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**THE NEEDS AND OPPORTUNITIES FOR
POST-GRADUATE EDUCATION AND
TRAINING PROGRAMMES FOR THE
OPTOMETRY PROFESSION IN POST-
APARTHEID SOUTH AFRICA**

by

STEFANUS JOHANNES KRIEL

**Dissertation submitted in fulfilment of the requirements for
the degree**

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(M.HPE)**

in the

**DIVISION OF EDUCATIONAL DEVELOPMENT
FACULTY OF HEALTH SCIENCES
AT THE UNIVERSITY OF THE FREE STATE**

May 2003

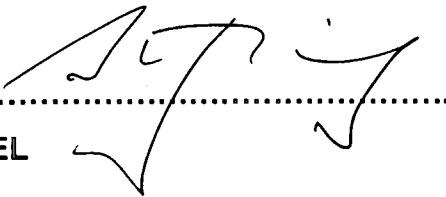
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DECLARATION

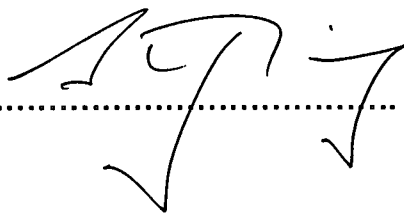
I hereby declare that the work which is submitted here is the result of my own independent investigation. Where help was sought, it was acknowledged. I further declare that this work is submitted for the first time at this university/faculty towards an M.HPE degree in Health Professions Education and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

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Dedication

To the needlessly blind:

*"Every five seconds one person in our world goes blind...
And a child goes blind every minute."*

Vision 2020 - The Right to Sight



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TABLE OF CONTENTS

	Page
 CHAPTER 1:	
ORIENTATION TO THE STUDY	
1.1 INTRODUCTION AND BACKGROUND.....	1
1.2 RATIONALE OF THIS STUDY.....	4
1.3 STATEMENT OF THE PROBLEM.....	11
1.4 GOAL AND OBJECTIVES.....	12
1.5 METHODS AND PROCEDURE.....	13
1.6 SIGNIFICANCE AND VALUE OF THE STUDY.....	15
1.7 SCOPE OF THE STUDY.....	17
1.8 ARRANGEMENT OF THE DISSERTATION.....	18
1.9 CONCLUSION.....	19
 CHAPTER 2:	
FACTORS INFLUENCING THE DESIGN OF OPTOMETRY EDUCATION AND TRAINING PROGRAMMES	
2.1 INTRODUCTION.....	21
2.2 THE HISTORY OF THE DEVELOPMENT OF THE OPTOMETRY PROFESSION.....	23
2.3 THE TRANSFORMATION OF THE HEALTH CARE SYSTEM IN SOUTH AFRICA AND THE EYE CARE NEEDS OF THE SOUTH AFRICAN POPULATION.....	25
2.3.1 Introduction.....	25
2.3.2 National and international perspectives.....	28
2.3.2.1 <i>Vision 2020 – The Right to Sight</i>	30
2.3.2.2 <i>The National Prevention of Blindness Campaign (Policy)</i>	32
2.3.3 Primary health care (PHC).....	35
2.3.4 Statutory and professional aspects.....	38

2.3.4.1 <i>The Health Professions Council of South Africa (HPCSA)</i>	38
2.3.4.2 <i>The South African Optometric Association (SAOA)</i>	40
2.3.4.3 <i>The South African Council on Optometric Education (SACOE)</i>	42
2.4 THE TRANSFORMATION OF EDUCATION AND TRAINING IN SOUTH AFRICA.....	43
2.4.1 Introduction.....	43
2.4.2 The roles of the Department of Health (DoH) and of the Department of Education (DoE).....	45
2.4.3 A programme-based approach in education and training...	46
2.4.4 Outcomes-based education and training (OBET).....	49
2.4.5 The South African Qualifications Authority (SAQA) and the National Qualifications Framework (NQF).....	56
2.4.6 Educational strategies for health sciences education.....	62
2.5 CONCLUSION.....	70

CHAPTER 3:

A SELECTIVE REVIEW OF OPTOMETRIC EDUCATION

3.1 INTRODUCTION.....	71
3.2 OPTOMETRIC EDUCATION AND TRAINING IN SOUTH AFRICA.....	73
3.2.1 Introduction.....	73
3.2.2 Technikon Witwatersrand (TWR).....	80
3.2.3 University of the North (UNIN).....	83
3.2.4 The University of Durban-Westville (UDW).....	84
3.2.5 The Rand Afrikaans University (RAU).....	85
3.2.6 Cape Technikon (CT).....	85
3.2.7 The University of the Free State (UFS).....	86
3.2.8 The Graduate Institute of Optometry (GIO).....	89
3.2.9 Summative remarks.....	92
3.3 OPTOMETRIC EDUCATION AND TRAINING IN THE REST OF AFRICA.....	95
3.3.1 Introduction.....	95

3.3.2	Ghana.....	97
3.3.3	Tanzania.....	98
3.3.4	Nigeria and French-speaking Africa.....	100
3.3.5	Summative remarks on optometric education and training in Africa.....	101
3.4	OPTOMETRIC EDUCATION AND TRAINING IN THE USA AND CANADA.....	102
3.4.1	Introduction.....	102
3.4.2	Programmes for optometric education and training.....	106
3.4.3	Summative remarks.....	110
3.5	OPTOMETRIC EDUCATION AND TRAINING IN EUROPE, THE UNITED KINGDOM AND AUSTRALIA.....	111
3.5.1	Introduction.....	111
3.5.2	Optometric education programmes in Australia, the United Kingdom and Europe.....	112
3.5.2.1	<i>Australia</i>	112
3.5.2.2	<i>The United Kingdom</i>	117
3.5.2.3	<i>Europe</i>	120
3.6	SUMMATIVE PERSPECTIVE.....	124
3.7	CONCLUSION.....	125

CHAPTER 4:

