rice, J (eds.) *Group work skills*, pp. B1-B43. London: Kogan Page.

Saunders, C, O'Sullivan, T & Rice, J 1996b. Working in groups. In: Rogerson, S, Saunders, C, O'Sullivan, T & Rice, J (eds.) *Group work skills*, pp. C1-C39. London: Kogan Page.

Scheele, D S 1975. Reality construction as a product of Delphi interaction. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 37-72. London: Addison-Wesley.

Scheibe, M, Skutsch, M & Schofer, J 1975. Experiments in Delphi methodology. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 262-287. London: Addison-Wesley.

Schmidt, H G 1983. Problem-based learning: Rationale and description. *Medical Education* 17:11-16.

Schmidt, H G 1993. Foundations of problem-based learning: Some explanatory notes. *Medical Education* 27:422-432.

Schmidt, H G 1994. Resolving inconsistencies in tutor expertise research: Does lack of structure cause students to seek tutor guidance? *Academic Medicine* 69 (8):656-662.

Schmidt, H G & Moust, J H C 1995. What makes a tutor effective? A structural-equations modeling approach to learning in problem-based curricula. *Academic Medicine* 70 (8):708-714.

School of Medicine (University of Pretoria) 2000. Self assessment with a view to accreditation. Submission to the HPCSA. October 2000 (Unpublished). Pretoria: University of Pretoria.

Schwarz, R M 1994. *The skilled facilitator: Practical wisdom for developing effective groups.* San Francisco: Jossey-Bass.

Scott, E A & Black, N 1991. When does consensus exist in expert panels? *Journal of Public Health Medicine* 13 (1):35-39.

Sefton, A 2001. Problem-based learning. In: Dent, J A & Harden, R M (eds.) *A practical guide for medical teachers*, pp. 158-167. Edinburgh: Churchill Livingstone.

Silver, M & Wilkerson, L 1991. Effects of tutors with subject expertise on the problem-based tutorial process. *Academic Medicine* 66 (5):298-300.

Skelton, J R, Kai, J & Loudon, R F 2001. Cross-cultural communication in medicine: Questions for educators. *Medical Education* 35:257-261.

Skinner, K 2000. *What are learning styles?* Available from: <http://www.lspe.com/cons/lstyleread.htm> [Accessed 24 April 2002].

Slavin, R E 1983. When does cooperative learning increase student achievement? *Psychological Bulletin* 94 (3):429-445.

Slavin, R E 1988. Cooperative learning and student achievement. *Educational Leadership* 46 (2):31-33.

Slavin, R E 1989. Research on cooperative learning: Consensus and controversy. *Educational Leadership* 47 (4):52-54.

Slavin, R E 1990. *Cooperative Learning: Theory, Research and Practice.* Boston: Allyn and Bacon.

Slavin, R E 1991. Group rewards make groupwork work: Response to Kohn. *Educational Leadership* 48 (5):89-91.

Smith, K A 2000. Going deeper: Formal small-group learning in large classes. *New Directions for Teaching and Learning* (81):25-46.

Snadden, D & Ker, J S 2001. Communication skills. In: Dent, J A & Harden, R M (eds.) *A practical guide for medical teachers*, pp. 247-256. Edinburgh: Churchill Livingstone.

Sobral, D T 1998. Productive small groups in medical studies: Training for cooperative learning. *Medical Teacher* 20 (2):118-121.

Sobral, D T 2002. Cross-year peer tutoring experience in a medical school: Conditions and outcomes for student tutors. *Medical Education* 36:1064-1070.

Spalding, B, Ferguson, S, Garrigan, P & Stewart, R 1999. How effective is group work in enhancing work-based learning? An evaluation of an education studies course. *Journal of Further and Higher Education* 23 (1):109-115.

Speck, B W 2000. The assessor: Appraising student and team performance. In: Bess, J L (ed.) *Teaching alone, teaching together: Transforming the structure of teams for teaching*, pp. 173-199. San Francisco: Jossey-Bass.

Steinert, Y 1996. Twelve tips for effective small-group teaching in the health professions. *Medical Teacher* 18 (3):203-207.

Steinert, Y & Snell, L S 1999. Interactive lecturing: Strategies for increasing participation in large group presentations. *Medical Teacher* 21 (1):37-42.

Stone, B 1994. The academic management of group projects. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 59-63. London: Kogan Page.

Sukcharoen, I 1997. Evaluation of clinical teaching processes: The development of a questionnaire. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 590-593. Dordrecht: Kluwer Academic Publishers.

Talbot, M 1994. Learning journals for evaluation of group-based learning. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 105-112. London: Kogan Page.

Teaching and Learning Unit (University of Leicester) 2001. *The responsive small group tutor: Making effective use of student feedback* Available from: <http://www.le.ac.uk/tlu/tanstudentfeedback.html> [Accessed 19 February 2002].

Teams: A game to develop group skills. 1988. Developed by Platt, S, Piepe, R & Smyth, J. Hants: Gower [board game].

Thomas, R E 1997. Problem-based learning: Measurable outcomes. *Medical Education* 31:320-329.

Thorley, L & Gregory, R 1994. *Using group-based learning in higher education.* London: Kogan Page.

Tiberius, R G 1999. *Small group teaching: A trouble shooting guide.* London: Kogan Page.

Tiberius, R G & Tipping, J 2000. The discussion leader: Fostering student learning in groups. In: Bess, J L (ed.) *Teaching alone, teaching together: transforming the structure of teams for teaching*, pp. 108-130. San Francisco: Jossey-Bass.

Tipping, J, Freeman, R F & Rachlis, A R 1995. Using faculty and student perceptions of group dynamics to develop recommendations for PBL training. *Academic Medicine* 70 (11):1050-1052.

Toffler, W L, Sinclair, A E, Darr, M S, McGinty, D L, Commerford, K & Goetz, R 1990. Using a sociomatrix to evaluate the effectiveness of small-group teaching to residents. *Academic Medicine* 65 (10):654-655.

Tribe, D M R 1994. An overview from higher education. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 25-36. London: Kogan Page.

Trottier, R W 1999. A peer-assisted learning system ('PALS") approach to teaching basic sciences. A model developed in basic medical Pharmacology instruction. *Medical Teacher* 21 (1):43-47.

Tucker, K, Wakefield, A, Boggis, C, Lawson, M, Roberts, T & Gooch, J 2003. Learning together: Clinical skills teaching for medical and nursing students. *Medical Education* 37:630-637.

Turner, M E & Horvitz, T 2001. The dilemma of threat: Group effectiveness and ineffectiveness under adversity. In: Turner, M E (ed.) *Groups at work: Theory and research*, pp. 445-470. Mahwah: Lawrence Erlbaum.

Turoff, M 1975. The policy Delphi. In: Linstone, H A & Turoff, M (eds.) *The Delphi Method. Technique and Applications*, pp. 84-101. London: Addison-Wesley.

Ungerer, E 1993. *Studiegroepe as hulpmiddel in die leerproses [Study groups as an aid in the learning process]*. Pretoria: Bureau for Academic Support Services, University of Pretoria.

University Teaching Services (The University of Manitoba) [s.a.]. *Using cooperative education techniques* Available from: <http://www.umanitoba.ca/academic_support/uts/grads/publications/using/> [Accessed 12 February 2002].

Unsworth, P J 1976. Small group teaching in Science. In: Simons, H, Squires, G & Rudduck, J (eds.) *Small group teaching: Selected papers*, pp. 28-43. London: Nuffield Foundation.

Using Delphi technique in assessing needs for VTET [s.a.]. Available from: <http://www.voctech.org.bn/Virtual_lib/P...erging99/Using%20Delphi%20Technique.htm> [Accessed 23 February 2001].

Van den Hurk, M M, Dolmans, D H J M, Wolfhagen, I H A P & Van der Vleuten, C P M 1998. Essential characteristics of student-generated learning issues in a problem-based curriculum. *Medical Teacher* 20 (4):307-309.

Van Rooyen, M & Lategan, A 1998. Outcomes-based education: What is it all about? *The Cutting Edge* 1 (6):1-8.

Van Til, C & van der Heijden, F 1998. *PBL Study Skills: An overview.* Maastricht: University Press.

Vernon, D T A & Blake, R L 1993. Does problem-based learning work? A meta-analysis or evaluative research. *Academic Medicine* 68 (7):550-563.

Virtanen, P J, Kosunen, E A, Holmberg-Marttila, D M H & Virjo, I O 1999. What happens in PBL tutorial sessions? Analysis of medical students' written accounts. *Medical Teacher* 21 (3):270-276.

Wadoodi, A & Crosby, J R 2002. Twelve tips for peer-assisted learning: A classic concept revisited. *Medical Teacher* 24 (3):241-244.

Walton, H 1993. Medical education worldwide. A global strategy for medical education: Partners in reform. *Medical Education* 27:394-398.

Walton, H 1997. Small group methods in medical teaching. *Medical Education* 31:459-464.

Walton, H J & Matthews, M B 1989. Essentials of problem-based learning. *Medical Education* 23:542-558.

Walz, L, Vandercook, T, Medwetz, L, Nelson, M & Thurlow, M 1999. *Hey, we see it differently! Lessons on team dynamics.* St. Paul: Minnesota State Department of Education.

Webb, G 1981. An evaluation of techniques for analysing small group work. *Programmed Learning and Educational Technology* 18 (2):64-66.

Webb, N M 1985. Student interaction and learning in small groups: A research summary. In: Slavin, R, Sharan, S, Kagan, S, Hertz-Lazarowitz, R, Webb, C & Schmuck, R (eds.) *Learning to cooperate, cooperating to learn*, pp. 147-172. New York: Plenum Press.

Welty, G 1972. Communications: Problems of selecting experts for Delphi exercises. *Academy of Management Journal* 15 (1):121-124.

Wetzel, M S 1996. Developing the role of the tutor/facilitator. *Postgraduate Medical Journal* 72:474-477.

Whittaker, S G & Scheiman, M 1996. Problem-based Teaching in a Didactic Curriculum - A Hybrid approach. *Summer* 21 (4):117-123.

Wilkerson, L 1995. Identification of skills for the problem-based tutor: Student and faculty perspectives. *Instructional Science* 22 (4):303-315.

Wilkerson, L 1996. Tutors and small groups in problem-based learning: Lessons from the literature. *New Directions for Teaching and Learning* 68 (Winter):23-32.

Wilkinson, J 1994. Using group-projects in the teaching of Mathematics to electrical engineering students. In: Thorley, L & Gregory, R (eds.) *Using group-based learning in higher education*, pp. 155-159. London: Kogan Page.

Williams, P L & Webb, C 1994. The Delphi technique: A methodological discussion. *Journal of Advanced Nursing* 19:180-186.

Willis, S C, Jones, A, Bundy, C, Burdett, K, Whitehouse, C R & O'Neill, P A 2002. Small-group work and assessment in a PBL curriculum: A qualitative and quantitative evaluation of student perceptions of the process of working in small groups and its assessment. *Medical Teacher* 24 (5):495-501.

Wilm, S 1996. *The context of the 1988 Edinburgh Declaration of the World Federation for Medical Education in Health Policy - "Health for All by the Year 2000"* Available from: <http://www.gma.mwn.de/therefintpubedin88.html> [Accessed 15 November 2000].

Wilson, A 1980. Structuring seminars: A technique to allow students to participate in the structuring of small group discussions. *Studies in Higher Education* 5 (1):81-84.

Woodhouse, R A, Delva, M D, Hadwin, A F, Birtwhistle, R V, Kirby, J R & Knapper, C 1997. Medical students' learning strategies in problem-based learning and traditional courses. In: Scherpbier, A J J A, van der Vleuten, C P M, Rethans, J J & van der Steeg, A F W (eds.) *Advances in Medical Education*, pp. 632-634. Dordrecht: Kluwer Academic Publishers.

World Federation for Medical Education 1988. The Edinburgh Declaration. *The Lancet* 8068:464.

World Federation for Medical Education 1993. Proceedings of the World Summit on Medical Education. The changing medical profession: Recommendations. *Medical Education* 28 (Supplement 1):140-149.

World Federation for Medical Education 1995. Training the Doctor for the 21st century in the African context. *South African Medical Journal* (September Supplement).

World Federation for Medical Education 1998. International standards in medical education: Assessment and accreditation of medical schools' - educational programmes. A WFME position paper. *Medical Education* 32:549-558.

World Federation for Medical Education 2000. *WFME Newsletter vol. 5, October, Y2K.* Copenhagen: WFME Office: University of Copenhagen.

World Federation for Medical Education 2003. *Basic Medical Education. WFME Global Standards for Quality Improvement.* Copenhagen: WFME Office: University of Copenhagen.

World Health Organisation 1994. Training the doctor for the 21st century. Regional Consultation on Medical Education, Yaounde, Cameroon.

Woudenberg, F 1991. An evaluation of Delphi. *Technological Forecasting and Social Change* 40:131-150.

Zander, A 1994. *Making groups effective.* 2nd ed. San Francisco: Jossey-Bass.

Ziglio, E 1996. The Delphi method and its contribution to decision-making. In: Adler, M & Ziglio, E (eds.) *Gazing into the oracle: The Delphi method and its application to social policy and public health* , pp. 3-33. London: Jessica Kingsley.

Appendix A

The M.B.,Ch.B.-learning programme of the Faculty of Health Sciences, University of the Free State

DIAGRAMMATICAL REPRESENTATION OF THE STRUCTURE OF THE PROGRAMME

PHASE I		PHASE II				PHASE III	
Year 1 (128C)		Year 2 (144C)		Year 3 (184C)		Year 4 (200C)	Year 5 (200C)
Sem 1	Sem 2	Sem 3	Sem 4	Sem 5	Sem 6	Sem 7 & 8	Sem 9 & 10
Health Psychology MEB113 **12C**	Health Policy and Service Provision MEG123 **12C**	Principles of therapy and imaging MFN214 **16C**	Urinary system GUS224 **16C**	Gastrointestinal system MEU314 **16C**	Human diversity MEZ324 **16C**	Internal Medicine INM406 6w **24C** Gen. Surgery CHM406 6w **24C** Paediatrics PEM406 6w **24C** Obstetrics GOB406 6w **24C** Psychiatry OSM406 6w **24C** Cardiology CAM402 2w **8C** Neurology NEM402 2w **8C** Oncotherapy OKM402 2w **8C** Forensic Medicine GGM402 2w **8C** Ophthalmology OFM402 2w **8C** Othorhinolaringology GOG402 2w **8C**	Internal Medicine INM506 6w **24C** Gen. Surgery CHM506 6w **24C** Trauma and Ortopaedics ORM 506 6w **24C** Paediatrics PEM506 6w **24C** Gynaecology GGI 506 6w **24C** Family Medicine HAN505 4w **20C** Dermatology DEM502 2w **8C** Geriatrics GGE502 2w **8C**· Anaesthesiology ANN502 2w **8C** Urology URM502 2w **8C**
The doctor and his environment MEC113 **12C**	Epidemiology and Biostatistics MEH123 **12C**	Musculoske-letal System MEO214 **16C**	Immunology and Haematology MEQ224 **16C**	Health and disease in populations MEX314 **16C**	Human life cycle MAE324 **16C**		
Concepts of Health and Disease MED113 **12C**	Molecules of the Body MEI123 **12C**	Metabolism GMB214 **16C**	Cardiovascular system MIS224 **16C**	Respiratory system MFW314 **16C**	Nervous system MGB324 **16C**		
Tissues of the Body MEE113 **12C**	Development of the Body MEJ123 **12C**		Infections MJR224 **16C**	Genital system MEY314 **16C**	Reproduc-tion GRE324 **16C**		
Structure of the Body MEF113 **12C**	Electrical Systems of the Body MFK123 **12C**	Membranes and Receptors GMR214 **16C**	Mechanisms of disease MFP224 **16C**	Exocrine and endocrine glands GEE314 **16C**	Ethical and legal aspects of medicine MDD324 **16C**		
MEA112 **8C**							
Level 8a Credits: 856 Notional Hours: 8560		Clinical skills Module Commences as GKV202 in second year and evaluated as GKV302 at the end of third year of study. **16C**					

* MEA112 is integrated in the modules of Phase I (Semester 1)

** Commences as GSM204 in Semester 3 and evaluation of mini-script takes place in Semester 6 as GSM204

C = Credits

w = weeks

In semester 7-10 academic afternoons will be scheduled. (Elective themes) (24 Credits per year) (DET 406) and (DET 506)

Year 1: (from 2002) Semester 1 - 13 weeks, Semester 2 – 16 weeks

Year 2: (from 2002) Semester 1 – 19 weeks, Semester 2 - 16 weeks

Year 3: (from 2002) Semester 1 - 20 weeks, Semester 2 – 16 week

Appendix B

Assessment instruments currently used for assessing group work in the MEA 112 module

APPENDIX A

REPORT ON THE FUNCTIONING OF GROUP _____

Build your report around the following questions:

1. Did you find the group setting a supportive environment to work in?
2. Did everyone in the group work?
3. What steps have you taken to organize your group work?
4. Have you encountered any problems to work as a team and how did you tackle them?
5. If you were able to embark on a second, similar task as a group, what would be different about the way you went about working as a team, and why?
6. Did you enjoy the project/assignment?
7. What did you not like?

APPENDIX B

GROUP REPORT ON THE FUNCTIONING OF _____

AS A LEADER OF A PROJECT/ASSIGNMENT/DISCUSSION IN GROUP _____

Instructions

For each group member in turn, discuss and rate their contribution to the effective functioning of the team: Did he/she contribute above or below average within the group?

Aspect of functioning as a leader	**Well below average**	**Below average**	**Average**	**Above average**	**Well above average**
1. Contributing to the forming of good team cohesion.	0	1	2	3	4
2. Leadership in managing meetings & discussions.	0	1	2	3	4
3. Planning and allocating tasks.	0	1	2	3	4
4. Generating ideas and solutions.	0	1	2	3	4
5. Tackling social problems in the group.	0	1	2	3	4
6. Organizing individuals to do jobs.	0	1	2	3	4
7. Helping team members to finish jobs.	0	1	2	3	4
8. Willingness to take on unpopular jobs.	0	1	2	3	4
Sum of marks					

Signatures of group members:

Date: _____

APPENDIX C

CONFIDENTIAL REPORT ON THE FUNCTIONING OF INDIVIDUALS IN GROUP

Candidate	Did no participate in group discussions 0	Participated in group discussions, but did not make any significant contribution 1	Participated in group discussions and contributed on average 2	Participated in group discussions and made outstanding inputs 3
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				

APPENDIX B

ASSESSMENT OF GROUP PROCESS

Learning outcomes:

By the end of this session you should be able to:

- Reflect on the functioning and experiences of your group
- Discuss and rate the contribution of each member in your group
- Assess the overall work of the group, as well as the level of individual contribution to the group process

INTRODUCTION

- In small group work it is important to learn from experience and to modify behaviour accordingly.
- How a group is functioning may be monitored by means of direct observation. However, in the development of group work skills, it is not so much observable behaviour as learners' ability to recognize group problems when they see them, diagnose them, act to do something about them and check whether the new way of operating is working, that is important.
- Group members are in a good position to review their own behaviour and their experiences as a group. They can document group behaviour on an ongoing basis and, from time to time, step back to review their experience as a group. On the basis of such review, they may want to review their group contract.
- Involving learners in the assessment of the group work process is advantageous in more than one respect:
  - learners develop social organizational skills;
  - it places the responsibility on the group to deal with conflict and other interpersonal problems;
  - it makes it possible to assess the level of individual contribution to the group process;
  - "strong" members are enabled to identify and help follow-learners that struggle academically.

AWARENESS OF GROUP WORK SKILLS

In order to develop your awareness of group work skills, you are required to do the following:

- Keep a group work log in which you regularly write reflective notes on the way your group is operating.
- Use these notes to compile a report on the group process (Appendix A). A group report (only ONE report per group) must be submitted on _____ and _____

  After completion of project work in Modules MEC113 and MED113.

- Compile a group report on the leadership skills of each group member (Appendix B) to be submitted by the end of April.

- Complete individual confidential evaluation forms (Appendix C) to assess individuals' contribution to group work.

An examination question on the functioning of your group, counting a maximum of 10 marks, will form part of the MEB113 module paper at the end of the first semester. The only way you can "revise" for this question, is to reflect regularly on the operation of your group.

MONITORING GROUP FUNCTIONING

(Source: Gibbs, Rust, Jenkins & Jacques, 1994)

- Learners working in teams are bound to experience all kinds of difficulties. And yet, most learners prefer to suffer in silence rather than raise these issues for fear that they may be blamed for criticism of individuals or the group as a whole.

- The purpose of this exercise is to give you the opportunity to:
- Openly discuss what you feel and experience within your groups;
- Exchange ideas on how to act on group-related problems;
- Record decisions on how you plan to tackle identified problems.

Activity

- Each individual complete the checklist below to identify what is going wrong in your group (5 minutes).
- Form crossover groups made up of one member from each group, and discuss in your newly formed group, the checklist with regard to your own group (20 minutes).
- Be honest and open in your discussions and use the following procedure:
  - Each learner in turn reports: "One thing we have done as group which has helped us to work effectively is ..."
  - Open discussion.
  - Each person in turn reports: "One thing which goes wrong / which we have trouble within our group is, ..."
  - Open discussion – suggest ways to tackle and overcome identified problems.
- Groups re-form and check if the different members have ticked the same things. Once you have agreed that you have some problems, discuss them against the background of what you have picked up from other groups. Make suggestions on how you can build on your successes and overcome your problems in the future (15 minutes).
- Each group reports to the whole class one change that they plan to make. "One thing we are going to do differently in the way we work, is ..."