CONTINUING PROFESSIONAL DEVELOPMENT (CPD) IN OPTOMETRY

4.1	INTRODUCTION.....	127
4.2	RATIONALE.....	128
4.3	CRITERIA FOR CPD PROGRAMMES.....	131
4.3.1	Convenience.....	134
4.3.1.1	<i>Place</i>	134
4.3.1.2	<i>Time</i>	135
4.3.1.3	<i>Pace</i>	135
4.3.2	Relevance.....	136
4.3.3	Individualisation.....	141
4.3.4	Self-assessment.....	143

4.3.5	Interest.....	145
4.3.6	Speculation and systematic presentation.....	147
4.3.6.1	<i>Speculation</i>	147
4.3.6.2	<i>Systematic</i>	148
4.4	TYPES OF CPD PROGRAMMES.....	149
4.4.1	Formal programmes.....	150
4.4.2	Informal CPD.....	151
4.5	CPD IN SOUTH AFRICA.....	151
4.5.1	Administration.....	151
4.5.2	Categories of educational and developmental activities and allocation of points.....	152
4.5.2.1	<i>Category 1: Organisational activities</i>	153
4.5.2.2	<i>Category 2: Small-group activities</i>	153
4.5.2.3	<i>Category 3: Individual activities</i>	154
4.5.3	Deferment and non-compliance.....	156
4.5.4	Providers of CPD activities.....	156
4.5.5	Accreditors of CPD activities.....	157
4.6	THE HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA (HPCSA).....	157
4.6.1	Background.....	157
4.6.2	Registration with the HPCSA.....	158
4.6.3	Professional Boards.....	159
4.7	DISCUSSION.....	161
4.8	SUMMATIVE PERSPECTIVE.....	162
4.9	CONCLUSION.....	164

CHAPTER 5:

RESEARCH METHODOLOGY

5.1	INTRODUCTION.....	169
5.2	THEORETICAL PERSPECTIVES ON THE RESEARCH METHODOLOGY.....	170
5.3	METHODS AND PROCEDURES.....	173
5.3.1	Literature review.....	173
5.3.2	The empirical study.....	175

5.4	RESEARCH DESIGN: EMPLOYING A NEEDS ANALYSIS AS RESEARCH METHOD.....	176
5.4.1	The questionnaire.....	176
5.4.2	The empirical study: Needs analysis.....	178
5.5	THE PARTICIPANTS.....	179
5.6	ETHICAL CONSIDERATIONS.....	182
5.7	ANALYSIS OF DATA.....	182
5.8	CONCLUSION.....	182

CHAPTER 6:

RESULTS, DATA ANALYSIS AND DISCUSSION OF THE FINDINGS

6.1	INTRODUCTION.....	180
6.2	RESULTS OF CATEGORY 1: PERSONAL INFORMATION.....	181
6.3	SUMMATIVE CONCLUSION ON CATEGORY 1: PERSONAL INFORMATION.....	198
6.4	MAIN FINDINGS OF THIS CATEGORY.....	202
6.5	RESULTS OF CATEGORY 2: PROFESSIONAL DEVELOPMENT.....	203
6.6	SUMMATIVE CONCLUSION ON CATEGORY 2: PROFESSIONAL DEVELOPMENT.....	237
6.7	MAIN FINDINGS OF THIS CATEGORY.....	240
6.8	RESULTS OF CATEGORY 3: POST-GRADUATE/ POST-DIPLOMA STUDIES.....	242
6.9	SUMMATIVE CONCLUSION ON CATEGORY 3: POST- GRADUATE/POST-DIPLOMA STUDIES.....	253
6.10	MAIN FINDINGS OF THIS CATEGORY.....	256
6.11	RESULTS OF CATEGORY 4: FURTHER STUDIES TO OBTAIN A FORMAL QUALIFICATION.....	257
6.12	SUMMATIVE CONCLUSION ON CATEGORY 4: FURTHER STUDIES TO OBTAIN A FORMAL QUALIFICATION.....	278
6.13	MAIN FINDINGS OF THIS CATEGORY.....	282
6.14	RESULTS OF CATEGORY 5: DETAILED INFORMATION ON POST-GRADUATE/POST-DIPLOMA STUDIES.....	283

6.15	SUMMATIVE CONCLUSION ON CATEGORY 5: DETAILED INFORMATION ON POST-GRADUATE/POST-DIPLOMA STUDIES.....	295
6.16	MAIN FINDINGS OF THIS CATEGORY.....	298
6.17	RESULTS OF CATEGORY 6: AWARENESS OF THE PUBLIC NEED.....	299
6.18	SUMMATIVE CONCLUSION ON CATEGORY 6: AWARE NESS OF THE PUBLIC NEED.....	351
6.19	MAIN FINDINGS OF THIS CATEGORY.....	362

CHAPTER 7:

SUMMATIVE PERSPECTIVE OF THE STUDY

7.1	INTRODUCTION.....	363
7.1.1	Perspectives on Chapter 1.....	363
7.1.2	Perspectives on Chapter 2.....	367
7.1.3	Perspectives on Chapter 3.....	371
7.1.4	Perspectives on Chapter 4.....	376
7.1.5	Perspectives on Chapter 5.....	384
7.1.6	Perspectives on Chapter 6.....	388
7.1.7	Perspectives on Chapter 7.....	388
7.1.8	Perspectives on Chapter 8.....	389
7.1.9	Perspectives on Chapter 9.....	390

CHAPTER 8:

RECOMMENDATIONS ON POST-GRADUATE OPTOMETRIC EDUCATION IN SOUTH AFRICA

8.1	INTRODUCTION.....	391
8.1.1	Why post-graduate?.....	392
8.1.2	How will this contribute to addressing the need?.....	394
8.1.3	Post-graduate education in optometry and its role in post- apartheid South Africa.....	396

8.2	PREMISES OF POST-GRADUATE OPTOMETRY	
	EDUCATION.....	397
8.3	RECOMMENDATIONS.....	399
8.3.1	Points of departure.....	401
8.3.2	Role-players.....	405
8.3.3	Recommendations with regard to post-graduate optometric education and training.....	410
8.3.3.1	<i>Curriculum design, content and organisation.....</i>	410
8.3.3.2	<i>Teaching, training, learning and assessment.....</i>	412
8.3.3.3	<i>Student progression and achievement.....</i>	414
8.3.3.4	<i>Student support, development and guidance.....</i>	415
8.3.3.5	<i>Aim, purpose and outcomes.....</i>	415
8.3.3.6	<i>Student and staff resources.....</i>	416
8.3.3.7	<i>Staff development and training.....</i>	417
8.3.3.8	<i>Human and physical resources.....</i>	417
8.3.3.9	<i>Governance and organisation.....</i>	418
8.3.3.10	<i>Quality assurance and enhancement.....</i>	419
8.3.4	Recommendations with regard to continuing professional development (CPD).....	420
8.3.4.1	<i>Recommendations concerning the CPD content and design of programmes.....</i>	420
8.3.4.2	<i>Recommendations concerning the logistics of CPD.....</i>	423
8.3.4.3	<i>Recommendations concerning the marketing of CPD.....</i>	423
8.3.5	Recommendations with regard to clinical competence.....	423
	SECTION A: CLINICAL RESPONSIBILITIES.....	425
	SECTION B: PATIENT HISTORY.....	435
	SECTION C: PATIENT EXAMINATION.....	438
	SECTION D: DIAGNOSIS.....	447
	SECTION E: PATIENT MANAGEMENT.....	448
	SECTION F: RECORDING OF CLINICAL DATA.....	469
8.4	SUMMATIVE PERSPECTIVE.....	471
8.5	CONCLUSION.....	480

CHAPTER 9:
SUMMARY OF CONCLUSIONS AND LIMITATIONS OF THE
STUDY

9.1	INTRODUCTION.....	482
9.2	CONCLUSION.....	482
9.3	LIMITATIONS OF THE STUDY.....	484
9.4	RECOMMENDATION FOR FURTHER STUDIES.....	485
9.5	CONCLUSIVE REMARKS.....	485

BIBLIOGRAPHY.....	487
-------------------	-----

SUMMARY.....	508
--------------	-----

<i>OPSOMMING</i>	514
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APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX D

APPENDIX E

LIST OF TABLES

	Page
Table 2.1: Schematic presentation of the National Qualifications Framework (NQF)	58
Table 3.1: Some of the major strengths and weaknesses of undergraduate and post-graduate optometric education and training in South Africa	94
Table 6.1: Demographic characteristics of respondents	183
Table 6.2(a): Qualification profile of the respondents	185
Table 6.2(b): Profile of institutions (which had been attended by the respondents) offering qualifications.....	188
Table 6.3(a): Type of practice.....	190
Table 6.3(b): Locality of the practice	191
Table 6.4(a): Respondents who would like to obtain a further (higher) qualification in optometry	193
Table 6.4(b): Motivation/reasons of respondents who would like to obtain a further (higher) qualification in optometry	194
Table 6.4(c): Motivation/reasons given by respondents who would not like to obtain a further (higher) qualification in optometry	196
Table 6.5(a): Respondents' own perception as to whether they were keeping abreast of developments in the field of optometry practice	204
Table 6.5(b): Respondents' ways of keeping abreast of developments in the field of optometry	205
Table 6.6(a): Respondents' views on adequate opportunities to stay informed in the field of optometry.....	207

Table 6.6(b): Respondents' reasons for confirming that there were sufficient opportunities to keep informed in the field of optometry.....	208
Table 6.6(c): Respondents' reasons for stating that opportunities to stay informed in the field of optometry were not sufficient.....	210
Table 6.7(a): Respondents experiencing stumbling-blocks in professional development.....	212
Table 6.7(b): Stumbling-blocks experienced by respondents in terms of their professional development.....	213
Table 6.8: Factors which motivate respondents to engage in continuing professional development (CPD)	215
Table 6.9(a): Respondents' perception as to whether current CPD activities met their needs.....	217
Table 6.9(b): Respondents' reasons for stating that current professional development activities met their needs.....	218
Table 6.9(c): Respondents' reasons for stating that current professional development activities did not meet their needs	220
Table 6.10: Respondents' ways of acquiring CPD points in order to maintain a licence to practise.....	222
Table 6.11(a): CPD activities preferred by respondents.....	224
Table 6.11(b): Respondents' reasons why they preferred to participate in certain CPD activities	225
Table 6.12(a): Respondents' desire to specialise in an optometry field.....	227
Table 6.12(b): The extent to which respondents agreed that formal post-graduate qualifications should form the basis of such specialisation.....	228

Table 6.12(c): Respondents' reasons why they felt that a formal post-graduate qualification should form the basis of specialisation	229
Table 6.12(d): Respondents' view that a formal post-graduate qualification should not form the basis of specialisation	230
Table 6.13(a): Respondents' agreement that formal qualifications should represent expanded scope privileges	231
Table 6.13(b): Respondents' motivation as to why formal qualifications should represent expanded scope privileges, which recognise a broader skills base....	233
Table 6.13(c): Respondents' motivation as to why formal qualifications should not represent expanded scope privileges which recognise a broader skills base.....	235
Table 6.14: Respondents who did investigate post-graduate possibilities in optometry in South Africa	243
Table 6.15(a): Respondents who wished to embark on post-graduate/post-diploma studies if the opportunity arose.....	244
Table 6.15(b): Respondents' motivation/reasons why they did not pursue post-graduate/post-diploma studies at present.....	245
Table 6.16: Respondents' reasons why they wished to pursue formal post-graduate studies in the future	247
Table 6.17: Positive responses to the offering of a post-graduate programme.....	249
Table 6.18: Respondents' preferred area to obtain a post-graduate qualification in the field of optometry	250