GROUP WORK CHECKLIST: WHAT IS GOING WRONG?		
Tick	**What might be the problem**	**Comments**
	We do not clarify what the group's task or objective is.	
	We are not clear on what has been decided and on who is going to do what.	
	We do not clarify what has to be done by when.	
	We do not have established procedures for handling meetings.	
	We do not keep to agreed procedures.	
	We keep repeating arguments instead of moving on.	
	We do not listen to one another.	
	We constantly interrupt one another.	
	We just push our own views instead of developing and encouraging others' ideas.	
	We put one another down.	
	We do not recognize the feelings of group members.	
	We allow individuals to dominate the group.	
	We allow individuals to withdraw from the group.	
	Not everyone in the group is contributing equally to the progress of the group.	
	Individuals in the group are not prepared to compromise their wants for the sake of the group.	
	Other problems: Specify:	

Appendix C

Questionnaire to students

PURPOSE OF THE QUESTIONNAIRE (STUDENTS)

The way in which group work is being presented in Phase I & II at the moment, is not always as successful as it should be, and this seems to be frustrating to many lecturers and students. This study is being undertaken to provide a model for group work in Phase I and II of the new MBChB learning programme, so that both students and lecturers can be informed as to how the full potential of group work can be used.

Your cooperation with the completion of this questionnaire will therefore be highly appreciated. Please note that this questionnaire is **anonymous**, and therefore you should feel free to answer the questions as honestly as possible.

INSTRUCTIONS FOR THE COMPLETION OF THE QUESTIONNAIRE

Please evaluate each numbered statement, which can be regarded as an indicator (guideline) for such a group-work model, and then indicate the importance thereof for the model, according to your opinion, on the 5-point scale by marking the appropriate block with a cross.

5 = extremely important (this indicator must definitely be included in the group-work model)
4 = very important (this indicator must preferably be included in the group-work model)
3 = important (it will be good if this indicator can be included in the model)
2 = less important (this indicator may possibly be left out of the model)
1 = not important at all (this indicator can definitely be left out of the model)

e.g. *Groups must consist of a specific number of members.* [5] [4] [3] [2] [1]

Opportunity for additional comments/opinions has been provided. Some of these questions (indicated by a "•"), provide a number of possibilities of which you must choose **one** by making a cross in the appropriate block, ***e.g:***

- *How long do you think a group must exist at a time? (Choose one)*

6 months ☐
1 year ☐
for the duration of the course ☐
other (specify) ☐

Other questions are asked as open questions, to which you must answer in your own words on the lines provided.

It is important that a group-work model is designed which is feasible in the Faculty of Health Sciences of the UFS. Please keep this in mind when completing the questionnaire.
Please note that **all** the questions must be answered.
The questionnaire should take you ± 30 minutes to complete.

DEFINITIONS OF WORDS THAT ARE USED IN THE QUESTIONNAIRE

Group work: Work/assignments that are done by students in small groups.
Indicator: A guideline for a specific aspect of group work that may appear in the model.
Facilitator: The lecturer/person who assists students with questions/problems during group-work sessions.
Mentor: A person who acts as an advisor for the group outside group-work time.
Group process: The way in which a group functions to complete a specific assignment.
Group task: The assignment that a group must complete during a group-work session.
Assessment: Evaluation which counts marks.
Assessment instrument: A standard test/questionnaire that can be used for assessment.

PERSONAL INFORMATION

NB: THIS QUESTIONNAIRE IS ANONYMOUS

1 Study year

- 1st year ☐
- 2nd year ☐

2 Gender

- male ☐
- female ☐

3 Age

- <18 ☐
- 18 ☐
- 19 ☐
- 20 ☐
- 21 ☐
- >21 ☐

4 Language of instruction

- Afrikaans ☐
- English ☐

5 Home language

- Afrikaans ☐
- English ☐
- Sotho ☐
- Xhosa ☐
- Zulu ☐
- Other (specify) ☐ _____

6 Population group

- Asian ☐
- Black ☐
- White ☐
- Coloured ☐
- Other (specify) ☐ _____

7 Are/were you a group leader for group work?

- Yes ☐
- No ☐

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

The indicators for the model are sorted under a number of headings. Please answer <u>all</u> the questions under <u>each</u> heading.

<u>COMPOSITION OF GROUPS</u>

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

1 Groups must consist of a specific number of members. [5] [4] [3] [2] [1] 1

- How many members do think must be in a group? (Choose one)

≤ 4 ☐
5-6 ☐
7-8 ☐
9-10 ☐
>10 ☐

2 The groups must specifically consist of an even or an odd number of members [5] [4] [3] [2] [1] 2

- What would you prefer? (Mark one)

A group that consists of an even number of members ☐
A group that consists of an odd number of members ☐

3 The following must be considered with the composition of groups: 3

The language of instruction of students [5] [4] [3] [2] [1]

The gender of students [5] [4] [3] [2] [1]

The population group/culture of students [5] [4] [3] [2] [1]

The age of students [5] [4] [3] [2] [1]

- If you could choose, which group would you like to be part of? (Choose one for each of the following aspects):

Language of instruction — only Afrikaans or English ☐
Afrikaans and English mixed ☐

Gender — only male/female individuals in group ☐
mixed gender groups ☐

Population group — only members from the same population group ☐
members with mixed population groups ☐

Age — older students should form their own group ☐
older students should be divided up into different groups ☐

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

4 Students must be divided into groups according to a specific method. 5 4 3 2 1 4

- According to which of the following methods do you think should students be divided into groups? (Choose one)

According to the social relations between students (sociometry) ☐
According to roles that students would prefer to play in a group ☐
Students must choose the groups they would like to be in themselves ☐
Randomly ☐
According to academic achievement ☐
Alphabetically ☐

5 Students' needs must be taken into consideration when forming groups. 5 4 3 2 1 5

6 Groups must choose their own name for the group. 5 4 3 2 1 6

7 Groups must only function for a certain period before new groups are formed. 5 4 3 2 1 7

- How long do you think a group must exist at a time? (Choose one)

6 months ☐
1 year ☐
2 years ☐
for the duration of the course ☐
other (specify) ☐

8 An appropriate venue must be used for group work. 5 4 3 2 1 8

- Are you satisfied with the current venues/set up for group work?

Yes ☐
No ☐

9 The tables and chairs must be arranged so that members in a group can look towards one another. 5 4 3 2 1 9

10 Sufficient resources like library books and computers must be available for all the groups to use. 5 4 3 2 1 10

- Are the currently available resources sufficient? Yes ☐ No ☐

- If not, which resources are not sufficient? (Specify)

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

11 There must be opportunity to work in groups with students from other year groups of the same course. 5 4 3 2 1 11

12 There must be opportunity to work in groups with students from other courses (like nursing- and physiotherapy students). 5 4 3 2 1 12

13 Groups must have group leaders. 5 4 3 2 1 13

- In which way do you think group leaders should be appointed? (Choose one):

the group must choose their own leader ☐
the group leader must be appointed by lecturers ☐

- For which of the following periods of time do you think a person must act as group leader? (Mark one):

all the time as long as the group exists ☐
another leader each week ☐
another leader each semester ☐
a different leader for each module ☐
other (specify) ☐

14 Icebreaker sessions must be arranged for group members to get to know each other. 5 4 3 2 1 14

15 A specific role must be appointed to each member in a group. 5 4 3 2 1 15

16 Specific tasks must be appointed to each member in a group. 5 4 3 2 1 16

17 Ground rules must be laid down according to which groups have to function. 5 4 3 2 1 17

- Would you, as a member of a group, like to determine these rules yourself?

Yes ☐
No ☐

18 A contract must be compiled between group members in which guidelines for the working procedures in a group are determined. 5 4 3 2 1 18

19 Are there any additional comments that you would like to make regarding the composition of groups? 19

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

20 If you are a 2nd year student, do you think that there should be any differences regarding the composition of groups in Phase I and II?

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

ORIENTATION OF STUDENTS AND TRAINING OF LECTURERS / FACILITATORS REGARDING GROUP WORK

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

21	Students must be thoroughly orientated with regard to group work.	5	4	3	2	1
22	Lecturers and facilitators must be trained with regard to group work.	5	4	3	2	1
23	The training that students and lecturers/facilitators receive with regard to group work, must be in line with each other.	5	4	3	2	1
24	Mentors for groups must be trained with regard to the group process.	5	4	3	2	1
25	A complete guide on group work must be available.	5	4	3	2	1
26	Certain aspects of the orientation of students with regard to group work must be repeated during the course.	5	4	3	2	1

- If so, when do you think it should be repeated? (Choose one):

at the beginning of Phase II ☐
at the beginning of each study year ☐
at the beginning of each semester ☐
other (specify) ☐

_____

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

The following statements are possible aspects that may be addressed during training with regard to group work. Indicate on the scale, in each case, how important you think it is for students, lecturers ánd facilitators to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for students, lecturers and facilitators).

27 The importance and advantages of group work. 27

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

28 The objectives of group work. 28

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

29 The principles and conditions for successful group work. 29

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

30 Training in group dynamics (interrelations between group members). 30

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

31 Training in effective communication and social skills. 31

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

32 How to analyse interaction within a group. 32

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

33 How to identify and handle problems in a group.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

34 The importance of maintaining the group process.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

35 Training in the role and tasks of a group leader.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

36 The different roles that group members may play.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

- Do you know at the moment what your role is within your group?

  Yes [ ]
  No [ ]

- Would you like to determine your role within your group yourself?

  Yes [ ]
  No [ ]

37 The characteristics of effective and ineffective groups and group members.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

38 Strategies to improve the effectivity of a group. 38

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

39 How to plan and conduct a group-work session. 39

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

40 How to plan and conduct a group task. 40

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

41 The reasons why a variety of group-work methods should be used. 41

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

42 The different methods that can be used for group work (e.g. buzz groups, debates). 42

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

43 The importance of regular assessment of the group task. 43

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

44 The importance of regular assessment of the group process. 44

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

45 The different learning styles that students might possess.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

46 The skills that students develop through doing group work.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

47 The advantages and conditions of cooperative learning (learning through interaction with fellow students).

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

48 How participation and discussion of members within a group can be improved.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

49 The importance of a positive attitude towards group work.

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

- What is your attitude towards group work?

_____

_____

The following statements are possible additional aspects that may be addressed during training of lecturers and facilitators with regard to group work. Indicate, on the scale, in each case, how important you think it is for both lecturers and facilitators, to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for lecturers and facilitators).

50 The choice of a group-work method for a group-work session.

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

51 The compilation and formulation of group tasks for group work sessions. 51

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

52 The importance of feedback to students regarding group work. 52

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

53 Appropriate assessment techniques for group work. 53

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

54 The role of a group-work facilitator. 54

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

55 Skills that are necessary to facilitate groups effectively. 55

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

56 How students can be assisted with regular self assessment of the group process and the group task. 56

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

57 Are there any additional comments you would like to make about the orientation or training of students, or the training of lecturers/facilitators regarding group work? 57

_____

_____

_____

_____

- Do you think that you have received adequate training regarding group work?

Yes [ ]

No [ ]

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

58 If you are of opinion that certain aspects of the training of students regarding group work should be repeated during the course, which aspects would it be? (Specify).

_____

_____

_____

_____

59 If you are a 2nd year student, do you think there should be any differences regarding the orientation of students or the training of lecturers/facilitators for group work between Phase I and II?

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

GROUP-WORK SESSIONS

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

60	There must be mechanisms to encourage students to prepare for group work.	5	4	3	2	1
61	Lecturers must know which types of questions and assignments for group work are suitable for the different kinds of knowledge that students should acquire.	5	4	3	2	1
62	The assignment for group work must be suitable for the purpose of the specific group-work session.	5	4	3	2	1
63	The assignments and outcomes for group work must be set out clearly so that groups know exactly what is expected from them.	5	4	3	2	1
64	The task (assignment and topic) for group work must enhance cooperation and discussion between members of a group.	5	4	3	2	1
65	The outcomes which are set for a group task, must be realistic.	5	4	3	2	1

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

66 The group-work method that is used for a specific group-work session must support the specific purpose of the session. 5 4 3 2 1 66

67 A variety of group-work methods must be used for group work. 5 4 3 2 1 67

68 Group work must be done in small, as well as large (e.g. the whole class) groups. 5 4 3 2 1 68

69 The same amount of emphasis must be laid upon the common goal of the group, as well as individual accountability of group members during a group-work session. 5 4 3 2 1 69

- If you think that one of the above mentioned is more important, which one would it be? (Mark one):

the common goal of the group ☐
individual accountability of group members ☐

70 A specific number of facilitators must be available during group-work sessions. 5 4 3 2 1 70

- Do you think that the number of facilitators that are currently available for a group-work session, is sufficient?

Yes ☐
No ☐

- Are you satisfied with the fact that facilitators move around between groups to facilitate?

Yes ☐
No ☐

- How many facilitators do you think would be ideal for a group-work session? (Mark one):

1 per class ☐
2 per class ☐
other (specify) ☐

_____

71 The facilitators for a group-work session must be experts in the specific subject field in which group work is being done. 5 4 3 2 1 71

72 The same facilitators must be involved with all the group-work sessions of a specific module to ensure continuity, despite the contents of group work. 5 4 3 2 1 72

73 Students of more advanced study years may also be used as facilitators for group work. 5 4 3 2 1 73

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

74 The time that is spent on a group-work session should be determined by the specific task for the session. [5] [4] [3] [2] [1]

- Would you prefer that group work is scheduled for constant times like the way it is done at present?

Yes ☐
No ☐

- Do you think that the time, which is currently available for a group-work session, is (mark one):

adequate? ☐
too little? ☐
too much? ☐

75 Feedback should be provided for each group-work session. [5] [4] [3] [2] [1]

- Who do think should provide feedback on a group-work session? (Mark all that are appropriate):

the groups themselves ☐
the lecturer ☐
the facilitator ☐

- Would you prefer that feedback sessions be scheduled on the class time table?

Yes ☐
No ☐

- When do you think is the best time for feedback on a group work session? (Mark one):

directly after the session ☐
during directed learning time (only for Phase I) ☐
during the following session of the same module ☐
other (specify) ☐

_____

76 There should be rewards for effective group work. [5] [4] [3] [2] [1]

- Which type of reward would you prefer? (Specify)

_____

77 Groups must have the opportunity to compete with one another, because it enhances group cohesion. [5] [4] [3] [2] [1]

78 Students must be divided into learning groups that can study together during directed learning- or self study times. [5] [4] [3] [2] [1]

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

- Would you prefer to do self study alone?

Yes ☐
No ☐

- If learning groups are being used, how would you prefer these groups to be formed? (Mark one):

the same members as the groups during group-work sessions ☐

students must choose the learning group of which they want to be a member themselves ☐

79 Is there anything regarding the compilation or conducting of a task for a group-work session, that you would like to add? 79

_____

_____

_____

80 Are there any additional comments that you would like to make regarding group-work sessions? 80

_____

_____

_____

81 If you are a 2nd year student, do you think that there should be any difference between the presentation or practice of group work sessions between Phase I and II? 81

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

SUPPORT FOR STUDENTS AND LECTURERS/ FACILITATORS REGARDING GROUP WORK.

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

82 There must be a support system for groups and group members who experience problems with group work. 5 4 3 2 1 82

83 There must be support available for lecturers and facilitators who experience problems with group work. 5 4 3 2 1 83

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

- Which type of support do you think is necessary for lecturers and facilitators? (Mark all that are appropriate):

academic support (e.g. the compilation of assignments for group work) ☐
organisational support ☐
administrative support ☐
other (specify) ☐

_____

84	The lecturer who presents a certain session of a module, must provide academic support to groups regarding the contents of the specific session.	5	4	3	2	1
85	Academic support must be provided in a group context.	5	4	3	2	1
86	Each group must have a mentor who provides support to the group with regard to the group process, outside group work time.	5	4	3	2	1

- Would you as a group, prefer to choose the mentor yourselves?

Yes ☐
No ☐

87	Senior students may also act as mentors for groups.	5	4	3	2	1
88	After-hours social meetings must be arranged within groups to enhance the interrelations between group members.	5	4	3	2	1
89	Students must be able to contact their fellow group members after-hours, if necessary.	5	4	3	2	1

90 Are there any additional comments that you would like to make about the support of students or lecturers/facilitators regarding group work?

_____

_____

_____

- Do you think that you are receiving sufficient support regarding group work?

Yes ☐
No ☐

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

91 If you are a 2nd year student, do you think that there should be any difference regarding the support of groups between Phase I and II? 91

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

ASSESSMENT OF GROUP WORK

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

92	Both the group task (product of group work), as well as the group process must be assessed.	5	4	3	2	1	92
93	The criteria and methods of assessment of group work must be known to students beforehand.	5	4	3	2	1	93
94	There must be guidelines for determining assessment criteria for the assessment of group work.	5	4	3	2	1	94
95	Assessment of group tasks must form part of the semester mark of a module.	5	4	3	2	1	95
96	Assessment of the group process must form part of the semester mark of a module.	5	4	3	2	1	96
97	A group must prove that assessment of the group process has taken place (e.g. with a report), before members of the the group can obtain a semester mark for the specific module.	5	4	3	2	1	97
98	Clear guidelines must be available for the awarding of marks for a group task (product of group work).	5	4	3	2	1	98

- Which of the following would you prefer? (Mark one):

all members in a group should get the same marks for a group task ☐

the marks should be divided fairly among the group members according to each one's contribution to the group task ☐

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

99 Clear guidelines must be available for the awarding of marks for the group process. 5 4 3 2 1

- Which of the following would you prefer? (Mark one):

all members in a group must get the same marks for the group process ☐

the marks must be divided fairly among the group members according to each one's contribution to the group process ☐

100 Individual students must evaluate themselves with regard to their contribution to group work. 5 4 3 2 1

101 All group members must assess the group with regard to group work. 5 4 3 2 1

102 Individual contributions of students to group work, should be assessed by fellow group members. 5 4 3 2 1

- Would you prefer that this assessment takes place confidentially?

Yes ☐
No ☐

103 The group leader of a specific group must be evaluated by the group members with regard to the fulfilment of his/her role and duties as group leader. 5 4 3 2 1

104 Ground rules must exist for the asessment of students by their fellow group members. 5 4 3 2 1

105 The lecturer must have the final control over the awarding of marks to students, even if assessment by fellow group members did take place (to protect students against discrimination). 5 4 3 2 1

106 Regular assessment of <u>group tasks</u> must take place as part of continuous evaluation. 5 4 3 2 1

- How often do you think it should take place? (Choose one):

after each group-work session ☐
once a month ☐
once a quarter ☐
after completion of a module ☐
other (specify) ☐

_____

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

107 Regular assessment of the group process must take place as part of continuous evaluation. [5] [4] [3] [2] [1] 107

- How often do you think it should take place? (Choose one):

after each group-work session ☐
once a month ☐
once a quarter ☐
once a semester ☐
once a year ☐
other (specify) ☐

_____

108 There must be support for groups that experience problems with the assessment of group work. [5] [4] [3] [2] [1] 108

109 A variety of group tasks (products) of group work must be assessed. [5] [4] [3] [2] [1] 109

110 The knowledge, skills and attitudes which students develop through doing group work must be assessed. [5] [4] [3] [2] [1] 110

111 Specific assessment instruments (e.g. questionnaires) must be available for the assessment of the group process. [5] [4] [3] [2] [1] 111

112 Groups must report the outcome of their group tasks in various ways, e.g. a presentation, a poster, etc. [5] [4] [3] [2] [1] 112

- Would you, as a member of a group, like to choose the way in which reporting takes place yourself?

Yes ☐
No ☐

113 Groups and group members must receive feedback on assessment of group work. [5] [4] [3] [2] [1] 113

114 Strategies to improve the group process, must be planned according to the outcome of assessment of the group process. [5] [4] [3] [2] [1] 114

115 Outcomes of group tasks must be covered in exams and tests. [5] [4] [3] [2] [1] 115

116 Students must get the opportunity, at the end of a module, to evaluate the way in which assessment of group work took place in the specific module. [5] [4] [3] [2] [1] 116

117 Lecturers' involvement in a group-work session must be evaluated. [5] [4] [3] [2] [1] 117

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

118 Group-work facilitators must be evaluated according to the effectivity with which they facilitated group-work sessions. 5 4 3 2 1

119 Are there any additional comments that you would like to make about the assessment of group work?

_____

_____

_____

_____

120 If you are a 2nd year student, do you think that there should be any differences with regard to the assessment of group work between Phase I and II?

Yes ☐

No ☐

If so, please specify:

_____

_____

_____

_____

GUIDELINES FOR THE IMPLEMENTATION OF GROUP WORK

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

121 Clear guidelines for the implementation of group work should be available. 5 4 3 2 1

122 A group-work team/committee should be appointed for the implementation of group work. 5 4 3 2 1

Indicate on the scale, according to your opinion, the importance of each of the following possible functions of the group-work team/committee.

123 Regular evaluation of the process of implementation of group work. 5 4 3 2 1

124 The planning of strategies to improve group work in Phase I and II. 5 4 3 2 1

125 Ensure that the objectives for which group work was implemented, are reached. 5 4 3 2 1

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

126	Ensure that proper orientation of students regarding group work takes place.	5	4	3	2	1	126
127	Ensure that proper training of lecturers, facilitators and mentors regarding group work takes place.	5	4	3	2	1	127
128	The provision of a support system for students and lecturers/facilitators who are involved with group work.	5	4	3	2	1	128
129	Provision of guidelines for the assessment of group work.	5	4	3	2	1	129
130	Provision of assessment instruments for the assessment of group work.	5	4	3	2	1	130

131 Is there anything regarding the functions of the group-work team/committee that you would like to add? 131

_____

_____

_____

132 Are there any additional comments that you would like to make about the planning and implementation of group work? 132

_____

_____

_____

133 Are there any additional comments that you would like to make about the monitoring of group work? 133

_____

_____

_____

THANK YOU VERY MUCH FOR YOUR COOPERATION

Appendix D

Questionnaire to staff

PURPOSE OF THE QUESTIONNAIRE (STAFF)

The way in which group work is being presented in Phase I & II at the moment, is not always as successful as it should be, and this seems to be frustrating to many lecturers and students. This study is being undertaken to provide a model for group work in Phase I and II of the new MBChB learning programme, so that both students and lecturers can be informed as to how the full potential of group work can be used.

Your cooperation with the completion of this questionnaire will therefore be highly appreciated. Please note that this questionnaire is **anonymous**, and therefore you should feel free to answer the questions as honestly as possible.

INSTRUCTIONS FOR THE COMPLETION OF THE QUESTIONNAIRE

Please evaluate each numbered statement, which can be regarded as an indicator (guideline) for such a group-work model, and then indicate the importance thereof for the model, according to your opinion, on the 5-point scale by marking the appropriate block with a cross.

5 = extremely important (this indicator must definitely be included in the group-work model)
4 = very important (this indicator must preferably be included in the group-work model)
3 = important (it will be good if this indicator can be included in the model)
2 = less important (this indicator may possibly be left out of the model)
1 = not important at all (this indicator can definitely be left out of the model)

e.g. *Groups must consist of a specific number of members.* [5] [4] [3] [2] [1]

Opportunity for additional comments/opinions has been provided. Some of these questions (indicated by a "•"), provide a number of possibilities of which you must choose **one** by making a cross in the appropriate block, ***e.g:***

How long do you think a group must exist at a time? (Choose one)

6 months ☐
1 year ☐
for the duration of the course ☐
other (specify) ☐

Other questions are asked as open questions, to which you must answer in your own words on the lines provided.

It is important that a group-work model is designed which is feasible in the Faculty of Health Sciences of the UFS. Please keep this in mind when completing the questionnaire.
Please note that **all** the questions must be answered.
The questionnaire should take you ± 30 minutes to complete.

DEFINITIONS OF WORDS THAT ARE USED IN THE QUESTIONNAIRE

Group work: Work/assignments that are done by students in small groups.
Indicator: A guideline for a specific aspect of group work that may appear in the model.
Facilitator: The lecturer/person who assists students with questions/problems during group-work sessions.
Mentor: A person who acts as an advisor for the group outside group-work time.
Group process: The way in which a group functions to complete a specific assignment.
Group task: The assignment that a group must complete during a group-work session.
Assessment: Evaluation which counts marks.
Assessment instrument: A standard test/questionnaire that can be used for assessment.

PERSONAL INFORMATION
NB: THIS QUESTIONNAIRE IS ANONYMOUS

1 Involvement in group work

only Phase I ☐
only Phase II ☐
Phase I & II ☐

2 Sex

male ☐
female ☐

3 Role in MBChB learning programme
(Mark all that are appropriate)

Session presenter ☐
Group-work facilitator ☐
Module leader ☐
Phase I or II chairperson ☐

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

The indicators for the model are sorted under a number of headings. Please answer <u>all</u> the questions under <u>each</u> heading.

<u>COMPOSITION OF GROUPS</u>

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

1 Groups must consist of a specific number of members. [5] [4] [3] [2] [1] 1

- How many members do think must be in a group? (Choose one):

≤ 4 ☐
5-6 ☐
7-8 ☐
9-10 ☐
>10 ☐

2 The groups must specifically consist of an even or an odd number of members [5] [4] [3] [2] [1] 2

- What would you prefer? (Mark one)

A group that consists of an even number of members ☐
A group that consists of an odd number of members ☐

3 The following must be considered with the composition of groups: 3

The language of instruction of students [5] [4] [3] [2] [1]

The gender of students [5] [4] [3] [2] [1]

The population group/culture of students [5] [4] [3] [2] [1]

The age of students [5] [4] [3] [2] [1]

- If you could choose, which types of groups would you prefer? (Choose one for each of the following aspects):

Language of instruction — only Afrikaans or English ☐
Afrikaans and English mixed ☐

Gender — only male/female individuals in group ☐
mixed gender groups ☐

Population group — only members from the same population group ☐
members with mixed population groups ☐

Age — older students should form their own group ☐
older students should be divided up into different groups ☐

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

4 Students must be divided into groups according to a specific method. 5 4 3 2 1 4

- According to which of the following methods do you think should students be divided into groups? (Choose one)

According to the social relations between students (sociometry) ☐
According to roles that students would prefer to play in a group ☐
Students must choose the groups they would like to be in themselves ☐
Randomly ☐
According to academic achievement ☐
Alphabetically ☐

5 Students' needs must be taken into consideration when forming groups. 5 4 3 2 1 5

6 Groups must choose their own name for the group. 5 4 3 2 1 6

7 Groups must only function for a certain period before new groups are formed. 5 4 3 2 1 7

- How long do you think a group must exist at a time? (Choose one):

6 months ☐
1 year ☐
2 years ☐
for the duration of the course ☐
other (specify) ☐

8 An appropriate venue must be used for group work. 5 4 3 2 1 8

- Are you satisfied with the current venues/set up for group work?

Yes ☐
No ☐

9 The tables and chairs must be arranged so that members in a group can look towards one another. 5 4 3 2 1 9

10 Sufficient resources like library books and computers must be available for all the groups to use. 5 4 3 2 1 1

- Are the currently available resources sufficient? Yes ☐ No ☐

- If not, which resources are not sufficient? (Specify)

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

11 There must be opportunity to work in groups with students from other year groups of the same course. 5 4 3 2 1 11

12 There must be opportunity to work in groups with students from other courses (like nursing- and physiotherapy students). 5 4 3 2 1 12

13 Groups must have group leaders. 5 4 3 2 1 13

- In which way do you think group leaders should be appointed? (Choose one):

the group must choose their own leader ☐
the group leader must be appointed by lecturers ☐

- For which of the following periods of time do you think a person must act as group leader? (Mark one):

all the time as long as the group exists ☐
another leader each week ☐
another leader each semester ☐
a different leader for each module ☐
other (specify) ☐

14 Icebreaker sessions must be arranged for group members to get to know each other. 5 4 3 2 1 14

15 A specific role must be appointed to each member in a group. 5 4 3 2 1 15

16 Specific tasks must be appointed to each member in a group. 5 4 3 2 1 16

17 Ground rules must be laid down according to which groups have to function. 5 4 3 2 1 17

18 A contract must be compiled between group members in which guidelines for the working procedures in a group are determined. 5 4 3 2 1 18

19 Are there any additional comments that you would like to make regarding the composition of groups? 19

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

20 If you are involved in both Phase I and II, do you think that there should be any differences regarding the composition of groups in Phase I and II? 20

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

ORIENTATION OF STUDENTS AND TRAINING OF LECTURERS / FACILITATORS REGARDING GROUP WORK

Please indicate how important you consider the following statements to be as possible indicators for a group work model:

21	Students must be thoroughly orientated with regard to group work.	5	4	3	2	1	21
22	Lecturers and facilitators must be trained with regard to group work.	5	4	3	2	1	22
23	The training that students and lecturers/facilitators receive with regard to group work, must be in line with each other.	5	4	3	2	1	23
24	Mentors for groups must be trained with regard to the group process.	5	4	3	2	1	24
25	A complete guide on group work must be available.	5	4	3	2	1	25
26	Certain aspects of the orientation of students with regard to group work must be repeated during the course.	5	4	3	2	1	26

- If so, when do you think it should be repeated? (Choose one):

at the beginning of Phase II ☐
at the beginning of each study year ☐
at the beginning of each semester ☐
other (specify) ☐

_____

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

The following statements are possible aspects that may be addressed during training with regard to group work. Indicate on the scale, in each case, how important you think it is for students, lecturers ánd facilitators to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for students, lecturers and facilitators).

27 The importance and advantages of group work. 27

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

28 The objectives of group work. 28

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

29 The principles and conditions for successful group work. 29

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

30 Training in group dynamics (interrelations between group members). 30

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

31 Training in effective communication and social skills. 31

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

32 How to analyse interaction within a group. 32

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

33 How to identify and handle problems in a group. 33

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

34 The importance of maintaining the group process. 34

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

35 Training in the role and tasks of a group leader. 35

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

36 The different roles that group members may play. 36

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

37 The characteristics of effective and ineffective groups and group members. 37

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

38 Strategies to improve the effectiveness of a group. 3

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

39 How to plan and conduct a group-work session. 3

Students [5] [4] [3] [2] [1]

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

40 How to plan and conduct a group task. 40

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

41 The reasons why a variety of group-work methods should be used. 41

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

42 The different methods that can be used for group work (e.g. buzz groups, debates). 42

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

43 The importance of regular assessment of the group task. 43

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

44 The importance of regular assessment of the group process. 44

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

45 The different learning styles that students might possess. 45

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

46 The skills that students develop through doing group work. 46

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

47 The advantages and conditions of cooperative learning (learning through interaction with fellow students). 47

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

48 How participation and discussion of members within a group can be improved. 48

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

49 The importance of a positive attitude towards group work. 49

Students 5 4 3 2 1

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

- What is your attitude towards group work?

_____

_____

The following statements are possible additional aspects that may be addressed during training of lecturers and facilitators with regard to group work. Indicate, on the scale, in each case, how important you think it is for both lecturers and facilitators, to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for lecturers and facilitators).

50 The choice of a group-work method for a group-work session. 5

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

51 The compilation and formulation of group tasks for group-work sessions. 5

Lecturers 5 4 3 2 1

Facilitators 5 4 3 2 1

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

- Do you think you are competent enough to compile group tasks without any further training?

Yes ☐
No ☐

52 The importance of feedback to students regarding group work. 52

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

- Do you provide feedback to students on group work?

Yes ☐
No ☐

53 Appropriate assessment techniques for group work. 53

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

54 The role of a group-work facilitator. 54

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

55 Skills that are necessary to facilitate groups effectively. 55

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

56 How students can be assisted with regular self assessment of the group process and the group task. 56

Lecturers [5] [4] [3] [2] [1]

Facilitators [5] [4] [3] [2] [1]

57 Are there any additional comments you would like to make about the orientation or training of students, or the training of lecturers/facilitators regarding group work? 57

_____

_____

_____

_____

- Do you think that you have received adequate training regarding group work?

Yes ☐
No ☐

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

58 If you are of opinion that certain aspects of the training of students regarding group work should be repeated during the course, which aspects would it be? (Specify). 58

_____

_____

_____

_____

59 If you are involved in both Phase I and II, do you think there should be any differences regarding the orientation of students or the training of lecturers/facilitators for group work between Phase I and II? 59

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

GROUP-WORK SESSIONS

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

60 There must be mechanisms to encourage students to prepare for group work. [5] [4] [3] [2] [1] 60

61 Lecturers must know which types of questions and assignments for group work are suitable for the different kinds of knowledge that students should acquire. [5] [4] [3] [2] [1] 61

62 The assignment for group work must be suitable for the purpose of the specific group-work session. [5] [4] [3] [2] [1] 62

63 The assignments and outcomes for group work must be set out clearly so that groups know exactly what is expected from them. [5] [4] [3] [2] [1] 63

64 The task (assignment and topic) for group work must enhance cooperation and discussion between members of a group. [5] [4] [3] [2] [1] 64

- Do you know what such tasks entail?

Yes ☐
No ☐

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

- Do you know how to compile such tasks?

Yes ☐
No ☐

65 The outcomes which are set for a group task, must be realistic. 5 4 3 2 1 65

66 The group-work method that is used for a specific group-work session must support the specific purpose of the session. 5 4 3 2 1 66

67 A variety of group-work methods must be used for group work. 5 4 3 2 1 67

68 Group work must be done in small, as well as large (e.g. the whole class) groups. 5 4 3 2 1 68

69 The same amount of emphasis must be laid upon the common goal of the group, as well as individual accountability of group members during a group-work session. 5 4 3 2 1 69

- If you think that one of the above mentioned is more important, which one would it be? (Mark one):

the common goal of the group ☐
individual accountability of group members ☐

70 A specific number of facilitators must be available during group-work sessions. 5 4 3 2 1 70

- Do you think that the number of facilitators that are currently available for a group-work session, is sufficient?

Yes ☐
No ☐

- Are you satisfied with the fact that facilitators move around between groups to facilitate?

Yes ☐
No ☐

- How many facilitators do you think would be ideal for a group-work session? (Mark one):

1 per class ☐
2 per class ☐
other (specify) ☐

_____

71 The facilitators for a group-work session must be experts in the specific subject field in which group work is being done. 5 4 3 2 1 71

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

72 The same facilitators must be involved with all the group-work sessions of a specific module to ensure continuity, despite the contents of group work. 5 4 3 2 1 72

73 Students of more advanced study years may also be used as facilitators for group work. 5 4 3 2 1 73

74 The time that is spent on a group-work session should be determined by the specific task for the session. 5 4 3 2 1 74

- Would you prefer that group work is scheduled for constant times like the way it is done at present?

Yes ☐
No ☐

- Do you think that the time, which is currently available for a group-work session, is (mark one):

adequate? ☐
too little? ☐
too much? ☐

75 Feedback should be provided for each group-work session. 5 4 3 2 1 75

- Who do think should provide feedback on a group-work session? (Mark all that are appropriate):

the groups themselves ☐
the lecturer ☐
the facilitator ☐

- Would you prefer that feedback sessions be scheduled on the class time table?

Yes ☐
No ☐

- When do you think is the best time for feedback on a group work session? (Mark one):

directly after the session ☐
during directed learning time (only for Phase I) ☐
during the following session of the same module ☐
other (specify) ☐

_____

76 There should be rewards for effective group work. 5 4 3 2 1 76

- Which type of reward would you prefer? (Specify)

_____

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

77 Groups must have the opportunity to compete with one another, because it enhances group cohesion. [5] [4] [3] [2] [1] 77

78 Students must be divided into learning groups that can study together during directed learning- or self study times. [5] [4] [3] [2] [1] 78

- If learning groups are being used, how would you prefer these groups to be formed? (Mark one):

the same members as the groups during group-work sessions ☐

students must choose the learning group of which they want to be a member themselves ☐

79 Is there anything regarding the compilation or conducting of a task for a group-work session, that you would like to add? 79

_____

_____

_____

80 Are there any additional comments that you would like to make regarding group-work sessions? 80

_____

_____

_____

81 If you are involved in both Phase I and II, do you think that there should be any difference between the presentation or practice of group-work sessions between Phase I and II? 81

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

SUPPORT FOR STUDENTS AND LECTURERS/ FACILITATORS REGARDING GROUP WORK.

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

82 There must be a support system for groups and group members who experience problems with group work. [5] [4] [3] [2] [1] 82

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

83 There must be support available for lecturers and facilitators who experience problems with group work. 5 4 3 2 1 83

- Which type of support do you think is necessary for lecturers and facilitators? (Mark all that are appropriate):

academic support (e.g. the compilation of assignments for group work) ☐
organisational support ☐
administrative support ☐
other (specify) ☐

_____

84 The lecturer who presents a certain session of a module, must provide academic support to groups regarding the contents of the specific session. 5 4 3 2 1 84

85 Academic support must be provided in a group context. 5 4 3 2 1 85

86 Each group must have a mentor who provides support to the group with regard to the group process, outside group work time. 5 4 3 2 1 86

- Would you be available to act as mentor for groups?

Yes ☐
No ☐

87 Senior students may also act as mentors for groups. 5 4 3 2 1 87

88 After-hours social meetings must be arranged within groups to enhance the interrelations between group members. 5 4 3 2 1 88

89 Students must be able to contact their fellow group members after-hours, if necessary. 5 4 3 2 1 89

90 Are there any additional comments that you would like to make about the support of students or lecturers/facilitators regarding group work? 90

_____

_____

_____

_____

- Do you think that you are receiving sufficient support regarding group work?

Yes ☐
No ☐

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

91 If you are involved in both Phase I and II, do you think that there should be any difference regarding the support of groups between Phase I and II? 91

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

ASSESSMENT OF GROUP WORK

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

92	Both the group task (product of group work), as well as the group process must be assessed.	5	4	3	2	1	92
93	The criteria and methods of assessment of group work must be known to students beforehand.	5	4	3	2	1	93
94	There must be guidelines for determining assessment criteria for the assessment of group work.	5	4	3	2	1	94
95	Assessment of group tasks must form part of the semester mark of a module.	5	4	3	2	1	95
96	Assessment of the group process must form part of the semester mark of a module.	5	4	3	2	1	96
97	A group must prove that assessment of the group process has taken place (e.g. with a report), before members of the the group can obtain a semester mark for the specific module.	5	4	3	2	1	97
98	Clear guidelines must be available for the awarding of marks for a group task (product of group work).	5	4	3	2	1	98

- Which of the following would you prefer? (Mark one):

all members in a group should get the same marks for a group task ☐

the marks should be divided fairly among the group members according to each one's contribution to the group task ☐

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

99 Clear guidelines must be available for the awarding of marks for the group process. [5] [4] [3] [2] [1] 99

- Which of the following would you prefer? (Mark one):

all members in a group must get the same marks for the group process ☐

the marks must be divided fairly among the group members according to each one's contribution to the group process ☐

100 Individual students must evaluate themselves with regard to their contribution to group work. [5] [4] [3] [2] [1] 10

101 All group members must assess the group with regard to group work. [5] [4] [3] [2] [1] 10

102 Individual contributions of students to group work, should be assessed by fellow group members. [5] [4] [3] [2] [1] 10

103 The group leader of a specific group must be evaluated by the group members with regard to the fulfilment of his/her role and duties as group leader. [5] [4] [3] [2] [1] 10

104 Ground rules must exist for the asessment of students by their fellow group members. [5] [4] [3] [2] [1] 10

105 The lecturer must have the final control over the awarding of marks to students, even if assessment by fellow group members did take place (to protect students against discrimination). [5] [4] [3] [2] [1] 10

106 Regular assessment of <u>group tasks</u> must take place as part of continuous evaluation. [5] [4] [3] [2] [1] 10

- How often do you think it should take place? (Choose one):

after each group-work session ☐
once a month ☐
once a quarter ☐
after completion of a module ☐
other (specify) ☐

_____

107 Regular assessment of the <u>group process</u> must take place as part of continuous evaluation. [5] [4] [3] [2] [1] 1

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

- How often do you think it should take place? (Choose one):

after each group-work session ☐
once a month ☐
once a quarter ☐
once a semester ☐
once a year ☐
other (specify) ☐

_____

108	There must be support for groups that experience problems with the assessment of group work.	5	4	3	2
109	A variety of group tasks (products) of group work must be assessed.	5	4	3	2
110	The knowledge, skills and attitudes which students develop through doing group work must be assessed.	5	4	3	2
111	Specific assessment instruments (e.g. questionnaires) must be available for the assessment of the group process.	5	4	3	2
112	Groups must report the outcome of their group tasks in various ways, e.g. a presentation, a poster, etc.	5	4	3	2
113	Groups and group members must receive feedback on assessment of group work.	5	4	3	2
114	Strategies to improve the group process, must be planned according to the outcome of assessment of the group process.	5	4	3	2
115	Outcomes of group tasks must be covered in exams and tests.	5	4	3	2
116	Students must get the opportunity, at the end of a module, to evaluate the way in which assessment of group work took place in the specific module.	5	4	3	2
117	Lecturers' involvement in a group-work session must be evaluated.	5	4	3	2
118	Group-work facilitators must be evaluated according to the effectivity with which they facilitated group-work sessions.	5	4	3	2

119 Are there any additional comments that you would like to make about the assessment of group work?

_____

_____

_____

5 =Extremely important 4 =Very important 3 =Important 2 =Less important 1 =Not important at all

120 If you are involved in both Phase I and II, do you think that there should be any differences with regard to the assessment of group work between Phase I and II?

Yes ☐
No ☐

If so, please specify:

_____

_____

_____

_____

GUIDELINES FOR THE IMPLEMENTATION OF GROUP WORK

Please indicate how important you consider the following statements to be as possible indicators for a group-work model:

121 Clear guidelines for the implementation of group work should be available. 5 4 3 2 1 12

122 A group-work team/committee should be appointed for the implementation of group work. 5 4 3 2 1 12

Indicate on the scale, according to your opinion, the importance of each of the following possible functions of the group-work team/committee.