Table 6.19:	The inadequacies/shortfalls in the professional practice environment which respondents experienced.....	252
Table 6.20:	Formal study time schedules preferred by the respondents.....	258
Table 6.21:	Course-structure (course type) preferred by the respondents	259
Table 6.22:	The respondents' ability to use online technology as part of the coursework delivery	260
Table 6.23:	Respondents' availability to attend lectures on campus for a short period of time	261
Table 6.24:	Frequency of respondents' ability to attend lectures.....	262
Table 6.25(a):	Indication of the respondents' preference with regard to the place where the practical/clinical sessions of the post-graduate course should take place.....	263
Table 6.25(b):	Respondents' motivation/reasons why the practical/clinical sessions should be held in these locations....	264
Table 6.26(a):	The percentage of respondents who preferred a certain type/types or a combination of post-graduate qualifications.....	265
Table 6.26(b):	Other types of post-graduate qualifications that respondents would like to obtain	266
Table 6.27(a):	Respondents' awareness of post-graduate opportunities in South Africa.....	268
Table 6.27(b):	Respondents' views with regard to post-graduate opportunities in South Africa which fulfilled their needs	269

Table 6.27(c): Respondents' reasons as to why post-graduate opportunities in South Africa fulfilled their needs	270
Table 6.27(d): Respondents' reasons why post-graduate opportunities in South Africa did not fulfil their needs	272
Table 6.28(a): Respondents' awareness of post-graduate studies in other countries	273
Table 6.28(b): Respondents' views as to whether post-graduate programmes in other countries fulfilled their needs	274
Table 6.28(c): Respondents' views as to why post-graduate programmes in other countries fulfilled their needs	275
Table 6.28(d): Respondents' views as to why post-graduate programmes in other countries did not fulfil their needs	276
Table 6.29: Respondents' desire for international recognition of South African programmes	277
Table 6.30(a): Respondents' preference with regard to the content of a post-graduate programme	284
Table 6.30(b): Other content suggestions with regard to post-graduate programmes	286
Table 6.31: Respondents' recommendations on the duration of a specialisation programme	288
Table 6.32: Respondents' preferred study mode	289
Table 6.33: Clinical/theory/research preference of the respondents	291
Table 6.34: Preference for the inclusion of elective modules	292
Table 6.35(a): Responses to the broadening of scope of practice	293
Table 6.35(b): Respondents' reasons/motivation as to why a post-graduate programme should be aimed at broadening the scope of practice	294

Table 6.36(a): Respondents' detailed opinion on the public's needs regarding accessibility	300
Table 6.36(b): The respondents' detailed opinion on the public's needs regarding affordability	302
Table 6.36(c): Respondents' detailed opinion on the public's needs regarding equity	304
Table 6.37(a): Respondents' detailed opinion on the public's current needs regarding eye care with specific reference to the management of ocular disease in diabetes	306
Table 6.37(b): Respondents' detailed opinion on the public's current needs regarding eye care with specific reference to the management of ocular disease in retinopathy	308
Table 6.37(c): Respondents' detailed opinion on the public's current needs regarding eye care with specific reference to the management of ocular disease in glaucoma	310
Table 6.37(d): Respondents' detailed opinion on the public's current needs regarding eye care with specific reference to the management of ocular disease in cataract	312
Table 6.37(e): Respondents' detailed opinion on the public's current needs regarding eye care with specific reference to the management of ocular disease in impaired (low) vision	314
Table 6.38: Respondents' views on the role the optometrist can play in the improvement of the standard of care	316
Table 6.39: Respondents' view on the role post-graduate education can play in eye care delivery and standards	318

Table 6.40(a): Respondents' perception of being part of the community they served	320
Table 6.40(b): Respondents' reason/motivation why they saw themselves as part of the community they served	321
Table 6.40(c): Respondents' reasons/motivation why they did not see themselves as part of the community they served.....	323
Table 6.41: Respondents' views on the role that the State should play in the provision of eye care.....	324
Table 6.42(a): Respondents' views/recommendations on the number of optometrists that the State should employ for the (whole) country	326
Table 6.42(b): Respondents' reasons for the recommended number of State-employed optometrists	328
Table 6.43(a): Response to the suggestion of private/public sector partnership to assist the State in addressing the eye care needs in South Africa.....	330
Table 6.43(b) Respondents' motivation for their beliefs that the profession should develop a private/public sector partnership to assist the State in addressing the eye care needs of South Africans	331
Table 6.43(c): Respondents' motivation for their belief that the profession should not develop a private/public sector partnership to assist the State in addressing the eye care needs of South Africans	333
Table 6.44(a): Responses to the introduction of compulsory community service proposed for 2007	334
Table 6.44(b): Respondents' reasons why they were of the opinion that compulsory community service is a good idea	336

Table 6.44(c): Respondents' reasons why they were of the opinion that compulsory community service is not a good idea.....	337
Table 6.44(d): Respondents' reasons why they were not sure ("Yes" and "No") as to whether 2007 (earmarked for possible compulsory community service) was a good idea	339
Table 6.45: Respondents' views on the earlier implemen- tation of compulsory community service (earlier than 2007)	340
Table 6.46(a): Responses to the suggestion that a National Health Assurance Scheme is an option for South Africa.....	341
Table 6.46(b): Respondents' motivation for the implementation of a National Health Insurance Scheme in South Africa... ..	342
Table 6.46(c): Respondents' motivation as to why a National Health Insurance Scheme should not be implemented in South Africa.....	344
Table 6.47(a): Responses to the question whether post-graduate education would impact positively on the needs of the public	345
Table 6.47(b): Respondents' reasons why a post-graduate edu- cation would have a positive impact on the needs of the public.....	347
Table 6.47(c): Respondents' reasons why a post-graduate edu- cation would not have a positive impact on the needs of the public.....	349

LIST OF FIGURES

	Page
Figure 1.1: The diagram for the career ladder of the optometrist.....	8
Figure 2.1: Factors influencing the health care system in South Africa and the eye care needs of the South African population.....	27
Figure 2.2: Factors related to the transformation of education and training.....	44
Figure 3.1: The role of the GIO in post-graduate optometry education in South Africa (Master's level).....	90
Figure 4.1: The relationship between the three components of relevance in a CPD programme.....	139
Figure 6.1: Graphic presentation of some of the aspects of the main findings on Category 1: Personal information.....	200
Figure 6.2: A graphic presentation of some of the aspects of the main findings on Category 2: Professional development.....	238
Figure 6.3: A graphic presentation of some of the aspects of the main findings on Category 3: Post-graduate/post-diploma studies.....	254
Figure 6.4: A graphic presentation of some of the aspects of the main findings on Category 4: Further studies to obtain a formal qualification..	279
Figure 6.5: A graphic presentation of some of the aspects of the main findings on Category 5: Detailed information on post-graduate/post-diploma programmes.....	296