123 Regular evaluation of the process of implementation of group work. 5 4 3 2 1 12

124 The planning of strategies to improve group work in Phase I and II. 5 4 3 2 1 12

125 Ensure that the objectives for which group work was implemented, are reached. 5 4 3 2 1 12

126 Ensure that proper orientation of students regarding group work takes place. 5 4 3 2 1 12

127 Ensure that proper training of lecturers, facilitators and mentors regarding group work takes place. 5 4 3 2 1 12

128 The provision of a support system for students and lecturers/facilitators who are involved with group work. 5 4 3 2 1 12

129 Provision of guidelines for the assessment of group work. 5 4 3 2 1 12

130 Provision of assessment instruments for the assessment of group work. 5 4 3 2 1 12

[5] =Extremely important [4] =Very important [3] =Important [2] =Less important [1] =Not important at all

131 Is there anything regarding the functions of the group-work team/committee that you would like to add? 131

_____

_____

_____

132 Are there any additional comments that you would like to make about the planning and implementation of group work? 132

_____

_____

_____

133 Are there any additional comments that you would like to make about the monitoring of group work? 133

_____

_____

_____

THANK YOU VERY MUCH FOR YOUR COOPERATION

Appendix E

Request to participate in the Delphi study

Request to participate in a study on small group learning in medical education

I am a lecturer at the Department of Basic Medical Sciences (Division Anatomy) at the University of the Free State (UFS), **Bloemfontein, South Africa**. I lecture Anatomy to the medical, nursing and allied health professions students. I am also involved with the compilation and structuring of the new MBChB-learning programme, which commenced in 2000.

I am currently busy developing a model for the group work in Phase I and II of the new MBChB-learning programme, as part of a PhD-degree in Health Professions Education. The purpose of the study is to provide guidelines for the implementation and practice of group work in the medical learning programme at the UFS.
My supervisor is prof. MM Nel, Head of the Division for Educational Development, Faculty of Health Sciences, University of the Free State.
My co-supervisor is prof. SA Petersen, Head of Medical Education, School for Medicine, University of Leicester, UK.

The ability to work as a member of a health team and to communicate effectively is part of the critical, cross-field outcomes which were determined by the South African Qualifications Authority (SAQA). The Health Professions Council of South Africa (HPCSA) included these important skills as part of the objectives for medical education and training in South Africa which are based on international standards for medical education (as it appears in the Edinburgh, Yaounde and Cape Town Declarations).

A new MBChB-learning programme, approved by SAQA, was implemented at the UFS in 2000. This programme is based on a hybrid tuition system, which includes formal lectures, small group work and directed independent study and is divided into three phases: Phase I is a preparatory year (introduction to natural and human sciences), Phase II (2 years) is a thematic, systems-based course that focuses on a core curriculum and the development of clinical skills. Phase III (2 years) comprises clinical training and has a discipline-based approach.

Since the implementation of this learning programme commenced, it has become clear that students and staff do not regard small group learning as a valuable learning tool, since no clear guidelines for group work exist and they appear to be uncertain about the practice and principles thereof. Because a hybrid tuition system is followed at the UFS, the existing group-work models (mainly focused on a purely problem-based approach) are not applicable. There is therefore an urgent need for a unique group-work model to provide the necessary guidelines for group work in Phase I and II of the programme. Since small group learning is already in use for clinical training of medical students (in the old curriculum) and due to the fact that Phase III has not yet commenced, Phase III is excluded from this study.

The method of investigation for this study includes a thorough literature study to determine indicators for such a group-work model. This literature study has already been done. A survey on the opinions of the first and second year medical students, as well as all the staff involved with Phase I and II of the medical curriculum, was also conducted in order to determine their opinions of the relative importance of the different indicators for the group-work model. The Delphi study is the next step of the study, aimed at asking the opinion of experts in small group learning and medical education regarding the importance of the indicators which have been identified for the group-work model. The Delphi study, a consensus method of research, is regarded useful for this study because it is a fast and cost-effective way of obtaining the opinions of experts on the particular subject under study through a series of questionnaires. The participants will have to rate the relative importance of the different items in the questionnaire (in this case it will be indicators for a group-work model). Opportunity for additional comments will also be provided. The questionnaires will then be adjusted according to the responses of the participants and sent again to the experts to reconsider their opinions according to the feedback from the previous round. This process will be repeated until consensus is reached on the different items of the questionnaire. According to the literature, three rounds are usually enough to reach consensus on the different items. It is important to note that the different experts who will take part in this study, will be anonymous to one another, and that the feedback on the responses will be an anonymous process. The participants will therefore not be able to identify the origin of the different responses given in the feedback. The questionnaires that will be sent between the different rounds will be forwarded by electronic mail or by post, depending on each participant's preference. The questionnaires should not take more than 45 minutes to complete at a time.

You have been recommended by ..... to participate in this study on small group learning as ..... You are therefore considered to be knowledgeable in medical education and appear to be the ideal person to participate in this study.

Please be assured that all information will be handled confidentially by the researcher, but with your consent, recognition will be given to your participation in the study in any report that might result from the study. The first questionnaire, as well as more background on the medical learning programme at the UFS, will be forwarded to participants by the end of March/beginning of April 2002.

I would appreciate it very much if you would agree to take part in this study. Your opinion will be highly regarded and will be a valuable asset to this study.

I am therefore looking forward to hearing from you soon.

Yours sincerely

Daleen Raubenheimer (dr)
Student number 1999329442

Appendix F

Delphi- Background information

DEVELOPING A MODEL FOR GROUP WORK IN PHASES I AND II OF THE MBChB LEARNING PROGRAMME AT THE UNIVERSITY OF THE FREE STATE

Introduction to this study

Medical education is currently characterised by drastic changes which are manifested in the design and delivery of learning programmes for undergraduate medical students. One aspect which is receiving much more emphasis than ever before, is learning to work in teams. Although functioning in a multi-disciplinary team has always been a central part of medical practice, this essential skill never received the attention it deserves in undergraduate medical education. The goal of fully competent learners (in terms of the knowledge, skills, values and attitudes necessary to be professional, competent general practitioners), has only become an objective of medical education and training after a world-wide paradigm shift occurred in medical education.

The ability of doctors to work in health teams, to communicate effectively and to solve problems successfully has been emphasised repeatedly at the World Federation for Medical Education (WFME) conferences. The Professional Medical Boards of several countries, e.g. those of the United Kingdom and the Netherlands have subsequently included important teaching strategies in their guidelines for training professional, competent doctors.

Apart from the importance of small-group learning for developing teamwork skills, interactive and collaborative learning also proved to have many educational advantages: It is an effective method of learning which enhances active and deep learning and motivates students to take responsibility for their own learning. Collaborative learning also improves students' problem-solving and social skills and enables better retention of what they learn.

South Africa is also currently undergoing changes in medical education towards a problem-oriented, learner-centred and community-oriented approach. The South African Qualifications Authority (SAQA), the statutory body responsible for the development and implementation of the National Qualifications Framework (NQF), determined critical, cross-field outcomes which must be embedded in all learning programmes and these critical outcomes include effective communication skills and the ability to work effectively as a member of a team. The Health Professions Council of South Africa (HPCSA) included these outcomes in the objectives for medical education and training in South Africa which are based on the principles of the Edinburgh, Yaounde and Cape Town Declarations (which resulted from the WFME conferences).

The University of the Free State (UFS) implemented a transformed medical learning programme for undergraduate medical students in 2000. This is a five-year curriculum, based on the guidelines and requirements of the HPCSA and SAQA. The goal of this new MBChB learning programme is to ensure that medical students acquire the necessary knowledge, skills, behaviour and attitudes which are necessary to practise as competent, professional general practitioners. There are several premises that underlie this programme, including the objective for students to develop into independent, lifelong learners and the ability to work effectively in health teams.

This medical learning programme consists of three Phases: Phase I (one year) is a preparatory year and serves as an introduction to natural and human sciences, with the purpose of skills development (mainly the critical cross-field outcomes required by SAQA). Phase II (two years) is a thematic, system-based course that focuses on a core curriculum and the development of clinical skills. Phase III (two years) comprises clinical training and the reinforcing of basic knowledge and has a discipline-based approach. In Phases I and II, formal lectures, group work and directed self-study are all elements of teaching and learning, which implies that a learner-centred, resource-based and integrated approach towards undergraduate medical education and training is now emphasised.

The MBChB learning programme consists of different modules that are all semester courses (±14 weeks). Five modules are presented per semester and each module is presented on a different day of the week (e.g., the Gastro-intestinal system module is presented on each Monday of the semester) (see Appendix A for a summary of the structure of this programme). Each day of the week consists of a three-hour session of which the first hour is usually spent on a lecture. This serves as an introduction to the next two hours of the session, which are usually spent on group work. However, this is not a rule, and there are exceptions like practical demonstrations or a second lecture which could be included in the session. The concept of group work refers to any assignment that students do in small groups. The rest of each day is spent on directed self-study and the development of clinical skills in the skills laboratory. Both a task-based and a problem-oriented approach to group work are being followed at the UFS. The task-based group work implies direct assignments that students have to complete within their groups. Problem-oriented group work includes problems (e.g. case studies) which are presented to the groups and which have to be solved by the group as a whole. The responsible lecturer decides which type of group work is applicable to the particular session.

The lecturer who is responsible for a session has to compile a work book which contains the aims of the session, the outcomes, references and resources of work that students have to prepare, a synopsis of the lecture, as well as instructions and questions/problems for group work and self-study. Due to the lack of staff/facilitators, there are usually only one (sometimes two) facilitators per class for group work. The UFS has a dual medium of instruction and therefore there are both Afrikaans and English groups of students. In most modules, the sessions of the two groups are presented in a "dovetail" fashion, which implies that the three-hour session of the first group starts one hour before the second group. This ensures that the same lecturer presents the lecture to both groups of students. Therefore, another facilitator is necessary to facilitate the group work of the first group of students while the lecturer teaches the second group. The lecturer is then available to facilitate group work of the second group after the lecture. The following is a schematic illustration of a typical session:

A **HOUR 1** **Lecture**	**A** **HOUR 2** **Group work**	**A** **HOUR 3** **Group work**	
	E **HOUR 1** **Lecture**	**E** **HOUR 2** **Group work**	**E** **HOUR 3** **Group work**

A – Afrikaans
E – English

However, in a few modules the sessions for the two groups of students are presented on different days and then the lecturer is also the group-work facilitator for the specific sessions.

The student population at the UFS is very diverse and includes Black, White, Coloured and Asian students. Huge discrepancies still exist in the school education in South Africa, and although the students are selected for the MBChB learning programme on the basis of their academic achievement and extra-mural activities at school, it is a reality that many students still need guidance as far as tuition is concerned. The outcomes-based approach to school education has also only recently been implemented and therefore the concept of small-group learning is relatively unknown to the students who are currently involved with this programme. This is one of the reasons why a purely problem-based approach is not being followed, but rather a hybrid system consisting of lectures, group work and directed self-study.

Problem statement

Group work is now an essential, although not the only, element of instruction in the new MBChB learning programme at the Faculty of Health Sciences of the UFS. Although it was implemented as part of the new medical curriculum which commenced in 2000, no clear guidelines to lecturers, facilitators and students regarding group work exist at the moment and it is clear that the group work does not serve the purposes it was intended for, namely to be part of instruction and of student learning, and to teach students how to work effectively in teams. Therefore students and staff do not find group work a useful instructional and learning tool. Without clear guidelines to staff and students and timely staff development sessions, and also due to the relative inexperience of both staff and students with regard to group work, it is very clear that a definite model for group work, with clear guidelines for the implementation and practice thereof, is essential for successful group work in Phases I and II of this learning programme.

Small-group learning has always been part of the clinical training of medical students (even in the old curriculum), and the same discipline-based, patient-oriented approach as always will be followed in Phase III of the new medical learning programme. Because these principles proved to be feasible and acceptable, it appears as if there is no need for a model for group work in Phase III at the moment. For this reason, and due to the fact that Phase III will only commence in 2003, Phase III is not included in this study.

It is not possible to use any of the existing models for group work that are used by other medical schools, because most of these models are based on a purely problem-based approach where small group learning is the main (if not only) means of instruction, e.g. that of Maastricht University in the Netherlands. It is thus necessary to design a unique model for group work at the UFS through this study.

Goal and aims of this study

The goal of this study is to contribute to the quality of education and training in the MBChB learning programme of the UFS. The aim of the study is therefore to design a model for group work in Phases I and II of this learning programme.

The specific objectives of the study are the following:

1. To determine indicators for a group-work model in medical education by means of a thorough literature study.
2. To present these indicators to the students and staff involved with Phases I and II and to determine the important indicators for a feasible group-work model at the UFS from their responses.
3. To design a framework, using these indicators, for a model for group work, specifically for Phases I and II of the MBChB learning programme at the UFS.
4. To use the Delphi technique amongst experts in small group learning and medical education, to reach consensus regarding the structure and contents of the specific group-work model.
5. To design a model for group work in Phases I and II of the medical curriculum according to the findings of the Delphi technique.

Design and procedure of the study

A literature study has been completed through which indicators for a group-work model have been derived. These indicators were presented to the staff and the first and second year medical students (in 2001, only the first two years of the new medical learning programme were running). The staff included all the module leaders, lecturers and small-group facilitators involved with Phase I and the first year of Phase II. This was done as a survey on the opinions of the students and staff regarding the relative importance of the different indicators for a group-work model.

This Delphi study, in which you are currently a participant, is aimed at garnering the opinions of experts in medical education and small-group learning on the relative importance of these indicators for the group-work model (presented in the form of a questionnaire). The responses from the first questionnaire will be analysed by this researcher and feedback on the responses will be included in the second questionnaire. The latter will only contain the items on which consensus has not been reached. The responses from the different participants on each item will be shown, although no indication will be given of the origin of the different responses. Participants will then have the opportunity to reconsider their opinions on these remaining items. This process will be repeated until consensus has been reached on the different items, or when responses of the different participants are stable (thus no change between successive rounds). The final results will be forwarded to each participant afterwards and the group-work model will then be designed.

APPENDIX A

DIAGRAMMATICAL REPRESENTATION OF THE STRUCTURE OF THE MBChB PROGRAMME

PHASE I		PHASE II					PHASE III			
Year 1 (128C)		Year 2 (144C)			Year 3 (184C)		Year 4 (200C)		Year 5 (200C)	
Sem 1	Sem 2	Sem 3		Sem 4	Sem 5	Sem 6	Sem 7 & 8		Sem 9 & 10	
Health Psychology MEB113 **12C**	Health Policy and Service Provision MEG123 **12C**	Principles of therapy and imaging MFN214 **16C**	Special study module** GSM202 **16C (4 WEEKS)**	Urinary system GUS224 **16C**	Gastrointestinal system MEU314 **16C**	Human diversity MEZ324 **16C**	Introduction to clinical medicine – 2w **8C**	Internal Medicine INM406 6w **24C** Gen. Surgery CHM406 6w **24C** Paediatrics PEM406 6w **24C** Obstetrics GOB406 6w **24C** Psychiatry OSM406 6w **24C** Cardiology CAM402 2w **8C** Neurology NEM402 2w **8C** Oncotherapy OKM402 2w **8C** Forensic Medicine GGM402 2w **8C** Ophthalmology OFM402 2w **8C** Othorhinolaringology GOG402 2w **8C**	Compulsory residency with an approved general practitioner – 2w **8C (electives)**	Internal Medicine INM506 6w **24C** Gen. Surgery CHM506 6w **24C** Trauma and Ortopaedics ORM 506 6w **24C** Paediatrics PEM506 6w **24C** Gynaecology GGI 506 6w **24C** Family Medicine HAN505 4w **20C** Dermatology DEM502 2w **8C** Geriatrics GGE502 2w **8C** Anaesthesiology ANN502 2w **8C** Urology URM502 2w **8C**
The doctor and his environment MEC113 **12C**	Epidemiology and Biostatistics MEH123 **12C**	Musculoske-letal System MEO214 **16C**		Immunology and Haematology MEQ224 **16C**	Health and disease in populations MEX314 **16C**	Human life cycle MAE324 **16C**				
Concepts of Health and Disease MED113 **12C**	Molecules of the Body MEI123 **12C**	Metabolism GMB214 **16C**		Cardiovascular system MIS224 **16C**	Respiratory system MFW314 **16C**	Ethical and legal aspects of medicine MDD324 **16C**				
Tissues of the Body MEE113 **12C**	Development of the Body MEJ123 **12C**			Infections MJR224 **16C**	Genital system MEY314 **16C**	Reproduc-tion GRE324 **16C**				
Structure of the Body MEF113 **12C** MEA112 **8C**	Electrical Systems of the Body MFK123 **12C**	Membranes and Receptors GMR214 **16C**		Mechanisms of disease MFP224 **16C**	Exocrine and endocrine glands GEE314 **16C**	Nervous system MGB324 **16C**				
Level 8a Credits: 856 Notional Hours: 8560		Clinical skills Module Commences as GKV202 in second year and evaluated as GKV302 at the end of third year of study. **16C**							2 WEEKS	

* MEA112 is integrated in the modules of Phase I (Semester 1). It is aimed at the development of the critical, cross-field (transferable) outcomes

** Commences as GSM202 in Semester 3 and evaluation of mini-script takes place in Semester 6 as GSM302

C = Credits **w** = weeks

In semester 7-10 academic afternoons will be scheduled. (Elective themes) (24 Credits per year) (DET 406) and (DET 506)

Appendix G

Delphi First Questionnaire

PURPOSE OF THE QUESTIONNAIRE

The way in which group work is being presented in Phases I & II of the medical learning programme of the UFS at the moment, is not always as successful as it should be, and this seems to frustrate many lecturers and students. This study is being undertaken to provide a model for group work in Phases I and II of the new MBChB learning programme, so that both students and lecturers can be informed as to how group work can be used to its full potential.

This questionnaire contains numbered statements which can be regarded as indicators for a group-work model, but also provides opportunities for additional comments and suggestions. The items have been divided into six sections which are all different aspects of group work. All the questions under each section must be answered. The purpose is to obtain the opinion of each participant on the relative importance of each indicator for such a model.

Please note that your response is **anonymous** to the other participants, and therefore you should feel free to answer the questions as honestly as possible. The feedback given in successive rounds will also be anonymous.

INSTRUCTIONS FOR THE COMPLETION OF THE QUESTIONNAIRE

Please evaluate each numbered statement, which can be regarded as an indicator (guideline) for the group-work model, and then indicate the importance thereof for the model, in your opinion, on the 5-point scale. The specific points of the scale are defined as follows:

5 = **very important** (this indicator must definitely be included in the group-work model)
4 = **important** (this indicator must preferably be included in the group-work model)
3 = **neutral** (it does not matter if this indicator is included or left out from the group-work model)
2 = **unimportant** (this indicator must preferably be left out of the group-work model)
1 = **not important at all** (this indicator must definitely be left out of the group-work model)

If you complete the questionnaire electronically, please type in a cross (X) underneath the specific point on the scale that represents your opinion on the specific indicator. If you complete the questionnaire on a paper copy (printed out), please make a cross (X) underneath the specific point of the scale, ***e.g:***

1	*Groups must consist of a specific number of members.*	*5*	*4*	*3* **X**	*2*	*1*	***Comments***

Opportunity for additional comments/opinions has been provided in three ways:

a) The last column of the table provides space for comments on each specific item (as in the example above and below).

b) Some of the questions (indicated by a "•"), provide a number of possibilities of which you must choose **one** by typing/making a cross in the appropriate block, ***e.g:***

• *How many members do think must be in a group? (Choose one):*	*≤4*		***Comments***
	5-6	**X**	
	7-8		
	9-10		
	>10		

c) At the end of each section of the questionnaire, open questions are asked on the specific section, to which you may answer in your own words in the space provided, ***e.g:***

20	*Are there any additional comments that you would like to make regarding the composition of groups?*

It is important that a group-work model is designed which is feasible in the Faculty of Health Sciences of the UFS. Please keep this in mind when completing the questionnaire.
Please note that **all** the questions must be answered.
The questionnaire should take you ± 45 minutes to complete.

DEFINITIONS OF WORDS THAT ARE USED IN THE QUESTIONNAIRE

Group work: Work/assignments done by students in small groups during each session of a module.

Indicator: A guideline for a specific aspect of group work that may appear in the model.

Facilitator: The lecturer/person who assists students with questions/problems during group-work sessions. Note that most, but not all, facilitators are lecturers at the UFS. However, the facilitator for a specific session is not necessarily the same person as the lecturer who presents the lecture for that session.

Mentor: A person who may act as an advisor for the group outside group-work time. This may include lecturers or senior students.

Group-work method: The specific format (technique used) of a group-work session, e.g. buzz groups, brainstorming, crossover groups, etc.

Group-work type: The different ways in which group work can be done, e.g. task-based group work, problem-oriented group work, etc.

Group process: The way in which a group functions to complete a specific assignment. This will include group dynamics, roles that different members play in the group, communication, cooperation, etc. (i.e., everything involved with the way in which groups function).

Group task: The assignment that a group must complete during a group-work session. This includes the task that groups receive to complete during group-work time, as well as the product of the group work of the particular session (e.g. a presentation of the task completed by the group).

Assessment: Summative evaluation (evaluation which counts marks).

Evaluation: Formative evaluation (evaluation which does not count marks and serves as feedback to the students).

Assessment instrument: A standard test/questionnaire that can be used for assessment of either the group task or the group process.

PERSONAL INFORMATION

Please provide the following personal information. Please note that this personal information is required solely for the researcher to develop a better understanding of the nature of the expertise of each Delphi participant. All this information will be handled confidentially by the researcher. None of the participants of the Delphi study will be identified at any stage of the study. Recognition will be given to each participant, only with his/her consent, in any report that might result from this study.

Name:		
Title:		
Position:		
Institution:		
Address:		
(All) Qualification(s):		
Number of years experience in medical education:		
Are you involved in small-group learning in any way?		
Yes		
No		
• **If yes, please describe your involvement:**		
• **If no, please describe your interest in medical education:**		

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

The indicators for the group-work model are grouped under a number of headings.
Please answer all the questions under each heading.
Please include your comments in the last column.

COMPOSITION OF GROUPS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

1	Groups must consist of a specific number of members.	5	4	3	2	1	

• How many members do think should be in a group? (Choose one):	≤ 4		
	5-6		
	7-8		
	9-10		
	>10		

2	The groups must specifically consist of an even or an odd number of members.	5	4	3	2	1	

• If you think that one of the above-mentioned (in item 2) is better, which one would it be? (Mark one):		
A group that consists of an even number of members		
A group that consists of an odd number of members		

3	The following must be considered with the composition of groups:						
	The language of instruction of students	5	4	3	2	1	
	The gender of students	5	4	3	2	1	
	The population group/culture of students	5	4	3	2	1	
	The age of students	5	4	3	2	1	
	The academic achievement of students	5	4	3	2	1	

• If you consider any of the above-mentioned aspects (in item 3) to be important, how do you think should groups be composed as far as these aspects are concerned? (Choose one for each of these aspects):		
Language of instruction:		
Only groups with the same language		
Mixed language groups		
Gender:		
Only male/female individuals in a group		
Mixed gender groups		
Population group:		
Only members from the same population group		
Members with mixed population groups		
Age:		
Older students must form their own group		
Older students must be divided up into different groups		
Academic achievement:		
High/low achievers should form their own separate group		
High/low achievers should be mixed in different groups		

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

4	Once the composition of groups has been determined, students should be divided into groups according to a specific method.	5	4	3	2	1	

• According to which of the following methods do you think should students be divided into groups? (Choose one):	
According to the social relations between students (sociometry)	
According to roles that students would prefer to play in a group	
Students must choose the groups they would like to be in themselves	
Randomly	
Alphabetically	
Other (specify)	

5	Students' needs must be taken into consideration when forming groups.	5	4	3	2	1	
6	Groups must choose their own name for the group.	5	4	3	2	1	
7	Groups must only function for a certain period before new groups are formed.	5	4	3	2	1	

• How long do you think a group should exist at a time? (Choose one):	
6 months	
1 year	
For the duration of a specific Phase (1 year for Phase I and 2 years for Phase II)	
For the duration of the course (5 years)	
Other (specify)	

8	There should be opportunity to work in groups with students from other year groups of the same course.	5	4	3	2	1	
9	There should be opportunity to work in groups with students from other courses (like nursing and physiotherapy students).	5	4	3	2	1	
10	Groups must have group leaders.	5	4	3	2	1	

• In which way do you think should group leaders be appointed? (Choose one):	
The group must choose its own leader	
The group leader must be appointed by lecturers	
Other (specify)	

• For which of the following periods of time do you think a person should act as group leader? (Mark one):	
All the time as long as the group exists	
Another leader each week	
Another leader each semester	
A different leader for each module	
Other (specify)	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

11	Icebreaker sessions must be arranged for group members to get to know each other.	5	4	3	2	1	
12	A specific role must be appointed to each member in a group.	5	4	3	2	1	
13	Specific tasks must be appointed to each member in a group.	5	4	3	2	1	
14	Ground rules must be laid down according to which groups have to function.	5	4	3	2	1	
15	A contract must be compiled between group members in which guidelines for the working procedures in a group are determined.	5	4	3	2	1	

16	Are there any additional indicators for the composition of groups that you would like to suggest?
17	Are there any additional comments that you would like to make regarding the composition of groups?

TRAINING OF STUDENTS, LECTURERS AND FACILITATORS REGARDING GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

18	Students must be thoroughly trained with regard to group work.	5	4	3	2	1	
19	Lecturers and facilitators must be trained with regard to group work.	5	4	3	2	1	
20	The training that students and lecturers/facilitators receive with regard to group work, must be in line with each other.	5	4	3	2	1	
21	Mentors for groups must be trained with regard to the group process.	5	4	3	2	1	
22	A complete guide on group work must be available for students.	5	4	3	2	1	
23	A complete guide on group work must be available for staff.	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

24	Certain aspects of the training of students with regard to group work must be repeated during the course.	5	4	3	2	1	

- If you are of opinion that certain aspects of the training of students regarding group work should be repeated during the course, which aspects would it be? (Please specify).

• If any aspects of the training of students should be repeated, when do you think they should be repeated? (Choose one):		
At the beginning of Phase II (second year of course)		
At the beginning of each study year		
At the beginning of each semester		
Other (specify)		

The following statements are possible aspects that may be addressed during training with regard to group work. Indicate on the scale, in each case, how important you think it is for students, lecturers and facilitators to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for students, lecturers and facilitators).

25	The importance and advantages of group work.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
26	The objectives of group work.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
27	The principles and conditions for successful group work.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
28	Training in group dynamics (interrelations between group members).						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

29	Training in effective communication and social skills.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
30	How to analyse interaction within a group.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
31	How to identify and handle problems in a group.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
32	The importance of maintaining the group process.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
33	Training in the role and tasks of a group leader.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
34	The different roles that group members may play.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
35	The characteristics of effective and ineffective groups and group members.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
36	Strategies to improve the effectiveness of a group.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

37	How to plan and conduct a group-work session.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
38	How to plan and complete a group task.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
39	The different types of group work that can be used during a group-work session (e.g. task-based and problem-oriented group work).						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
40	The process of solving problems (related to the group task).						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
41	The different methods that can be used for group work (e.g. buzz groups, crossover groups, etc.).						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
42	The reasons why a variety of group-work methods should be used.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
43	The importance of regular evaluation of the group task.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

44	The importance of regular evaluation of the group process.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
45	The different learning styles that students might possess.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
46	The skills that students develop through doing group work.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
47	The advantages and conditions of cooperative learning (learning through interaction with fellow students).						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
48	How participation and discussion of members within a group can be improved.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
49	The importance of a positive attitude towards group work.						
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

The following statements are possible <u>additional aspects</u> that may be addressed during training of lecturers and facilitators with regard to group work. Indicate, on the scale, in each case, how important you think it is for both lecturers and facilitators, to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for lecturers and facilitators).

50	The choice of a group-work method for a group-work session.						
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

51	The compilation and formulation of group tasks for group-work sessions.						
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
52	The importance of feedback to students regarding group work.						
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
53	Appropriate assessment techniques for group work.						
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
54	The role of a group-work facilitator.						
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
55	Skills that are necessary to facilitate groups effectively.						
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
56	How students can be assisted with regular self-evaluation of the group process and the group task.						
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

57	Are there any additional indicators regarding the training of students and staff that you would like to suggest?
58	Are there any additional comments you would like to make about the training of students, lecturers or facilitators regarding group work?

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

GROUP-WORK SESSIONS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

59	Appropriate venues must be used for group work.	5	4	3	2	1	
60	The tables and chairs must be arranged so that members in a group can look towards one another.	5	4	3	2	1	
61	Sufficient resources like library books and computers must be available for all the groups to use.	5	4	3	2	1	
62	Clear outcomes for the development of group-work skills must be set and made known to students.	5	4	3	2	1	
63	There must be mechanisms to encourage students to prepare for group work.	5	4	3	2	1	

- Are there any such mechanisms that you would like to suggest from your experience, which might be feasible?

64	Lecturers must know which types of questions and assignments for group work are suitable for the different kinds of knowledge that students should acquire (according to Bloom's taxonomy).	5	4	3	2	1	
65	The assignment for group work must be suitable for the purpose of the specific group-work session.	5	4	3	2	1	
66	The assignments and outcomes for group work must be set out clearly so that groups know exactly what is expected of them.	5	4	3	2	1	
67	The task (assignment and topic) for group work must enhance cooperation and discussion between members of a group.	5	4	3	2	1	

- Are there any such types of assignments that you would recommend from your experience?

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

- What would you suggest for modules of which the content is not suitable for group work?

68	The outcomes which are set for a group task must be realistic.	5	4	3	2	1	
69	The type of group work (task-based or problem-oriented) used for a specific session must support the specific purpose of the session.	5	4	3	2	1	
70	The group-work method that is used for a specific group-work session must support the specific purpose of the session.	5	4	3	2	1	
71	A variety of group-work methods should be used for group work.	5	4	3	2	1	
72	Group work must be done in small, as well as large (e.g. the whole class) groups.	5	4	3	2	1	
73	The same amount of emphasis should be laid upon the common goal of the group, as well as individual accountability of group members during a group-work session.	5	4	3	2	1	

- If you think that one of the above-mentioned (in item 73) is more important, which one would it be? (Mark one):

The common goal of the group	
Individual accountability of group members	

74	A specific number of facilitators must be available during group-work sessions.	5	4	3	2	1	

- How many groups per facilitator do you think would be ideal for a group-work session? (Please specify).

- Do you think that it is acceptable for facilitators to move around between groups to facilitate the group work?

Yes	
No	

75	The facilitators for a group-work session must be experts in the specific subject field in which group work is being done.	5	4	3	2	1	
76	The same facilitators must be involved in all the group-work sessions of a specific module to ensure continuity, regardless of the contents of the group work.	5	4	3	2	1	
77	Students from more advanced study years may also act as facilitators for group work.	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

78	The time that is spent on a group-work session should be determined by the specific task for the session.	5	4	3	2	1	

• Do you think it is acceptable if a three-hour session (as it is the case at the UFS) is flexible in terms of the structure (how many lectures/hours group work)?	
Yes	
No	

79	Feedback should be provided after each group-work session on the work done during the session.	5	4	3	2	1	

• Who do think should provide feedback on a group-work session? (Mark all that are appropriate):	
The groups themselves	
The lecturer	
The facilitator	
• When do you think is the best time for feedback on a group-work session? (Mark one):	
Directly after the session	
During the following session of the same module	
Other (specify)	

80	There should be rewards for effective group work.	5	4	3	2	1	
81	Groups must have the opportunity to compete with one another, because it enhances group cohesion.	5	4	3	2	1	
82	Students must be divided into learning groups that can study together during self-study times.	5	4	3	2	1	

• If you think learning groups should be used, how do you think should these groups be formed? (Mark one):	
The same members as the groups during group-work sessions	
Students must choose the learning group of which they want to be a member themselves	

83	Is there anything regarding the compilation or completion of a task for a group-work session, that you would like to add?

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

84	Are there any additional comments that you would like to make regarding group-work sessions?
85	What is your opinion of the structure of the three-hour sessions (one hour lecture, two hours group work) of modules being presented at the UFS (as explained in the background information document)?

SUPPORT FOR STUDENTS AND LECTURERS/ FACILITATORS REGARDING GROUP WORK.

Please indicate how important you consider the following statements as possible indicators for a group-work model:

86	There should be a support system for groups and group members who experience problems with group work.	5	4	3	2	1	
87	There should be support available for lecturers and facilitators who experience problems with group work.	5	4	3	2	1	

• If you think that the above-mentioned (item 87) is important, which type of support do you think is necessary for lecturers and facilitators? (Mark all that are appropriate):	
Academic support (e.g. how to compile assignments for group work)	
Organisational support (e.g. the arrangement of tables and chairs for group-work sessions)	
Administrative support (e.g. copying of work books for group-work sessions)	
Other (specify)	

88	The lecturer who presents a certain session of a module, must provide academic support to groups regarding the contents of the specific session.	5	4	3	2	1	
89	Academic support must be provided in a group context.	5	4	3	2	1	
90	Each group should have a mentor who provides support to the group with regard to the group process, outside group-work time.	5	4	3	2	1	
91	Senior students may also act as mentors for groups.	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

92	After hours social meetings should be arranged within groups to enhance the interrelations between group members.	5	4	3	2	1	
93	Students must be able to contact their fellow group members after hours, if necessary.	5	4	3	2	1	
94	Are there any additional comments that you would like to make about the support of students, lecturers or facilitators regarding group work?						

ASSESSMENT OF GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

95	The group task (product of group work) must be assessed.	5	4	3	2	1	
96	The group process must be assessed.	5	4	3	2	1	
97	Regular assessment of group tasks should take place.	5	4	3	2	1	

• Do you think that the group tasks should be assessed in every module?		
Yes		
No		
- If so, how often do you think it should take place? (Choose one):		
After each group-work session		
Once a month		
Once a term		
After completion of a module		
Other (specify)		
- If not, when do you think should it take place?		

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

98	Regular assessment of the group process should take place.	5	4	3	2	1	

• Do you think that the group process should be assessed in every module?	
Yes	
No	
- If so, how often do you think it should take place? (Choose one):	
After each group-work session	
Once a month	
Once a term	
After completion of a module	
Other (specify)	
- If not, when do you think it should take place?	

99	There should be guidelines for determining assessment criteria for the assessment of group work.	5	4	3	2	1	
100	The criteria and methods of assessment of group work must be made known to students beforehand.	5	4	3	2	1	
101	Assessment of group tasks should form part of the semester mark of a module.	5	4	3	2	1	
102	Assessment of the group process should form part of the semester mark of a module.	5	4	3	2	1	
103	A group must prove that self-evaluation of the group process has taken place (e.g. with a report), before members of the group can obtain a semester mark for the specific module.	5	4	3	2	1	
104	Clear guidelines must be available for the awarding of marks for a group task (product of group work).	5	4	3	2	1	

• If you think that the above-mentioned (item 104) is important, which of the following do you think would be preferable? (Mark one):	
All members in a group should get the same marks for a group task	
The marks should be divided fairly among the group members according to each one's contribution to the group task	

105	Clear guidelines must be available for the awarding of marks for the group process.	5	4	3	2	1	

• If you think that the above-mentioned (item 105) is important, which of the following do you think would be preferable? (Mark one):	
All members in a group should get the same marks for the group process	
The marks should be divided fairly among the group members according to each one's contribution to the group process	

106	Individual students should evaluate themselves with regard to their contribution to group work.	5	4	3	2	1	
107	All group members should assess the group with regard to group work.	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

108	Individual contributions of students to group work should be assessed by fellow group members.	5	4	3	2	1	
109	The group leader of a specific group should be evaluated by the group members with regard to the fulfilment of his/her role and duties as group leader.	5	4	3	2	1	
110	Ground rules must exist for the assessment of students by their fellow group members.	5	4	3	2	1	
111	The lecturer must have the final control over the awarding of marks to students, even if assessment by fellow group members did take place.	5	4	3	2	1	
112	Support should be available for groups that experience problems with the assessment of group work.	5	4	3	2	1	
113	A variety of group tasks (products) of group work must be assessed.	5	4	3	2	1	
114	Groups must report the outcome of their group tasks in various ways, e.g. a presentation, a poster, etc.	5	4	3	2	1	
115	The knowledge, skills and attitudes which students develop through doing group work must be assessed.	5	4	3	2	1	
116	Specific assessment instruments (e.g. questionnaires) must be available for the assessment of the group process.	5	4	3	2	1	
117	Groups and group members must receive feedback on assessment of group work.	5	4	3	2	1	
118	Strategies to improve the group process must be planned according to the outcome of evaluation of the group process.	5	4	3	2	1	
119	Outcomes of group tasks must be covered in exams and tests.	5	4	3	2	1	
120	Students should get the opportunity, at the end of a module, to evaluate the way in which assessment of group work took place in the specific module.	5	4	3	2	1	
121	The appropriateness of the tasks for a group-work session should be evaluated.	5	4	3	2	1	
122	Group-work facilitators should be evaluated according to the efficiency with which they facilitated group-work sessions.	5	4	3	2	1	

123	Are there any additional comments that you would like to make about the assessment or evaluation of group work?

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

QUALITY ASSURANCE OF GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

124	Clear guidelines for the implementation of group work should be available.	5	4	3	2	1	
125	A group-work team/committee should be appointed for the implementation of group work.	5	4	3	2	1	

Indicate on the scale, according to your opinion, the importance of each of the following as elements of the quality assurance of group work (possible functions of the group-work team/committee, should such a committee be appointed):

126	Regular evaluation of the process of implementation of group work.	5	4	3	2	1	
127	The planning of strategies to improve group work in Phases I and II.	5	4	3	2	1	
128	Ensuring that the objectives for which group work was implemented, are reached.	5	4	3	2	1	
129	Ensuring that proper training of students regarding group work takes place.	5	4	3	2	1	
130	Ensuring that proper training of staff regarding group work takes place.	5	4	3	2	1	
131	Providing a support system for students who are involved with group work.	5	4	3	2	1	
132	Providing a support system for lecturers and facilitators who are involved with group work.	5	4	3	2	1	
133	Providing guidelines for the assessment of group work.	5	4	3	2	1	
134	Providing assessment instruments for the assessment of group work.	5	4	3	2	1	

135	Is there anything regarding the quality assurance of group work that you would like to add?

136	Are there any additional comments that you would like to make about the planning and implementation of group work?

137	Are there any additional comments that you would like to make about the monitoring of group work?

THANK YOU VERY MUCH FOR YOUR COOPERATION

Appendix H

Delphi Second Questionnaire

SECOND QUESTIONNAIRE: DELPHI STUDY ON SMALL-GROUP LEARNING

As part of the second round of the Delphi study, this questionnaire contains all the items (possible indicators for a group-work model), from the first questionnaire on which consensus has not been reached. For the purpose of this study, consensus has been determined as being reached when 80% of the participants' votes on a specific item fall in any of the following ranges of the 5-point scale: 4-5/3/1-2. This definition is based on the literature (Larson & Wissman, 2000:45). The questionnaire also contains additional indicators that have been suggested by the different participants to provide an opportunity for all participants to offer an opinion on the relative importance of these indicators on the 5-point scale. All comments and suggestions made by the different participants have been taken note of, but have not necessarily been included in the questionnaire as feedback. Only those comments that contribute directly to the framework of the group-work model have been included in this questionnaire. Please be assured that attention will be paid to each and every comment or suggestion made by all participants when finalising the model for group work. All the items are again divided into six categories (aspects of group work), as it was the case in the first questionnaire.

Please note again that the specific points of the scale are defined as follows:

5 = **very important** (this indicator must definitely be included in the group-work model)
4 = **important** (this indicator must preferably be included in the group-work model)
3 = **neutral** (it does not matter if this indicator is included or left out from the group-work model)
2 = **unimportant** (this indicator must preferably be left out of the group-work model)
1 = **not important at all** (this indicator must definitely be left out of the group-work model)

The responses from all the participants are indicated underneath the scale (i.e. the number of participants who indicated a particular point of the scale). The underlined number in **red** indicates the specific point of the scale that you have chosen personally, ***e.g.***

1	*The groups must specifically consist of an even or an odd number of members.*	5	4	3	2	1	***Comments***
				3	*1*	*3*	

If no number appears in red, you did not offer an opinion on this item – please do so now, should you regard it appropriate.

This feedback provides an opportunity for you to reconsider your opinion (on the importance of the particular indicator for a group-work model) in the light of the opinions of the other participants. During this round, you are therefore allowed to change your opinion and indicate a different level of importance for the different items, should you think it is appropriate. Please type in a cross underneath the particular point of the scale that represents your reconsidered opinion, and please do so **even if your opinion does not change**. Please type in the cross below the numbers that indicate the responses from the different participants from the previous round, ***e.g.***

1	*The groups must specifically consist of an even or an odd number of members.*	5	4	3	2	1	***Comments***
				3	*1*	*3*	
				X			

If you prefer not to offer an opinion, please indicate so by typing "**not appropriate**" in the last column next to the specific item. You may again comment on any item by typing/writing your comment underneath the feedback in the last column of the table.

All comments important for the group-work model that have been made by the participants are included in the last column of the table, next to the specific item. If a new indicator has been suggested by a participant, the words "**new item**" appear in the last column of the table. Please indicate on the scale how important you regard these indicators on the scale as well, ***e.g.***

The following statements are possible aspects that may be addressed during training with regard to group work:

37	*How to address students who do not perform up to expectation.*	5	4	3 X	2	1	**New item**

The questions indicated with a "•" are again included in this questionnaire, with the responses that the different participants indicated to the relevant categories. Please note that the purpose of these questions is **not** to reach consensus, but rather to obtain additional information which could be useful when designing the group-work model. These questions are again included purely to provide feedback on the responses from the first round. If you would prefer to change your opinion in the light of the feedback, you are welcome to do so by typing in a cross next to the new category that represents your reconsidered opinion, **e.g.**

• *How many members do think should be in a group? (Choose one):*	≤ 4		***Comments***
	5-6	*3*	
	7-8	*3* X	
	9-10	*1*	
	>10		

You are welcome to type in comments to any items/questions in the questionnaire, in the last column of the table. Opportunities for comments are also provided as open questions at the end of each section of the questionnaire. You may write your comments to these questions below the feedback in the provided space.