Figure 6.6:	A graphic presentation of some of the aspects of the main findings on Category 6:	
	Awareness of public need.....	353
Figure 8.1:	Points of departure with regard to the recommendations on post-graduate education and training.	400
Figure 8.2:	Role-players who influence recommendations with regard to optometric education and training.	404
Figure 8.3:	A schematic illustration of the recommendations with regard to post-graduate optometric education and training.....	409
Figure 8.4:	A proposed framework which can serve as a point of departure for the development of post-graduate education and training programmes in optometry.....	473

LIST OF ACRONYMS

ACOE	Accreditation Council on Optometric Education
AHSCs	Academic Health Service Complexes
ASCO	Association of Schools and Colleges of Optometry
APL	Acquired Prior Learning
CAS	Certificate of Advanced Study
CCLRU	Cornea and Contact Lens Research Unit
COE	Continuing optometry education
CPD	Continuing professional development
CRCERT	Collaborative Research Centre for Eye Research and Technology
CT	Cape Technikon
DO	Doctor of Optometry
DoE	Department of Education
DoH	Department of Health
DPAs	Diagnostic pharmaceutical agents
EC	European Community
ECOO	European Council of Optometry and Optics
EEA	European Economic Area
ETQAs	Education and Training Quality Assurance bodies
FET	Further education and training
GET	General education and training
GIO	Graduate Institute of Optometry
GOC	General Optic Council
HET	Higher education and training
HPCSA	Health Professions Council of South Africa
IAPB	International Agency for the Prevention of Blindness
MEDUNSA	Medical University of South Africa
NEWENCO	New England College of Optometry
NGOs	Non-governmental organisations
NPPHCN	National Progressive Primary Health Care Network

NQF	National Qualifications Framework
NSBs	National Standards Bodies
OAT	Optometry Admission Test
OBET	Outcomes-based education and training
OD	Doctor of Optometry
OHTS	Ocular Hypertension Treatment Study
OO	Optometrists (previously Ophthalmic Optician)
PHC	Primary health care
RAU	Rand Afrikaans University
RPL	Recognition of prior learning
RSA	Republic of South Africa
SACOE	The South African Council on Optometric Education
SADC	Southern Africa Developing Countries
SAOA	South African Optometric Association
SAQA	South African Qualifications Authority
SERTEC	Certification Council for Technikon Education
SGB	Standards Generating Body
TPAs	Therapeutic pharmaceutical agents
TWR	Technikon Witwatersrand
UDW	University of Durban-Westville
UFS	University of the Free State
UK	United Kingdom
UNIN	University of the North
USA	United States of America
UST	University of Science and Technology
UWSO	University of Waterloo School of Optometry
WCO	World Council of Optometry
WHO	World Health Organisation

THE NEEDS AND OPPORTUNITIES FOR POST-GRADUATE EDUCATION AND TRAINING PROGRAMMES FOR THE OPTOMETRY PROFESSION IN POST-APARTHEID SOUTH AFRICA

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION AND BACKGROUND

It is an irrefutable fact that vision is a privilege which not everyone enjoys. In some cases, permanent blindness is a fact of life which has to be accepted, but in other cases something can be done about blindness and related ocular complaints. That, in a nutshell, is the ultimate aim and purpose of this study, namely to indicate that unnecessary suffering as far as poor eye care and potentially blinding diseases are concerned, can and should be eradicated.

In addition, "[g]ood health is basic to human welfare and a fundamental objective of social and economic development" (The World Bank 1994:1).

"Currently, the process of reevaluating our educational content requirements in optometry seems particularly intense. Perhaps this is related to our rapidly evolving scope of practice and legislative posture, but other external pressures of societal reform, clinical innovation and info-technology development certainly contribute to the process of change" (Barker 1994:4).

One of the principles of the National Department of Health (DoH) set forth in the White Paper for the Transformation of the Health System in South Africa (RSA DoH 1997:38) is that education and training programmes should be aimed at recruiting and developing personnel who are competent to respond appropriately to the health needs of the people they serve. Africa is considered the region in the world with the greatest need for human resource development (RSA DoH 2000:33). Thus the time has come for academic institutions to review their programmes in order to adapt them and to make provision for the development of personnel who can serve the health needs of the population better.

Currently higher education in South Africa, which includes education and training for the health professions, is faced with many challenges. The last decade of the previous century and the transition to a new millennium involved some of the greatest political, socio-economic and technological changes in the history of South Africa, in addition to creating new opportunities and challenges for higher education internationally, as well as in South Africa. Two of the major challenges are identified as:

- The need to ensure adequate access; and
- the need to maintain and enhance quality in both undergraduate and post-graduate studies, as well as in research (Retief 1992:2).

In the education and training for health professions, many changes have occurred. The focus has shifted from a hospital-based to a community-based education and training with the emphasis on primary care. Institutions providing education and training are faced with a paradigm shift from traditional content-based and teacher-centred methods to outcomes-based and learner-centred methods and approaches (Harden, Crosby & Davis 1999). Education and training now have to be delivered within a programme-based, modular mode; diversification and access to

programmes have to be facilitated, while teaching and learning systems have to be made more flexible to meet the criteria for qualifications laid down by the South African Qualifications Authority (SAQA) (Strydom 1998).

As a result of the changes in higher education, including education for health professions (among which count optometry education and training), the changes in the socio-economic and political spheres in South Africa, as well as the changing health needs of the population and international trends in health sciences education and health care now demand of institutions to reconsider the education and training professionals receive. Institutions must ensure that programmes satisfy national and international needs and demands. To ensure that programmes are on a par with what the professional bodies overseeing and regulating the professions require [with special reference to the optometry career ladder (see Figure 1.1 on page 8) and continuing professional development (CPD) to maintain competence], high quality programmes must be offered and these programmes must be relevant to the needs of the people and the times we live in. Apart from being relevant and applicable in South Africa, programmes must also be comparable to what is offered elsewhere in the world.