Please note that additional explanations have been added to some of the instructions in the questionnaire, in response to comments from some of the respondents. The wording of a few items has also been changed slightly due to comments made by participants. This is to ensure that all participants have a thorough understanding of the meaning of these items to ensure appropriate responses. The role of the lecturer in group work at the UFS has been included in the list of definitions on the next page (provided again for your convenience), since many respondents were uncertain regarding the role of the lecturer in a group-work session.

The completion of this questionnaire should not take you more than 30 minutes.

Reference List

Larson, E., & Wissman, J. R. 2000. Critical academic skills for Kansas community college graduates: A Delphi study. *Community College Review, 28*(2): 43-56.

DEFINITIONS OF WORDS THAT ARE USED IN THE QUESTIONNAIRE

Group work: Work/assignments done by students in small groups during each session of a module.

Indicator: A guideline for a specific aspect of group work that may appear in the model.

Facilitator: The lecturer/person who assists students with questions/problems during group-work sessions. Note that most, but not all, facilitators are lecturers at the UFS. However, the facilitator for a specific session is not necessarily the same person as the lecturer who presents the lecture for that session.

Lecturer: The lecturers are responsible for the planning of a particular session of a module. This includes presenting the lecture, but also compiling the workbook and deciding upon the method and type of group work to be used during the session. Lecturers are therefore actively involved with group work, although their role in group work is different from that of facilitators. However, the lecturer is almost always one of the facilitators for the particular session and is very often also a facilitator for other group-work sessions (planned by other lecturers).

Mentor: A person who may act as an advisor for the group outside group-work time. This may include lecturers or senior students.

Group-work method: The specific format (technique used) of a group-work session, e.g. buzz groups, brainstorming, crossover groups, etc.

Group-work type: The different ways in which group work can be done, e.g. task-based group work, problem-oriented group work, etc.

Group process: The way in which a group functions to complete a specific assignment. This will include group dynamics, roles that different members play in the group, communication, cooperation, etc. (i.e., everything involved with the way in which groups function).

Group task: The assignment that a group must complete during a group-work session. This includes the task that groups receive to complete during group-work time, as well as the product of the group work of the particular session (e.g. a presentation of the task completed by the group).

Assessment: Summative evaluation (evaluation which counts marks).

Evaluation: Formative evaluation (evaluation which does not count marks and serves as feedback to the students).

Assessment instrument: A standard test/questionnaire that can be used for assessment of either the group task or the group process.

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

The indicators for the group-work model are grouped under a number of headings.

PLEASE ANSWER ALL THE QUESTIONS UNDER EACH HEADING, EVEN IF YOUR OPINION DOES NOT CHANGE.

Please include your comments in the last column, underneath the feedback provided.

COMPOSITION OF GROUPS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

		5	4	3	2	1	
1	The groups must specifically consist of an even or an odd number of members.			**3**	**1**	**3**	- ***Not clear on relevance of this***

• If you think that one of the above-mentioned (in item 1) is better, which one would it be? (Mark one):		- ***Only to divide tasks evenly***
A group that consists of an even number of members	**2**	
A group that consists of an odd number of members		

• How many members do think should be in a group? (Choose one):	≤ 4	- ***5-6 would be ideal, but is not possible (staff constraints)***
	5-6 **3**	- ***The ideal is <7, otherwise subgroups form***
	7-8 **3**	- ***Do not think that 5-6 has any benefit over 4***
	9-10 **1**	- ***The ideal size depends on the context, task and resources***
	>10	

		5	4	3	2	1	
2	The following must be considered with the composition of groups:						
	The gender of students		**3**	**3**	**1**		
	The population group/culture of students		**5**	**2**			
	The age of students		**3**	**4**			
	The academic achievement of students		**4**	**3**			

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

• If you consider any of the above-mentioned aspects (in item 2) to be important, how do you think should groups be composed as far as these aspects are concerned? (Choose one for each of these aspects):	
Language of instruction:	
Only groups with the same language	**3**
Mixed language groups	**3**
Gender:	
Only male/female individuals in a group	
Mixed gender groups	**5**
Population group:	
Only members from the same population group	
Members with mixed population groups	**5**
Age:	
Older students must form their own group	
Older students must be divided up into different groups	**4**
Academic achievement:	
High/low achievers should form their own separate group	**1**
High/low achievers should be mixed in different groups	**3**

- ***Mixed groups give students an opportunity to learn about the real world***
- ***Students influence one another in a positive manner***
- ***The language of instruction should be understood by all members of the group***

		5	4	3	2	1	
3	Once the composition of groups has been determined, students should be divided into groups according to a specific method.	**1**	**3**	**3**			

• According to which of the following methods do you think should students be divided into groups? (Choose one):	
According to the social relations between students (sociometry)	
According to roles that students would prefer to play in a group	
Students must choose the groups they would like to be in themselves	**1**
Randomly	**5**
Alphabetically	
Other (specify)	

- ***If students are allowed to choose their fellow members, those students left over have a disadvantage (which could potentially be an advantage if they have good group-work skills)***
- ***If groups are composed alphabetically, students may well have worked with particular students before***
- ***Consider mixed gender, race, age groups***
- ***Socially 'engineer' groups post-hoc, e.g. all women/ all mature student groups***

		5	4	3	2	1	
4	Students' needs must be taken into consideration when forming groups.	**2**	**2**	**2**	**1**		- ***To a limited extent – be realistic when e.g. a group has to meet after-hours and some members who live off campus do not have transport***
5	Groups must choose their own name for the group.		**3**	**2**	**1**	**1**	- ***Helps with group dynamics***

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

6	Groups must only function for a certain period before new groups are formed.	5	4	3	2	1	-	***Depends on aim – if it is to develop group-work skills, then change is good***
		2	**2**	**2**	**1**		-	***The problem is: what to do when a member cannot function in a group and groups are permanent?***

• How long do you think a group should exist at a time? (Choose one):		-	***Groups must function for a minimum of 6 weeks to a maximum of a semester***
6 months	**2**		
1 year			
For the duration of a specific Phase (1 year for Phase I and 2 years for Phase II)	**3**		
For the duration of the course (5 years)	**1**		
Other (specify)	**1**		

7	There should be opportunity to work in groups with students from other year groups of the same course.	5	4	3	2	1	-	***Could be useful, but the purpose should be interaction between two groups on a particular topic***
			3	**3**	**1**		-	***Junior students can learn from senior students***

• In which way do you think should group leaders be appointed? (Choose one):		-	***Every student should be a group leader each year for a no. of weeks***
The group must choose its own leader	**6**	-	***Allow for autonomy within the group***
The group leader must be appointed by lecturers	**1**	-	***Students should act as group leaders on a rotating basis***
Other (specify)			

• For which of the following periods of time do you think a person should act as group leader? (Mark one):		-	***Being a group leader is a learning experience - as many students as possible should be encouraged to do this***
All the time as long as the group exists	**1**	-	***Depends on e.g. whether it is a one-off task-oriented group/a more permanent group***
Another leader each week	**2**	-	***Module = ± 4-5 weeks***
Another leader each semester		-	***Another leader each week/each tutorial***
A different leader for each module	**2**		
Other (specify)	**1**		

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

8	A specific role must be appointed to each member in a group.	5	4	3	2	1	-	***These roles may be the same for some students***
		3	**2**	**1**	**1**		-	***The roles must be appointed by the students themselves***
							-	***If this is possible***
9	Specific tasks must be appointed to each member in a group.	5	4	3	2	1	-	***Some students may have the same task***
		3	**2**	**1**	**1**		-	***The tasks must be appointed by the students themselves***
10	A contract must be compiled between group members in which guidelines for the working procedures in a group are determined.	5	4	3	2	1		
		4		**2**	**1**			
11	Students who have relationships with one another should not be in the same groups.	5	4	3	2	1	***New item***	
12	Students who stay or travel together should be encouraged to be in the same group.	5	4	3	2	1	***New item***	

13	Are there any additional comments that you would like to make regarding the composition of groups? - ***Three students may choose a group and two of these groups may be put together – students therefore choose their own group + the composition of the group may be manipulated (e.g. gender, race, etc.)*** - ***Although the ideal group size is 7-8, groups with 5-6/ 9-10 members are also acceptable if ideal is not achieved.*** - ***Difficulties within a group should be resolved by the students themselves. Only if they fail should the facilitator/coordinator be approached.*** - ***Groups members should be chosen randomly***

TRAINING OF STUDENTS, LECTURERS AND FACILITATORS REGARDING GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

14	A complete guide on group work must be available for students.	5	4	3	2	1	
		4	**1**	**2**			
15	A complete guide on group work must be available for staff.	5	4	3	2	1	
		4	**1**	**2**			

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

16	Certain aspects of the training of students with regard to group work must be repeated during the course.	5	4	3	2	1	-	***Particularly in the first year***
		3	**2**	**2**				

- If you are of opinion that certain aspects of the training of students regarding group work should be repeated during the course, which aspects would it be? (Please specify).

- ***Support for each other within a group***
- ***The objectives of group work***
- ***Conflict resolution***
- ***Role allocation***
- ***Communication skills***
- ***Personal interaction***
- ***Leadership***
- ***Presenting***
- ***Importance of having ground rules and sticking to them***
- ***Facilitation and chairing skills***

• If any aspects of the training of students should be repeated, when do you think they should be repeated? (Choose one):		-	***Continuous training during the course with emphasis at the start of each new semester***
At the beginning of Phase II (second year of course)	**2**	-	***At the beginning of each semester if possible (esp. 1st years, but also other year groups)***
At the beginning of each study year	**1**		
At the beginning of each semester	**2**		
Other (specify)	**1**		

The following statements are possible aspects that may be addressed during training with regard to group work. Indicate on the scale, in each case, how important you think it is for students, lecturers and facilitators to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for students, lecturers and facilitators and only those items on which consensus has not been reached are included – some items therefore do not have options for all three (students, lecturers and facilitators). PLEASE REFER TO THE LIST OF DEFINITIONS FOR THE ROLE OF THE LECTURER IN GROUP WORK.

17	The importance and advantages of group work.						-	***All staff must understand group work – facilitators may be lecturers later and visa versa***
	Lecturers	5	4	3	2	1		
		3	**2**	**2**				
18	The principles and conditions for successful group work.							
	Lecturers	5	4	3	2	1		
		3	**2**	**2**				
19	Training in group dynamics (interrelations between group members).							
	Lecturers	5	4	3	2	1		
		3	**2**	**2**				

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

20	Training in effective communication and social skills.						
	Lecturers	5	4	3	2	1	
		3	**2**	**1**	**1**		
21	How to analyse interaction within a group.						
	Students	5	4	3	2	1	
			3	**4**			
	Lecturers	5	4	3	2	1	
		3	**2**	**1**	**1**		
22	How to identify and handle problems in a group.						
	Lecturers	5	4	3	2	1	
		4		**2**	**1**		
23	The importance of maintaining the group process.						
	Lecturers	5	4	3	2	1	
		3	**2**	**1**	**1**		
24	Training in the role and tasks of a group leader.						
	Lecturers	5	4	3	2	1	
		2	**2**	**2**		**1**	
25	The different roles that group members may play.						
	Students	5	4	3	2	1	
		3	**2**	**2**			
	Lecturers	5	4	3	2	1	
		1	**3**	**3**			
26	The characteristics of effective and ineffective groups and group members.						
	Lecturers	5	4	3	2	1	
		3	**2**	**1**	**1**		
27	How to plan and conduct a group-work session.						
	Students	5	4	3	2	1	
		4	**1**	**1**	**1**		
28	The different methods that can be used for group work (e.g. buzz groups, crossover groups, etc.).						
	Lecturers	5	4	3	2	1	
		3	**2**	**1**	**1**		
29	The reasons why a variety of group-work methods should be used.						
	Students	5	4	3	2	1	
			4	**2**	**1**		
	Lecturers	5	4	3	2	1	
		2	**2**	**2**	**1**		
30	The importance of regular evaluation of the group task.						
	Lecturers	5	4	3	2	1	
		3	**1**	**2**	**1**		

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

31	The importance of regular evaluation of the group process.						
	Lecturers	5	4	3	2	1	
		4	**1**	**1**	**1**		
32	The different learning styles that students might possess.						
	Students	5	4	3	2	1	
		1	**3**	**3**			
	Lecturers	5	4	3	2	1	
		2	**3**	**2**			
33	How participation and discussion of members within a group can be improved.						
	Lecturers	5	4	3	2	1	
		2	**3**	**2**			
34	The importance of a positive attitude towards group work.						***Sorry, the scale for this item included a typing error. Please rate this item again.***
	Lecturers	5	4	3	2	1	
35	Training regarding personalities and personality clashes.						***New item***
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
36	How to address conflict within the group.						***New item***
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
37	How to address students who do not perform up to expectation.						***New item***
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	
38	How to address racial clashes within a group.						***New item***
	Students	5	4	3	2	1	
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

The following statements are possible <u>additional aspects</u> that may be addressed during training of lecturers and facilitators with regard to group work. Indicate, on the scale, in each case, how important you think it is for both lecturers and facilitators, to receive training regarding the specific aspect. (Please note that the relative importance of a specific aspect may be different for lecturers and facilitators, and only those items on which consensus has not been reached, are included – items therefore do not necessarily provide for both the options (lecturers and facilitators).

39	The importance of feedback to students regarding group work.						
	Lecturers	5	4	3	2	1	
		4		**3**			
40	Appropriate assessment techniques for group work.						
	Lecturers	5	4	3	2	1	
		4	**1**	**2**			
41	The role of a group-work facilitator.						
	Lecturers	5	4	3	2	1	
		4	**1**	**2**			
42	How to address a request from students to move from one group to another group.						***New item***
	Lecturers	5	4	3	2	1	
	Facilitators	5	4	3	2	1	

43	Are there any additional comments you would like to make about the training of students, lecturers or facilitators regarding group work? - ***Not too much time should be spent on theory, but rather on the actual practice*** - ***Students who perform well are extremely stressed by bad grades given to the group*** - ***Feedback to students, lecturers and facilitators must be assessed regularly***

GROUP-WORK SESSIONS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

44	A variety of group-work methods should be used for group work.	5	4	3	2	1	- ***Ideally yes, but the method should be appropriate for what you want to achieve***
			5	**2**			
45	Group work could be done in small, as well as large (e.g. the whole class) groups.	5	4	3	2	1	- ***Group work must be done in small groups*** - ***Depends on the aims of the session***
		3	**1**	**3**			

• If you think that either the common goal of the group or the individual accountability of group members is more important, which one would it be? (Mark one):		- ***It may depend whether the group is a one-off, or a more permanent one***
The common goal of the group	**3**	
Individual accountability of group members	**3**	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

- Are there any such mechanisms (i.e. to encourage students to prepare for group work) that you would like to suggest from your experience, which might be feasible?

- ***Assessment and evaluation***
- ***Computer-based assessment prior to session – there is no pressure on lecturer because the evaluations are marked by the computer***
- ***Ground rules that state they should prepare for group work – students are therefore accountable to the rest of the group***
- ***Assign tasks for presentation during next group session***
- ***Make reading material available before group work takes place***
- ***Make sure that all members participate during group work – probe the quiet ones***
- ***Use at least 10 minutes to reflect how the group performed during a session***
- ***Positive motivators, e.g. fun tasks, a small encouragement mark, specific products to prepare***
- ***Negative motivators, e.g. writing a test before starting group work, computer-based tests which students may do a number of times and in which students should obtain a certain mark***
- ***Students should be given certain responsibilities***
- ***The scribe of a group should rotate***
- ***Coercion (sadly)***

- Are there any such types of assignments (that enhance cooperation and discussion) that you would recommend from your experience?

- ***Use co-operative learning strategies, e.g. jigsaw, rainbow, etc.***
- ***Use controversial topics***
- ***Use fun topics***
- ***Oral presentations***
- ***Project work – students must take responsibility for dividing the labour***
- ***Group presentations of project work***

- What would you suggest for modules of which the content is not suitable for group work?

- ***Seminars, practicals***
- ***Interactive large group sessions***
- ***Use methods appropriate to the achievement of the intended outcomes***
- ***Any module is suitable for group work***

46	A specific number of groups must be appointed to a facilitator during group-work sessions. (This number must be determined beforehand and each facilitator should have the same number of groups to facilitate).	5	4	3	2	1	-	***It depends on the size of the group (best is one facilitator per group)***
		2	**2**	**1**	**1**			

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

- How many groups per facilitator do you think would be ideal for a group-work session? (Please specify).

- ***One facilitator per group – unless there is a specific purpose for having more, e.g. an expert and a generalist***
- ***One group per facilitator – each facilitator should have his/her own group (due to workload/motivation, it may be difficult to pay equal attention to different groups)***
- ***One group per facilitator***
- ***One facilitator per 8 groups of 6 students each***
- ***One facilitator per group of 10 students (seminars may be as many as 50 students per facilitator)***
- ***Ideally not more than 5 groups per facilitator***
- ***Two groups per facilitator***

- Do you think that it is acceptable for facilitators to move around between groups to facilitate the group work?

Yes	**6**
No	**1**

- ***It depends on the aims – early on facilitators need to keep a closer eye on groups than later when students have more experience***
- ***Possible in practical or skills session (one facilitator per 2-3 groups of 10 students)***
- ***If group work takes place in one venue, one facilitator for the class is enough***
- ***Acceptable if no alternative (i.e. not enough facilitators)***

47	The facilitators for a group-work session must be experts in the specific subject field in which group work is being done.	5	4	3	2	1	- ***Maastricht say no*** - ***It is better to have a good facilitator who is not an expert than the reverse situation*** - ***It depends on the purpose/task*** - ***Not necessarily – PBL has shown non-experts to be good facilitators, but recent work has shown that students do a bit better with an expert facilitator*** - ***Experts are generally not good facilitators – they give too much information and student-directed learning is lost***
			1	**2**	**3**	**1**	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

		5	4	3	2	1	
48	The same facilitators must be involved in all the group-work sessions of a specific module to ensure continuity, regardless of the contents of the group work.	**1**	**2**	**2**	**2**		- ***The facilitators must have a good understanding of the subject matter of a module*** - ***It can help if the facilitator and the students get to know each other, but it is more important to have skilled facilitators***

• Do you think it is acceptable if a three-hour session (as it is the case at the UFS) is flexible in terms of the structure (how many lectures/hours group work)?	
Yes	**5**
No	**1**

- ***Group work should be standardised***
- ***It could be artificial – the teaching method should be appropriate to the aims and intended outcomes of the session***

		5	4	3	2	1	
49	Feedback should be provided after each group-work session on the work done during the session.	**4**	**1**	**2**			- ***It may not always be possible – needs time***

• Who do think should provide feedback on a group-work session? (Mark all that are appropriate):	
The groups themselves	**6**
The lecturer	**3**
The facilitator	**6**

• When do you think is the best time for feedback on a group-work session? (Mark one):	
Directly after the session	**4**
During the following session of the same module	**2**
Other (specify)	**1**

- ***Time consuming – feedback has to be acted on***
- ***Feedback is most appropriate and effective if given immediately after the session***

		5	4	3	2	1	
50	There should be rewards for effective group work.	**1**	**4**	**1**	**1**		- ***Rewards = good results at their exams?*** - ***'Prizes' like chocolates/sweets to share*** - ***Students should be assessed on their group-work skills***
51	Groups must have the opportunity to compete with one another, because it enhances group cohesion.	**2**	**1**	**3**	**1**		- ***It should be in a fun way (e.g. bag of sweets as a prize)***

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

52	Students must be divided into learning groups that can study together during self-study times.	5	4	3	2	1	-	***They can do so spontaneously***
		1		**4**	**1**	**1**	-	***The groups should be able to study together after formal group-work time***

• If you think learning groups should be used, how do you think should these groups be formed? (Mark one):		
The same members as the groups during group-work sessions	**1**	
Students must choose the learning group of which they want to be a member themselves	**4**	

53	Is there anything regarding the compilation or completion of a task for a group-work session, that you would like to add? - ***Each student should be able to offer own work and not rest on the effort others have made*** - ***Students should not be able to get hold of assignments of previous years – the topic should change each year***

54	Are there any additional comments that you would like to make regarding group-work sessions?

55	What is your opinion of the structure of the three-hour sessions (one hour lecture, two hours group work) of modules being presented at the UFS (as explained in the background information document during the first round)? - ***It is probably about right*** - ***With a typical lecture there is a risk of giving too much information to the students and taking away the energy of students for group work – are lectures really needed? Why not a lecture at the end of the session or one/two summing up, integrating lectures per week?*** - ***A three-hour session per day does not leave much time for self-study*** - ***It is a model that has worked in my institution, but 2 potential problem areas: time is lost when students move between the lecture and the group-work session, and lack of congruence between the content of the lecture and group work (unnecessary overlap)*** - ***This is too long – rather 15-30 min. of orientation, 60 min. of finding resources and 90 min. for group work*** - ***This should not be rigidly enforced, because methods could then be used inappropriately. Rather enforce a maximum limit on lectures. A topic could be presented in three hours of group work*** - ***It would be best if group work is centered around a problem from the beginning, rather than a lecture***

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

SUPPORT FOR STUDENTS AND LECTURERS/ FACILITATORS REGARDING GROUP WORK.