Optometry in South Africa developed from a British model based largely on technical skills. As the profession developed world-wide, the accent shifted to a biological model and education had to be adapted to address the eye care needs of the broader society. In the apartheid era in South Africa, these needs were mostly ignored, as whites dominated the profession. At the same time there was little or no support from the Health Policy, which excluded the profession from the public sector. Although the medical profession enjoyed vast clinical opportunities afforded by the disenfranchised groups, little was done to provide equity and quality in

health care delivery. The legacy of apartheid created marked differences in health status, based on race (RSA DoH 1997:123). This resulted in a large number of blind people, mostly preventable, with cataract, glaucoma, diabetic retinopathy and refractive errors being the major contributing factors. Attention to these conditions, therefore, has become extremely relevant, especially in Africa. In the quest to address these problems, international affiliations need to be pursued in order to address the unique needs of Africa at an internationally accepted standard.

1.2 RATIONALE OF THIS STUDY

The International Agency for the Prevention of Blindness (IAPB) was established in 1975 as a co-ordinating umbrella organisation to lead an international effort in mobilising resources for blindness prevention activities. Its first major achievement was to promote the establishment of a World Health Organisation (WHO) Programme for Prevention of Blindness, with which it has remained strongly linked (IAPB s.a.a). The Sixth General Assembly of the IAPB was held in Beijing, the People's Republic of China, from 5-10 September 1999 (IAPB s.a.b). It was attended by 600 participants and was a resounding success. The scientific programme was structured to trigger off the Global Initiative for the elimination of avoidable blindness by the year 2020 – *Vision 2020 - The Right to Sight* (IAPB s.a.c,d).

The World Council of Optometry (WCO) has committed itself to expanding the role of optometry in the global prevention of blindness activities. In support of the WHO's *Vision 2020: The Right to Sight* campaign (IAPB s.a.c,d), the WCO drafted a resolution entitled the *Global Vision Care Campaign*, which needs to be taken cognisance of in the education and training of optometrists (Di Stefano 2001).

In essence, the rationale for reviewing the education and training programmes of optometrists in South Africa can be found in this Global Vision Care Campaign as expounded by Di Stefano (2001: 6-7). It reads as follows:

'Recognizing the enormous burden that the loss of sight places on the individuals, families and their communities, and affirming the World Health Organization (WHO) global initiative for the elimination of avoidable blindness by the year 2020; and

Affirming the challenges of health systems throughout the world that have inadequate and unfairly distributed resources which threaten to result in the potential doubling of blindness by 2020; and

Recognizing that the WHO VISION 2020: The Right to Sight campaign offers an unprecedented opportunity as a worldwide partnership to marshal the resources and experience of a broad global coalition of public and private nongovernmental organizations who are dedicated to the shared goal of eliminating avoidable blindness by the year 2020; and

Noting that there is an estimated 180 million individuals globally who are visually impaired; that approximately 45 million are blind; that 9 out of 10 of the world's blind live in developing countries; and that 60 percent of these individuals live in India, China and sub-Saharan Africa; and

Recognizing that a comprehensive program for the prevention of blindness requires a community-based strategy that incorporates attention to trachoma, blinding malnutrition, onchocerciasis, cataract, ocular trauma, glaucoma, and diabetic retinopathy; and

Affirming the importance of expanding prevention of blindness programs to include refractive errors and low vision, recognizing that uncorrected refractive errors are a significant source of avoidable visual disability and functional blindness, especially in developing

countries; and that there are approximately 35 million persons needing low vision services; and

Observing that a number of cost-effective models for the delivery of vision care, which utilize new technologies and delivery paradigms, offer the promise of significantly expanding access to vision care, especially in underserved communities in both developed and developing countries; and

Recognizing the value of mobilizing optometrists, ophthalmologists and other types of vision care personnel; the critical importance of forging strategic alliances among these professionals, their organizations and the significant number of non-governmental organizations working in the field of blindness prevention; and

Noting the global health challenge of addressing the significant disparities in access to vision care, in both developed and developing countries; and recognizing that APHA has addressed the issue of "International Vision Care Cooperation" in complementary Resolution 8516, therefore

- 1. Recommends support of WHO's VISION 2020: the Right to Sight global initiative for the elimination of avoidable blindness by encouraging educational programs that increase awareness of the broad societal impact of blindness and visual disability;*
- 2. Suggests that eye care professional organizations promote coordinated, primary care strategies that advance global partnerships which transcend political boundaries and emphasize a team approach;*
- 3. Calls for targeted projects that address racial, ethnic and geographic disparities in access to primary vision care'.*

Of special importance as far as this study is concerned, is the first recommendation cited above, namely that avoidable blindness should be "eliminated by encouraging educational programs that increase

awareness of the broad societal impact of blindness and visual disability" (Di Stefano 2001:7).

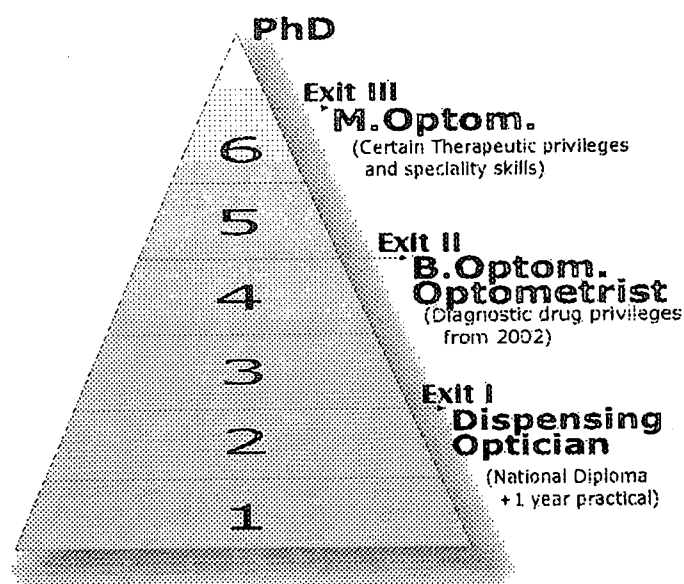
Baldwin (1993:634) states that in many of the world's nations, optometry hardly exists, because resources are neither sufficient to educate optometrists, nor to fund their services. In others, tradition and co-operation with other forces have rendered optometry incapable of change that would expand its scope of services. In spite of this, however, in a number of countries there is an accelerating trend towards the expansion of education and the scope of practice. Baldwin (1993:634) furthermore declares that "[o]ptometry is coming to be defined in those parts of the globe as that independent primary health profession whose practitioners are educated in vision and health sciences, and who meet standards that qualify them to diagnose and treat visual problems and ocular disease".

Berman (1994:15) states that optometry schools and colleges have as their educational mission the responsibility of training students to become primary eye care providers. This is a complex task and must be undertaken in a manner consistent with changing societal and biomedical variables, which include public policy; economic considerations; technological advances; evolving health delivery systems; improved understanding of disease management; and the public expectations of quality vision care (Berman 1994:15).

Yach and Tollman (1993:1048) maintain that the institutions providing health professions education and training in the past have fallen far short in providing the institutional backing and intellectual leadership so needed to pioneer future directions in primary health care and community-based health services. Baldwin (1993:634) states that the scope of the optometric practice expands only after corresponding expansion in optometric education. Thus far this goal of expanding optometry

education has been achieved only in a group of highly developed countries in which optometry has long been an eye care provider, as well as in countries in which socio-economic and political conditions are improving, but where there is no significant source of tradition of primary eye care of any scope (Baldwin 1993:634). The acceptance by the Professional Board of Optometry of a career ladder in optometry in South Africa opened the door for magister programmes, allowing practitioners to develop clinical and speciality skills within the scope and parameters set forth and regulated by the Professional Board for Optometry and Dispensing Opticians. The accepted diagram for the career ladder for the optometrist can be depicted as follows (Kriel 2001a:1-2):

FIGURE 1.1: THE DIAGRAM FOR THE CAREER LADDER OF THE OPTOMETRIST



The concept of the career ladder is founded in the principles of the National Qualifications Framework (NQF). The main principle of horizontal exits within vertical development is depicted here. The numbers 1 to 6 represent study years 1 to 6 of an integrated modular programme based

on outcomes. Besides certain primary core modules in the first two years which may or may not be shared with other professions in the health field, the first recognised exit would be that of the dispensing optician after two years of didactic exposure to acquire the National Diploma. These candidates will need to complete a third or practical year.

The next exit is after year 4 when the Bachelor Degree or B. Tech. Degree in Optometry is awarded. As from 2002 these graduates have also enjoyed diagnostic privileges.

It is envisaged that the third exit will be a post-graduate diploma representing certain therapeutic drug privileges, while the fourth exit, a clinical Magister exit, will recognise certain speciality skills. It should be noted that the Master's will effectively become Exit IV, as the post-graduate diploma was developed after the original concept. However, both "exits" were recognised by the Education Committee of the Professional Board for Optometry and Dispensing Opticians. All the above-mentioned qualifications are core to a Ph.D. at level 8 of the NQF.

In South Africa the National Prevention of Blindness Programme, developed by the government, attempts to collate epidemiological data and implement a system by which these imbalances may be addressed. In the introduction to this programme (RSA DoH 2000:2), it is stated that the "current magnitude of visual disability in South Africa and its projected exponential increase over the coming decades would have far-reaching social, economic, and quality-of-life implications for affected individuals, for their families, and for their communities". Such a disability is a barrier to development. Within the eye team, the optometrist has been identified as someone who, among others, should be able to diagnose and manage all common eye diseases.

Although there are various areas in optometry education that are inadequate, the area of diagnosis and management of ocular disease was identified as a priority, measured against the immediate public need. The Standards Generating Body (SGB) of the Professional Board will address the shortfalls at undergraduate level; however, post-graduate education is in need of renewal. Post-graduate programmes to date have been mainly non-clinical, providing no vertical development opportunities in the profession (RSA DoH 2000).

To develop clinical education and training beyond the bachelor's degree within the career path of the optometrist, various courses have been delivered in modular style. Among these certificate courses is the Certificate of Advanced Study in ocular disease and pharmaceutical application, offered by a United States of America (USA) institution. South Africa has lost several practitioners due to the fact that further studies have to be pursued in the United Kingdom (UK), the USA or Australia. China provides an excellent example of what can be done in this regard in a developing country. There an optometry training model is used in which optometry students share their studies with medical students for the first three years and only then do they specialise in optometry (The New England College of Optometry Center for the International Advancement of Optometry s.a.).

In South Africa, based on the current undergraduate training, there is a need for a programme aimed at providing education and training to learners in order to become competent to render a professional specialist service in optometry and to contribute to the enhancement of the discipline through research. Such a programme must afford professional optometrists the opportunity to further their education and training in terms of the optometry career ladder, and in the process gain certain therapeutic privileges and acquire speciality skills. However, before a programme

with these aims can be developed, a needs analysis has to be done to determine the needs and/or problems that should be addressed, namely to identify gaps between current and desired outcomes; putting those gaps or deficiencies in priority order; and developing strategies (the programme that should be designed eventually) to rectify deficiencies and bridge existing gaps.

1.3 STATEMENT OF THE PROBLEM

The acceptance of a career ladder in optometry (see Figure 1.1) opened the door for magister programmes, allowing practitioners to develop clinical and speciality skills within the scope and parameters set forth and regulated by the Professional Board for Optometry and Dispensing Opticians.

The current magnitude of visual disability in South Africa, as well as its projected exponential increase in coming decades, will have far-reaching social, economic and quality-of-life implications for affected individuals, their families and their communities. This is a barrier to development. The knowledge and technology exist to make a difference to the lives of thousands of South Africans. The elimination of avoidable blindness is not only a social, but also a moral imperative (RSA DoH 2000:2).

The problem which was identified and addressed in this study, is that a potential market of optometrists exists in South Africa. They wish to pursue post-graduate studies; however, no suitable and clinical-relevant programmes (opportunities) are offered to address their needs and to afford them the opportunity to expand their scope and enhance their knowledge and skills in order to make a more meaningful contribution to the prevention of avoidable blindness in South Africa.