Please indicate how important you consider the following statements as possible indicators for a group-work model:

56	The lecturer who presents a certain session of a module, must provide academic support to groups regarding the contents of the specific session.	5 **3**	4	3 **2**	2 **1**	1 **1**	-	***This could end up as spoon feeding*** - ***The facilitators must know their limitations, i.e. when to refer back to the involved lecturer***
57	Academic support must be provided to students in a group context.	5	4 **2**	3 **3**	2 **1**	1 **1**	-	***Not sure how this applies – work books, resources, expert assistance already available***
58	Each group should have a mentor who provides support to the group with regard to the group process, outside group-work time.	5 **1**	4 **1**	3 **5**	2	1	-	***Difficult to have another set of staff members/ students available – year coordinator can assist***
59	Senior students may also act as mentors for groups.	5 **1**	4 **4**	3 **2**	2	1		
60	After hours social meetings should be arranged within groups to enhance the interrelations between group members.	5	4 **2**	3 **3**	2 **1**	1 **1**	-	***Can help if group works together extensively and intensively, but not of primary importance*** - ***The students' own responsibility***
61	Students must be able to contact their fellow group members after hours, if necessary.	5 **1**	4 **2**	3 **4**	2	1	-	***The students' own responsibility***

• If you think that it is important to provide support to staff, which type of support do you think is necessary for lecturers and facilitators? (Mark all that are appropriate):		
Academic support (e.g. how to compile assignments for group work)	**7**	- ***Moral and emotional support to lecturers and facilitators*** - ***Deal immediately with interpersonal/personality problems*** - ***If time is limited, students may arrange tables and chairs themselves***
Organisational support (e.g. the arrangement of tables and chairs for group-work sessions)	**6**	
Administrative support (e.g. copying of work books for group-work sessions)	**7**	
Other (specify)	**2**	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

62	Are there any additional comments that you would like to make about the support of students, lecturers or facilitators regarding group work? - ***The facilitators should provide academic support to students who are struggling – remedial actions before it is too late*** - ***Students should have counseling services – academic, financial, social*** - ***Lecturers and facilitators need someone they can discuss difficulties with*** - ***Do not underestimate the moral/psychological support that lecturers and students need – as well as the conflict that might develop***

ASSESSMENT OF GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

63	The group process must be assessed.	5	4	3	2	1	
		4	**1**	**1**	**1**		
64	Regular assessment of group tasks should take place.	5	4	3	2	1	
		2	**2**	**3**			

• Do you think that the group tasks should be assessed in every module?		
Yes	**5**	
No	**2**	
- If so, how often do you think it should take place? (Choose one):		- ***It depends*** - ***Regular assessment will allow for formative assessment and development of appropriate skills in between*** - ***This will allow for corrective action before the next module***
After each group-work session		
Once a month	**2**	
Once a term		
After completion of a module	**3**	
Other (specify)		
- If not, when do you think should it take place? - ***On an ad hoc basis***		

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

		5	4	3	2	1	
65	Regular assessment of the group process should take place.	**4**	**1**	**1**	**1**		

• Do you think that the group process should be assessed in every module?		
Yes	**5**	
No	**2**	
- If so, how often do you think it should take place? (Choose one):		- ***Regular assessment will allow for formative assessment and development of appropriate skills in between***
After each group-work session	**2**	
Once a month	**2**	
Once a term	**1**	
After completion of a module	**1**	
Other (specify)		
- If not, when do you think it should take place?		

		5	4	3	2	1	
66	A group must prove that self-evaluation of the group process has taken place (e.g. with a report), before members of the group can obtain a semester mark for the specific module.	**3**		**4**			- ***Only formative***

• If you think that guidelines for the awarding of marks for the group task is important, which of the following do you think would be preferable? (Mark one):		- ***The purpose should be for each to make an equal contribution –this will assist the shy ones in doing what is necessary***
All members in a group should get the same marks for a group task	**3**	
The marks should be divided fairly among the group members according to each one's contribution to the group task	**4**	

• If you think that guidelines for the awarding of marks for the group process is important, which of the following do you think would be preferable? (Mark one):		- ***The purpose should be for each to make an equal contribution –this will assist the shy ones in doing what is necessary***
All members in a group should get the same marks for the group process	**2**	
The marks should be divided fairly among the group members according to each one's contribution to the group process	**5**	

		5	4	3	2	1	
67	The lecturer must have the final control over the awarding of marks to students, even if assessment by fellow group members did take place.	**4**	**1**		**1**	**1**	- ***Lecturer = faculty*** - ***The lecturer should also award a mark*** - ***It is almost impossible to make individual assessments of students' contributions***

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

68	Outcomes of group tasks must be covered in exams and tests.	5	4	3	2	1	-	***This will reinforce the importance of the study material and the group work that produced it (in the eyes of the students)***
		1	**3**	**3**			-	***If students are assessed summatively, it might not be necessary to cover material in tests and exams***
							-	***Only formative***

69	Are there any additional comments that you would like to make about the assessment or evaluation of group work? - ***Group work is a soft skill and can be evaluated only in a formative way*** - ***Difficulties and complaints should be identified during regular feedback sessions***

QUALITY ASSURANCE OF GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

70	A group-work team/committee should be appointed for the implementation of group work.	5	4	3	2	1	- ***If the capacity to do so exists, it could probably help***
		5		**2**			
71	Students' opinions on their experiences regarding group work should be taken into consideration.	5	4	3	2	1	***New item***
72	External evaluation by another institution should be part of quality control/assurance.	5	4	3	2	1	***New item***

73	Is there anything regarding the quality assurance of group work that you would like to add? - ***Nothing can replace the value of quality assurance***

74	Are there any additional comments that you would like to make about the planning and implementation of group work? - ***The plan should be simple and understood by everybody*** - ***Venues are critical – students should have access to venues all the time and security is equally important***

THANK YOU ONCE AGAIN FOR YOUR COOPERATION

Appendix I

Delphi Third Questionnaire

THIRD QUESTIONNAIRE: DELPHI STUDY ON SMALL-GROUP LEARNING

As part of the third round of this Delphi study on small-group learning, this questionnaire only contains the items from the previous questionnaire on which consensus has not been reached, or if responses to the items have not been stable between the first and the second round. Consensus was again defined as being reached when 80% of the respondents' votes fell within one of the following three ranges of the 5-point scale: 4-5 / 3 / 1-2. According to the literature, stability of responses can be used in addition to consensus as a method of ending the Delphi study. Stability of responses can be regarded as responses between two successive rounds that do not differ significantly from each other, regardless of whether consensus has been reached (Dajani *et al.* 1979.). In the literature, a change of 15-20% or less is generally regarded as stability of responses. For the purpose of this study, stability has been determined as a change of less than 15% amongst responses between two successive rounds (Scheibe, Skutsch, *et al.* 1975).

This questionnaire therefore contains only those items on which consensus or stability of responses has not been reached. The open-ended questions from the previous questionnaires, which were indicated by a "•" have not been included again in this questionnaire, since their purpose is not to reach consensus, but rather to obtain additional information for designing the group-work model. Some open questions have been included again for the purpose of feedback and one additional open-ended question has been added at the end of the questionnaire for any further comments or suggestions on group work. This questionnaire only contains five categories, since consensus (or stability of responses) has been reached on all the items in the category on "quality assurance of group work".

Please note again that the specific points of the scale are defined as follows:

5 = **very important** (this indicator must definitely be included in the group-work model)
4 = **important** (this indicator must preferably be included in the group-work model)
3 = **neutral** (it does not matter if this indicator is included or left out from the group-work model)
2 = **unimportant** (this indicator must preferably be left out of the group-work model)
1 = **not important at all** (this indicator must definitely be left out of the group-work model)

The responses from all the participants from the second round are again indicated underneath the scale (i.e. the number of participants who indicated a particular point of the scale). The underlined number in **red** indicates the specific point of the scale that you have chosen personally during the second round. If no number appears in red, you did not offer an opinion on this item – please do so now, should you regard it appropriate.

This feedback provides an opportunity for you to reconsider your opinion (on the importance of the particular indicator for a group-work model) in the light of the opinions of the other participants. During this round, you are therefore allowed again to change your opinion and indicate a different level of importance for the different items, should you think it is appropriate. Please type in a cross underneath the particular point of the scale that represents your reconsidered opinion, and please do so **even if your opinion does not change**. Please type in the cross below the numbers that indicate the responses from the different participants from the previous round, ***e.g.***

1	*Students' needs must be taken into consideration when forming groups.*	5	4	3	2	1	***Comments***
			4 X	*3*			

If you prefer not to offer an opinion, please indicate so by typing "**not appropriate**" in the last column next to the specific item.
You may again comment on any item by typing/writing your comment in the last column of the table (underneath the feedback, if any). Only new comments made during the second round are included as feedback in the last column of the table, next to the specific item.

This questionnaire should not take you more than 10 minutes to complete.

For your convenience, the definitions appropriate to this questionnaire are again included and are as follows:

DEFINITIONS OF WORDS THAT ARE USED IN THE QUESTIONNAIRE

Group work: Work/assignments done by students in small groups during each session of a module.

Indicator: A guideline for a specific aspect of group work that may appear in the model.

Facilitator: The lecturer/person who assists students with questions/problems during group-work sessions. Note that most, but not all, facilitators are lecturers at the UFS. However, the facilitator for a specific session is not necessarily the same person as the lecturer who presents the lecture for that session.

Lecturer: The lecturers are responsible for the planning of a particular session of a module. This includes presenting the lecture, and also compiling the workbook and deciding upon the method and type of group work to be used during the session. Lecturers are therefore actively involved with group work, although their role in group work is different from that of facilitators. However, the lecturer is almost always one of the facilitators for the particular session and is very often also a facilitator for other group-work sessions (planned by other lecturers).

Group task: The assignment that a group must complete during a group-work session. This includes the task that groups receive to complete during group-work time, as well as the product of the group work of the particular session (e.g. a presentation of the task completed by the group).

Assessment: Summative evaluation (evaluation which counts marks).

Reference List

Dajani, Sincoff and Talley. 1979. Stability and agreement criteria for the termination of Delphi studies. *Technological Forecasting and Social Change* 13:83-90.

Scheibe, Skutsch, and Schofer. 1975. Experiments in Delphi methodology. In Linstone, H. A. and Turoff, M. Eds. *The Delphi Method. Technique and Applications.* London: Addison-Wesley Publishing Company.

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

The indicators for the group-work model are grouped under a number of headings.

PLEASE ANSWER ALL THE QUESTIONS UNDER EACH HEADING, EVEN IF YOUR OPINION DOES NOT CHANGE.

Please include your comments in the last column, underneath the feedback provided.

COMPOSITION OF GROUPS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

1	Students' needs must be taken into consideration when forming groups.	5	4 **4**	3 **3**	2	1	
2	Groups must only function for a certain period before new groups are formed.	5	4 **3**	3 **2**	2 **1**	1	
3	A specific role must be appointed to each member in a group.	5 **4**	4 **1**	3 **2**	2	1	
4	Students who have relationships with one another should not be in the same groups.	5 **1**	4 **1**	3 **5**	2	1	- ***Have seen problems as well as advantages*** - ***As far as logistically possible*** - ***What to do if students in a group develop a relationship?***
5	Students who stay or travel together should be encouraged to be in the same group.	5	4 **2**	3 **3**	2 **1**	1 **1**	- ***Have seen problems as well as advantages*** - ***Opinion is idealistic – choice in real life depends strongly on circumstances*** - ***More important when expected to meet after hours, not NB function when groups functions only within hours*** - ***What to do when students move?***

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

TRAINING OF STUDENTS, LECTURERS AND FACILITATORS REGARDING GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

The following statements are possible aspects that may be addressed during training with regard to group work. Indicate on the scale how important you think it is for students to receive training regarding the specific aspect.

6	How to analyse interaction within a group.						
	Students	5	4	3	2	1	
			5	**2**			

The following statements are possible additional aspects that may be addressed during training of lecturers and facilitators with regard to group work. Indicate on the scale how important you think it is for lecturers to receive training regarding the specific aspect.

7	How to address a request from students to move from one group to another group.						
	Lecturers	5	4	3	2	1	
		2	**2**	**3**			

8	Are there any additional comments you would like to make about the training of students, lecturers or facilitators regarding group work? - ***Strongly agree that training should be hands on, rather than theoretical***

GROUP-WORK SESSIONS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

9	A specific number of groups must be appointed to a facilitator during group-work sessions. (This number must be determined beforehand and each facilitator should have the same number of groups to facilitate).	5	4	3	2	1	- ***There should be one facilitator per group***
		1	**2**		**1**	**1**	
10	The facilitators for a group-work session must be experts in the specific subject field in which group work is being done.	5	4	3	2	1	- ***The facilitator need/should not be an expert in the field. There is a danger that the person would be a resource person rather than a facilitator. If the person is an expert, the group should be told that he/she is a resource person***
				3	**2**	**2**	

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

11	The same facilitators must be involved in all the group-work sessions of a specific module to ensure continuity, regardless of the contents of the group work.	5	4	3	2	1	-	***It helps to spend some time (several weeks) with a group and to get to know individuals – can facilitate better***
		1	**4**	**2**				

12	Is there anything regarding the compilation or completion of a task for a group-work session, that you would like to add? - ***In group work, students should work together and not have access to assignments of previous years*** - ***Ideal is for assignments to change, but often logistically difficult to get equally good group assignments*** - ***It is idealistic to expect as part of preparation that students should get to grapple with the idea that it is the process and not the product which is important – then assessment should reflect that*** - ***Group work is about working together, if students are allowed to hand in own work, they opt out (especially the good students)***
13	What is your opinion of the structure of the three-hour sessions (one hour lecture, two hours group work) of modules being presented at the UFS (as explained in the background information document during the first round)? - ***Lectures are not really needed. Students may request a lecture/seminar to clarify issues they do not understand*** - ***Lecturers may offer pre-arranged lectures on some topics***

SUPPORT FOR STUDENTS AND LECTURERS/ FACILITATORS REGARDING GROUP WORK.

Please indicate how important you consider the following statements as possible indicators for a group-work model:

14	The lecturer who presents a certain session of a module, must provide academic support to groups regarding the contents of the specific session.	5	4	3	2	1	-	***The person responsible for the session is not necessarily the resource person, this person can refer students to the resource person afterwards if needed***
		1		**4**	**2**			
15	Academic support must be provided to students in a group context.	5	4	3	2	1	-	***Resources can be provided during a session for quick reference***
			2	**5**				

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

16	Each group should have a mentor who provides support to the group with regard to the group process, outside group-work time.	5	4	3	2	1	
		1	**1**	**4**	**1**		

ASSESSMENT OF GROUP WORK

Please indicate how important you consider the following statements as possible indicators for a group-work model:

17	Regular assessment of group tasks should take place.	5	4	3	2	1	
		2	**2**	**3**			
18	The lecturer must have the final control over the awarding of marks to students, even if assessment by fellow group members did take place.	5	4	3	2	1	
		4	**1**	**2**			

19	Are there any additional comments that you would like to make on group work?

THANK YOU ONCE AGAIN FOR YOUR COOPERATION

Appendix J

Delphi Fourth Questionnaire

FOURTH QUESTIONNAIRE: DELPHI STUDY ON SMALL-GROUP LEARNING

During this fourth round of the Delphi study on small-group learning, this questionnaire only contains the items on which consensus or stability of responses has not been reached during the third round. Consensus was again defined as being reached when 80% of the respondents' votes fell within one of the following three ranges of the 5-point scale: 4-5 / 3 / 1-2. For the purpose of this study, stability has been determined as a change of 15% or less amongst responses between two successive rounds.

This questionnaire only contains three items on which consensus or stability of responses has not been reached during the third round. Only new comments made by participants on these items are included as feedback in the last column of the table. One open-ended question is included again to provide feedback on responses during the third round.

One additional open-ended question has been added at the end of the questionnaire for any further comments or suggestions on group work.

Please note again that the specific points of the scale are defined as follows:

5 = **very important** (this indicator must definitely be included in the group-work model)
4 = **important** (this indicator must preferably be included in the group-work model)
3 = **neutral** (it does not matter if this indicator is included or left out from the group-work model)
2 = **unimportant** (this indicator must preferably be left out of the group-work model)
1 = **not important at all** (this indicator must definitely be left out of the group-work model)

The responses from all the participants from the third round are again indicated underneath the scale (i.e. the number of participants who indicated a particular point of the scale). The underlined number in **red** indicates the specific point of the scale that you have chosen personally during the second round. If no number appears in red, you did not offer an opinion on this item – please do so now, should you regard it appropriate.

This feedback provides an opportunity for you to reconsider your opinion (on the importance of the particular indicator for a group-work model) in the light of the opinions of the other participants. During this round, you are therefore allowed again to change your opinion and indicate a different level of importance for the different items, should you think it is appropriate. Please type in a cross underneath the particular point of the scale that represents your reconsidered opinion, and please do so **even if your opinion does not change**. Please type in the cross below the numbers that indicate the responses from the different participants from the previous round, ***e.g.***

2	*Students who stay or travel together should be encouraged to be in the same group.*	5	4	3	2	1	***Comments***
			2	*4* X	*1*		

It is very important that you do offer an opinion to all the items - if you therefore prefer not to offer an opinion, please indicate so by typing "**not appropriate**" in the last column next to the specific item. You may again comment on any item by typing/writing your comment in the last column of the table (underneath the feedback, if any).

On the next page, a few questions are asked about group work at your institution. Please answer them all.
This questionnaire should not take you more than 5 minutes to complete.

For your convenience, the definition appropriate to this questionnaire is again included and is as follows:

Facilitator: The lecturer/person who assists students with questions/problems during group-work sessions. Note that most, but not all, facilitators are lecturers at the UFS. However, the facilitator for a specific session is not necessarily the same person as the lecturer who presents the lecture for that session.

GROUP WORK AT YOUR INSTITUTION

Please provide the following information regarding group work at your institution. This information is needed to provide this researcher with a better understanding of the role of group work at each participant's institution. Please be specific in your answers.

What role does group work play in the instruction of medical students at your institution?
Do you make use of lectures at all?
What is the structure/format of your group-work sessions?
How do you provide feedback to students on the work being done in group work?
How do you assess/evaluate group work?

5 =Very important	4 =Important	3 =Neutral	2 =Unimportant	1 =Not important at all

PLEASE ANSWER ALL THE QUESTIONS UNDER EACH HEADING, EVEN IF YOUR OPINION DOES NOT CHANGE.

Please include your comments in the last column, underneath the feedback provided.

COMPOSITION OF GROUPS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

1	Groups must only function for a certain period before new groups are formed.	5	4 **5**	3 **1**	2 **1**	1	
2	Students who stay or travel together should be encouraged to be in the same group.	5	4 **2**	3 **4**	2 **1**	1	- ***See this as overlapping with students' needs. This is a specific need that can be taken into consideration.*** - ***These students are more likely to be in some form of relationship***

GROUP-WORK SESSIONS

Please indicate how important you consider the following statements as possible indicators for a group-work model:

3	A specific number of groups must be appointed to a facilitator during group-work sessions. (This number must be determined beforehand and each facilitator should have the same number of groups to facilitate).	5 **1**	4 **2**	3	2 **2**	1	- ***One faciltator per group*** - ***Only consider this important from point of view of distribution of workload*** - ***Think this is a 'it depends' type of question – depends on human resources particularly***

4	What is your opinion of the structure of the three-hour sessions (one hour lecture, two hours group work) of modules being presented at the UFS (as explained in the background information document during the first round)? - ***Overview may be important to place certain aspects in perspective. Students often ask how much they need to know – overview could assist in this regard.*** - ***This model has worked well in my institution.***
5	Are there any additional comments that you would like to make on group work?

THANK YOU VERY MUCH FOR YOUR COOPERATION – IT IS MUCH APPRECIATED

Appendix K

Delphi Fifth Questionnaire

From: Daleen Raubenheimer (Anatomie) <gnandk@med.uovs.ac.za>
To: .....
Subject: One remaining item: Delphi study
Date sent: Thu, 20 Jun 2002 09:31:06 GMT+2

Dear .....

There is one item in the questionnaire on which consensus or stability of responses has not been reached yet. I would appreciate it very much if you could again reconsider this item (below) in the light of the feedback from the fourth round, and indicate again on the 5-point scale how you would rate this item. The numbers underneath the scale indicate the feedback from the previous round. The underlined number indicates your response from the 4th round:

Item: A specific number of groups must be appointed to a facilitator during group-work sessions. (This number must be determined beforehand and each facilitator should have the same number of groups to facilitate).

Scale:	**5**	**4**	**3**	**2**	**1**
Feedback:	1	2	2		

I would appreciate it very much if you could reply by 21 June.

I trust to hear from you soon.

Yours faithfully
Daleen Raubenheimer

Appendix L

Final report on the Delphi study

REPORT: DELPHI STUDY ON SMALL-GROUP LEARNING

This document contains a report on the Delphi study on small-group learning of which you have been a participant. The items are divided into six categories which represent different aspects of group work For each numbered item of the questionnaire, which can be regarded as a possible indicator for a group-work model, the number of participants who voted for each point of the Likert scale is indicated underneath the different points of the scale. The round (indicated by a "R"), in which either consensus or stability of responses was reached appears in the column in front of the scale. Only the round in which the final result was reached, is indicated for each item. The total number of participants who voted for the specific item (n) appears underneath the wording of the item and the result for the specific item (i.e. either consensus or stability) appears in the last column of the table. If consensus was reached (i.e. 80% of the votes fell in one of the following ranges of the scale: 1-2 / 3 / 4-5), the specific range of the scale is indicated. Stability was reached when less than 15% change in responses occurred between two successive rounds.

The questions designed to glean additional information, indicated with a "•", which appeared in the first two questionnaires, are also included in this report. Although the purpose of these questions was not to reach consensus, but rather to obtain additional information for the group-work model, the responses to these questions are indicated for both the first and the second rounds of the study. The number of participants who voted for specific categories for each of these questions (n) is indicated next to the particular round (i.e. one or two) in the last two columns of the table.

The other open-ended questions that appeared in the questionnaires in the different rounds are not included again in the report, since feedback on these questions was already given during the different rounds of the Delphi study.

Please note again that the different points of the Likert scale are as follows:

5 = **very important** (this indicator must definitely be included in the group-work model)
4 = **important** (this indicator must preferably be included in the group-work model)
3 = **neutral** (it does not matter if this indicator is included or left out from the group-work model)
2 = **unimportant** (this indicator must preferably be left out of the group-work model)
1 = **not important at all** (this indicator must definitely be left out of the group-work model)

The results of this study will be interpreted in the light of the findings from the literature when designing the final model for group work.

If you have any questions about the report, you are welcome to contact me.

Thank you for your valuable input to this study!

COMPOSITION OF GROUPS

1	Groups must consist of a specific number of members. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	3	3		1		

• How many members do think should be in a group? (Choose one):		**1** (n=7)	**2** (n=7)
	≤ 4		
	5-6	3	1
	7-8	3	5
	9-10	1	1
	>10		

2	The groups must specifically consist of an even or an odd number of members. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Stability**
		2			3	1	3	

• If you think that one of the above-mentioned (in item 2) is better, which one would it be? (Mark one):	**1** (n=2)	**2** (n=3)
A group that consists of an even number of members	2	2
A group that consists of an odd number of members		1

3	The following must be considered with the composition of groups:							
3.1	The language of instruction of students n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	3	4				
3.2	The gender of students n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Stability**
		2		4	3			
3.3	The population group/culture of students n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Stability**
		2		5	2			
3.4	The age of students n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (3)**
		2		1	6			
3.5	The academic achievement of students n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Stability**
		2		4	3			

• If you consider any of the above-mentioned aspects (in item 3) to be important, how do you think should groups be composed as far as these aspects are concerned? (Choose one for each of these aspects):	**1**	**2**
Language of instruction:	**(n=6)**	**(n=5)**
Only groups with the same language	3	2
Mixed language groups	3	3
Gender:	**(n=5)**	**(n=5)**
Only male/female individuals in a group		
Mixed gender groups	5	5

Population group:	(n=5)	(n=5)
Only members from the same population group		
Members with mixed population groups	5	5
Age:	(n=4)	(n=5)
Older students must form their own group		
Older students must be divided up into different groups	4	5
Academic achievement:	(n=4)	(n=5)
High/low achievers should form their own separate group	1	1
High/low achievers should be mixed in different groups	3	4

4	Once the composition of groups has been determined, students should be divided into groups according to a specific method. n=7	R	5	4	3	2	1	**Result:** **Stability**
		2	1	3	3			

• According to which of the following methods do you think should students be divided into groups? (Choose one):	**1** (n=6)	**2** (n=6)
According to the social relations between students (sociometry)		
According to roles that students would prefer to play in a group		
Students must choose the groups they would like to be in themselves	1	1
Randomly	5	5
Alphabetically		
Other (specify)		

5	Students' needs must be taken into consideration when forming groups. n=7	R	5	4	3	2	1	**Result:** **Stability**
		3		5	2			

6	Groups must choose their own name for the group. n=7	R	5	4	3	2	1	**Result:** **Stability**
		2		3	3	1		

7	Groups must only function for a certain period before new groups are formed. n=7 (rounds 1,3,4) n=6 (round 2)	R	5	4	3	2	1	**Result:** **Stability**
		4		5	1	1		

• How long do you think a group should exist at a time? (Choose one):	**1** (n=7)	**2** (n=7
6 months	2	4
1 year		
For the duration of a specific Phase (1 year for Phase I & 2 years for Phase II)	3	2
For the duration of the course (5 years)	1	1
Other (specify)	1	

8	There should be opportunity to work in groups with students from other year groups of the same course. n=7	R	5	4	3	2	1	**Result:** **Stability**
		2		3	3	1		

9	There should be opportunity to work in groups with students from other courses (like nursing and physiotherapy students). n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	1	5	1			

10	Groups must have group leaders. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1	1			

• In which way do you think should group leaders be appointed? (Choose one):	**1** (n=7)	**2** (n=6)
The group must choose its own leader	6	6
The group leader must be appointed by lecturers	1	
Other (specify)		

• For which of the following periods of time do you think a person should act as group leader? (Mark one):	**1** (n=6)	**2** (n=7)
All the time as long as the group exists	1	
Another leader each week	2	3
Another leader each semester		
A different leader for each module	2	3
Other (specify)	1	1

11	Icebreaker sessions must be arranged for group members to get to know each other. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1	1			

12	A specific role must be appointed to each member in a group. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		3	4	1	2			

13	Specific tasks must be appointed to each member in a group. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		2	4	2	1			

14	Ground rules must be laid down according to which groups have to function. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (5)**
		1	7					

15	A contract must be compiled between group members in which guidelines for the working procedures in a group are determined. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		2	5	1	1			

16	Students who have relationships with one another should not be in the same groups. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		3		2	5			

		R	5	4	3	2	1	
17	Students who stay or travel together should be encouraged to be in the same group. n=7	4		2	5			**Result: Stability**

TRAINING OF STUDENTS, LECTURERS AND FACILITATORS REGARDING GROUP WORK

		R	5	4	3	2	1	
18	Students must be thoroughly trained with regard to group work. n=7	1	5	2				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
19	Lecturers and facilitators must be trained with regard to group work. n=7	1	6	1				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
20	The training that students and lecturers/facilitators receive with regard to group work, must be in line with each other. n=7	1	6	1				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
21	Mentors for groups must be trained with regard to the group process. n=7	1	5	2				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
22	A complete guide on group work must be available for students. n=7	2	6		1			**Result: Consensus (4-5)**

		R	5	4	3	2	1	
23	A complete guide on group work must be available for staff. n=7	2	7					**Result: Consensus (5)**

		R	5	4	3	2	1	
24	Certain aspects of the training of students with regard to group work must be repeated during the course. n=7	2	2	4	1			**Result: Consensus (4-5)**

• If any aspects of the training of students should be repeated, when do you think they should be repeated? (Choose one):	**1 (n=6)**	**2 (n=5)**
At the beginning of Phase II (second year of course)	2	1
At the beginning of each study year	1	
At the beginning of each semester	2	4
Other (specify)	1	

The following statements are possible aspects that may be addressed during training of students, lecturers and facilitators with regard to group work.

25	The importance and advantages of group work. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	5	1	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	6	1				

26	The objectives of group work. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (5)
		1	7					
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	4	2	1			
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

27	The principles and conditions for successful group work. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	6		1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	4	3				
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

28	Training in group dynamics (interrelations between group members). n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	6	1				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

29	Training in effective communication and social skills. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (5)
		1	7					
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

30	How to analyse interaction within a group. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		3		6	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

31	How to identify and handle problems in a group. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	4	2	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	4	3				
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

32	The importance of maintaining the group process. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	4	3				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	6	1				

33	Training in the role and tasks of a group leader. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	6	1				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	2	5				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

34	The different roles that group members may play. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		2	3	3	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	1	5	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			

35	The characteristics of effective and ineffective groups and group members. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	2	4	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	6	1				

36	Strategies to improve the effectiveness of a group. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	4	3				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

37	How to plan and conduct a group-work session. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		2	6		1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

38	How to plan and complete a group task. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

39	The different types of group work that can be used during a group-work session (e.g. task-based and problem-oriented group work). n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	2	4	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	4	3				

40	The process of solving problems (related to the group task). n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	5	1	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

41	The different methods that can be used for group work (e.g. buzz groups, crossover groups, etc.). n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	2	4	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	5	2				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

42	The reasons why a variety of group-work methods should be used. n=7							Result:
	Students	R	5	4	3	2	1	Stability
		2		5	1	1		
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	4	2	1			

43	The importance of regular evaluation of the group task. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	4	3				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	5	2				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

44	The importance of regular evaluation of the group process. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	4	2	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	6	1				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

45	The different learning styles that students might possess. n=7							Result:
	Students	R	5	4	3	2	1	Stability
		2	1	4	2			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	2	4	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	2	4	1			

46	The skills that students develop through doing group work. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	3	4				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	2	4	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	3	4				

47	The advantages and conditions of cooperative learning (learning through interaction with fellow students). n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	3	4				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	2	4	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	3	4				

48	How participation and discussion of members within a group can be improved. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	4	3				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	4	3				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

49	The importance of a positive attitude towards group work. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		1	5	1			1	
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	4	2	1		1	
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	1			1	

50	Training regarding personalities and personality clashes. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		2	1	5	1			
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	1	6				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				

51	How to address conflict within the group. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		2	4	3				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	3	4				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		2	5	2				

52	How to address students who do not perform up to expectation. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		2	5	2				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	5	2				
	Facilitators	R	5	4	3	2	1	Consensus (5)
		2	7					

53	How to address racial clashes within a group. n=7							Result:
	Students	R	5	4	3	2	1	Consensus (4-5)
		2	5	2				
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	4	3				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		2	6	1				

The following statements are possible additional aspects that may be addressed during training of lecturers and facilitators with regard to group work.

54	The choice of a group-work method for a group-work session. n=7							Result:
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	4	3				

55	The compilation and formulation of group tasks for group-work sessions. n=7							Result:
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	4	2	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	4	3				

56	The importance of feedback to students regarding group work. n=7							Result:
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	6	1				
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

57	Appropriate assessment techniques for group work. n=7							Result:
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	6	1				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	6	1				

58	The role of a group-work facilitator. n=7							Result:
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		2	5	2				
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	7					

59	Skills that are necessary to facilitate groups effectively. n=7							Result:
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	4	2	1			
	Facilitators	R	5	4	3	2	1	Consensus (5)
		1	7					

60	How students can be assisted with regular self-evaluation of the group process and the group task. n=7							Result:
	Lecturers	R	5	4	3	2	1	Consensus (4-5)
		1	3	3	1			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		1	5	2				

61	How to address a request from students to move from one group to another group. n=7							Result:
	Lecturers	R	5	4	3	2	1	Stability
		3	1	3	3			
	Facilitators	R	5	4	3	2	1	Consensus (4-5)
		2	3	3	1			

GROUP-WORK SESSIONS

62	Appropriate venues must be used for group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	2	5				

63	The tables and chairs must be arranged so that members in a group can look towards one another. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1	1			

64	Sufficient resources like library books and computers must be available for all the groups to use. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	3	3	1			

65	Clear outcomes for the development of group-work skills must be set and made known to students. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	6	1				

66	There must be mechanisms to encourage students to prepare for group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (5)**
		1	7					

67	Lecturers must know which types of questions and assignments for group work are suitable for the different kinds of knowledge that students should acquire (according to Bloom's taxonomy). n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	3	3		1		

68	The assignment for group work must be suitable for the purpose of the specific group-work session. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	2				

69	The assignments and outcomes for group work must be set out clearly so that groups know exactly what is expected of them. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1	1			

70	The task (assignment and topic) for group work must enhance cooperation and discussion between members of a group. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	4	3				

71	The outcomes which are set for a group task must be realistic. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	2				

72	The type of group work (task-based or problem-oriented) used for a specific session must support the specific purpose of the session. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	3	3	1			

73	The group-work method that is used for a specific group-work session must support the specific purpose of the session. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	3	3	1			

74	A variety of group-work methods should be used for group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		2	1	5	1			

75	Group work could be done in small, as well as large (e.g. the whole class) groups. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		2	4		3			

76	The same amount of emphasis should be laid upon the common goal of the group, as well as individual accountability of group members during a group-work session. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	1	5	1			

• If you think that one of the above-mentioned (in item 76) is more important, which one would it be? (Mark one):	**1** (n=6)	**2** (n=6)
The common goal of the group	3	4
Individual accountability of group members	3	2

77	A specific number of groups must be appointed to a facilitator during group-work sessions. (This number must be determined beforehand and each facilitator should have the same number of groups to facilitate). n=6 (round 1); n=5 (rounds 2-5)	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		5	1	3	1			

• Do you think that it is acceptable for facilitators to move around between groups to facilitate the group work?	**1** (n=7)	**2** (n=5)
Yes	6	5
No	1	

78	The facilitators for a group-work session must be experts in the specific subject field in which group work is being done. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		3			3	3	1	

79	The same facilitators must be involved in all the group-work sessions of a specific module to ensure continuity, regardless of the contents of the group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		3	1	5	1			

80	Students from more advanced study years may also act as facilitators for group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	1	5	1			

81	The time that is spent on a group-work session should be determined by the specific task for the session. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	1	5	1			

• Do you think it is acceptable if a three-hour session (as it is the case at the UFS) is flexible in terms of the structure (how many lectures/hours group work)?	**1** (n=6)	**2** (n=5)
Yes	5	5
No	1	

82	Feedback should be provided after each group-work session on the work done during the session. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		2	6		1			

• Who do think should provide feedback on a group-work session? (Mark all that are appropriate):	**1** (n=7)	**2** (n=7)
The groups themselves	6	6
The lecturer	3	2
The facilitator	6	6

• When do you think is the best time for feedback on a group-work session? (Mark one):	**1** (n=7)	**2** (n=7)
Directly after the session	4	7
During the following session of the same module	2	
Other (specify)	1	

83	There should be rewards for effective group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		2		4	2	1		

84	Groups must have the opportunity to compete with one another, because it enhances group cohesion. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		2	1	2	3	1		

85	Students must be divided into learning groups that can study together during self-study times. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		2			5	1	1	

• If you think learning groups should be used, how do you think should these groups be formed? (Mark one):	1 (n=5)	2 (n=3)
The same members as the groups during group-work sessions	1	
Students must choose the learning group of which they want to be a member themselves	4	3

SUPPORT FOR STUDENTS AND LECTURERS/ FACILITATORS REGARDING GROUP WORK.

		R	5	4	3	2	1	
86	There should be a support system for groups and group members who experience problems with group work. n=7	1	4	3				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
87	There should be support available for lecturers and facilitators who experience problems with group work. n=7	1	5	2				**Result: Consensus (4-5)**

• If you think that the above-mentioned (item 87) is important, which type of support do you think is necessary for lecturers and facilitators? (Mark all that are appropriate):	1 (n=7)	2 (n=7)
Academic support (e.g. how to compile assignments for group work)	7	7
Organisational support (e.g. the arrangement of tables and chairs for group-work sessions)	6	7
Administrative support (e.g. copying of work books for group-work sessions)	7	7
Other (specify)	2	1

		R	5	4	3	2	1	
88	The lecturer who presents a certain session of a module, must provide academic support to groups regarding the contents of the specific session. n=7	3	1		6			**Result: Consensus (3)**

		R	5	4	3	2	1	
89	Academic support must be provided to students in a group context. n=7	3		2	5			**Result: Stability**

		R	5	4	3	2	1	
90	Each group should have a mentor who provides support to the group with regard to the group process, outside group-work time. n=7	3	1	1	5			**Result: Stability**

		R	5	4	3	2	1	
91	Senior students may also act as mentors for groups. n=7	2		6			1	**Result: Consensus (4-5)**

		R	5	4	3	2	1	
92	After hours social meetings should be arranged within groups to enhance the interrelations between group members. n=7	2		2	3	1	1	**Result: Stability**

93	Students must be able to contact their fellow group members after hours, if necessary. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		2		2	5			

ASSESSMENT OF GROUP WORK

94	The group task (product of group work) must be assessed. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	4	2	1			

95	The group process must be assessed. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		2	4	1	1	1		

96	Regular assessment of group tasks should take place. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		3	1	3	3			

• Do you think that the group tasks should be assessed in every module?	**1** (n=7)	**2** (n=7)
Yes	5	5
No	2	2
- If so, how often do you think it should take place? (Choose one):	**1** (n=5)	**2** (n=7)
After each group-work session		
Once a month	2	2
Once a term		
After completion of a module	3	5
Other (specify)		

97	Regular assessment of the group process should take place. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Stability**
		2	4	1	1	1		

• Do you think that the group process should be assessed in every module?	**1** (n=7)	**2** (n=7)
Yes	5	5
No	2	2
- If so, how often do you think it should take place? (Choose one):	**1** (n=6)	**2** (n=6)
After each group-work session	2	2
Once a month	2	3
Once a term	1	
After completion of a module	1	1
Other (specify)		

98	There should be guidelines for determining assessment criteria for the assessment of group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	6	1				

99	The criteria and methods of assessment of group work must be made known to students beforehand. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	6	1				

100	Assessment of group tasks should form part of the semester mark of a module. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	5	1	1			

101	Assessment of the group process should form part of the semester mark of a module. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	4	2	1			

102	A group must prove that self-evaluation of the group process has taken place (e.g. with a report), before members of the group can obtain a semester mark for the specific module. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Stability**
		2	2	1	4			

103	Clear guidelines must be available for the awarding of marks for a group task (product of group work). n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	4	3				

• If you think that the above-mentioned (item 103) is important, which of the following do you think would be preferable? (Mark one):	**1** (n=7)	**2** (n=7)
All members in a group should get the same marks for a group task	3	2
The marks should be divided fairly among the group members according to each one's contribution to the group task	4	5

104	Clear guidelines must be available for the awarding of marks for the group process. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	5	2				

• If you think that the above-mentioned (item 104) is important, which of the following do you think would be preferable? (Mark one):	**1** (n=7)	**2** (n=7)
All members in a group should get the same marks for the group process	2	1
The marks should be divided fairly among the group members according to each one's contribution to the group process	5	6

105	Individual students should evaluate themselves with regard to their contribution to group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	2	5				

106	All group members should assess the group with regard to group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result: Consensus (4-5)**
		1	2	5				

107	Individual contributions of students to group work should be assessed by fellow group members. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	3	4				

108	The group leader of a specific group should be evaluated by the group members with regard to the fulfilment of his/her role and duties as group leader. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	4	2	1			

109	Ground rules must exist for the assessment of students by their fellow group members. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1	1			

110	The lecturer must have the final control over the awarding of marks to students, even if assessment by fellow group members did take place. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		3	5	1	1			

111	Support should be available for groups that experience problems with the assessment of group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	3	4				

112	A variety of group tasks (products) of group work must be assessed. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	3	4				

113	Groups must report the outcome of their group tasks in various ways, e.g. a presentation, a poster, etc. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	2				

114	The knowledge, skills and attitudes which students develop through doing group work must be assessed. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	6	1				

115	Specific assessment instruments (e.g. questionnaires) must be available for the assessment of the group process. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1	1			

116	Groups and group members must receive feedback on assessment of group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	2				

		R	5	4	3	2	1	
117	Strategies to improve the group process must be planned according to the outcome of evaluation of the group process. n=7	1	3	3	1			**Result: Consensus (4-5)**

		R	5	4	3	2	1	
118	Outcomes of group tasks must be covered in exams and tests. n=7	2	1	4	2			**Result: Stability**

		R	5	4	3	2	1	
119	Students should get the opportunity, at the end of a module, to evaluate the way in which assessment of group work took place in the specific module. n=7	1	3	3	1			**Result: Consensus (4-5)**

		R	5	4	3	2	1	
120	The appropriateness of the tasks for a group-work session should be evaluated. n=7	1	3	4				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
121	Group-work facilitators should be evaluated according to the efficiency with which they facilitated group-work sessions. n=7	1	4	3				**Result: Consensus (4-5)**

QUALITY ASSURANCE OF GROUP WORK

		R	5	4	3	2	1	
122	Clear guidelines for the implementation of group work should be available. n=7	1	6	1				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
123	A group-work team/committee should be appointed for the implementation of group work. n=7	2	5		2			**Result: Stability**

		R	5	4	3	2	1	
124	Students' opinions on their experiences regarding group work should be taken into consideration. n=7	2	1	6				**Result: Consensus (4-5)**

		R	5	4	3	2	1	
125	External evaluation by another institution should be part of quality control/assurance. n=7	2	2	4			1	**Result: Consensus (4-5)**

The following are elements of the quality assurance of group work (possible functions of the group-work team/committee, should such a committee be appointed):

		R	5	4	3	2	1	
126	Regular evaluation of the process of implementation of group work. n=7	1	6	1				**Result: Consensus (4-5)**

127	The planning of strategies to improve group work in Phases I and II. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1	1			

128	Ensuring that the objectives for which group work was implemented, are reached. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (5)**
		1	6	1				

129	Ensuring that proper training of students regarding group work takes place. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (5)**
		1	7					

130	Ensuring that proper training of staff regarding group work takes place. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (5)**
		1	7					

131	Providing a support system for students who are involved with group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	1			1	

132	Providing a support system for lecturers and facilitators who are involved with group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	4	2			1	

133	Providing guidelines for the assessment of group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	2				

134	Providing assessment instruments for the assessment of group work. n=7	**R**	**5**	**4**	**3**	**2**	**1**	**Result:** **Consensus (4-5)**
		1	5	2				

END OF REPORT

U.O.V.S. • U.O.F.S.
BLOEMFONTEIN
BIBLIOTEEK • LIBRARY