Blindness imposes a significant and largely unnecessary burden on society, not only in terms of human suffering, but also financially (The World Bank 1994). The economic burden of blindness in South Africa is estimated at over 1 billion US\$ per annum. According to the World Bank (1994), blindness prevention interventions are among the most cost-effective of all health interventions (RSA DoH 2000:3). As these interventions lie at a speciality level, the training needs in post-graduate optometry need to be investigated in order to identify possible solutions to the public needs with regard to eye care and blindness prevention. Consequently this study was undertaken, not only to obtain a better idea of, but also to gain an insight with regard to the needs of and the opportunities which exist for post-graduate education and training in optometry in South Africa.

1.4 GOAL AND OBJECTIVES

The overall goal and objectives were outlined, namely to make a contribution to eye care and the prevention of blindness, as well as to make a meaningful contribution to education and training in optometry. The aim was stated, namely to determine the needs of optometrists with regard to optometric education and training and the opportunities existing in South Africa, measured against the background of the needs of the society (from the optometrists' perspective). Thereafter the objectives were discussed, namely in the first place to enhance competence beyond graduate level, thereby serving the eye care needs of the population of South Africa in particular and of the whole of Africa in an indirect way better. In the second place the objective was to make recommendations concerning the delivery of relevant and applicable post-graduate studies at Optometry Schools/Departments. All of these aspects were achieved by conducting a literature study on optometry education and training in order to collect information to serve as a background for the empirical

study, in addition to conducting an empirical study among optometrists by means of a questionnaire survey to determine their needs in respect of post-graduate studies, as well as obtaining the respondents' views regarding existing opportunities in this regard (see Appendix C).

1.5 METHODS AND PROCEDURE

Research has been described as the "assumptions, techniques, methods and procedures used to create knowledge by empirical and rational means" (Sax 1979:355).

The study that was conducted can be described as a needs analysis (see Appendix B: 1.7, 1.8). Needs analyses are not new in education – already in 1975 English and Kaufman (in Wolmarans & Eksteen 1987:1) advocated a process "defining the ends of education, and then selecting the means most promising to assist educators in reaching the 'promised land'". Inherent to a process of needs analysis are the following procedures, namely gathering information regarding the nature, features and scope of the problems; an analysis of the information, weighing up various alternative options; and the choice of a justifiable strategy to address the problems (Wolmarans & Eksteen 1987:2).

This research took the form of a descriptive and an exploratory study as described by Babbie and Mouton (2001:304), comprising a literature review and an empirical investigation. The literature study covered two aspects, namely optometry education and training needs and possibilities, as well as the eye care needs of populations, with special reference to the South African situation. The empirical study entailed a questionnaire survey carried out among optometry practitioners to determine what their needs were in connection with post-graduate studies, as well as to ascertain what possibilities are available in South Africa for post-graduate

studies in optometry. It should be noted that the target population for the questionnaire did not comprise the total population of optometrists in South Africa. The reason for this statement will be explained in 5.3 as measured against the statement by Landman (1988:46). A quantitative design was employed (cf. Babbie & Mouton 2001:49-53). Open-ended questions were, however, also included, giving this study a qualitative dimension as well.

A comprehensive exposition of the methods and procedures which were used with regard to the questionnaire and related aspects, is provided in Chapter 5, entitled "Research Methodology". These aspects are briefly touched upon here.

The questionnaire was compiled on the basis of the information gained from the literature study. In addition, a pilot study was done to ensure validity and reliability of the questionnaire (Landman 1988:80,96). With regard to the pilot study, it has to be pointed out that a panel of three experts - consisting of two optometrists and one educationist – were consulted to obtain their expert opinion on the questionnaire. Points which were taken into account were, for example, the following (cf. 5.3):

- The length of time it would take to complete the questionnaire, was taken into consideration (i.e. 30 to 35 minutes or even 40 minutes in the case of lengthy questions).
- The questions were tested against the criteria of being clear, easily understandable and unambiguous.
- It was the aim of the researcher to make the format of the questionnaire as user-friendly as possible (i.e. it had to be explicit, accommodating and accessible). Respondents could either reply by using electronic mail or they could return the questionnaires by ordinary mail. Thus they were not restricted to a specific method.

The results were processed by the Department of Biostatistics of the University of the Free State (UFS), while the open-ended questions were processed manually and interpreted by the researcher. This report was then drafted, containing the results of the survey, and recommendations will be made here with regard to how the needs that have been identified may be addressed, whether and how the possibilities that are available can be built out, and how the need that exists for more opportunities can be addressed in order to open the doors for optometrists for further studies.

1.6 SIGNIFICANCE AND VALUE OF THE STUDY

In congruence with the WHO's *Vision 2020: The Right to Sight* (Di Stefano 2001) initiative and South Africa's Prevention of Blindness Programme (RSA DoH 2000), educational programmes which increase awareness of the broad societal impact of blindness and visual disability need to be encouraged. The optometry profession faces new challenges, especially in South Africa and in the whole of Africa. Taking note of the academic challenges, optometric educators have to deal with issues such as curricular enrichment, as well as opportunities for furthering knowledge and skills in committing to a programme of educational reform and renewal. The profession itself and optometry education and training are undergoing significant changes, such as the expanding scope of practice; advances in diagnostic and treatment methods; a new focus on primary care; and the development of the optometry career ladder.

Against this background the needs of optometrists and the possibilities for post-graduate studies in South Africa were identified, making it possible to match these and determine the shortcomings that exist with regard to possibilities for optometrists to reach the top of the career ladder of the

optometrist. As the Faculty of Health Sciences of the UFS already registered a programme for a master's degree qualification in optometry with the education authorities, the results of the study will play an important role in addressing specific needs that were identified, as well as to create opportunities that will be best suited to address the needs of optometry post-graduate students, not only in pursuing formal post-graduate studies, but also in CPD with a view to maintaining registration with the professional board. In the final analysis, this study will ensure that optometry post-graduate studies in South Africa will be embarked upon in a scientific way and based on well-founded evidence. In this way a relevant programme will be ensured. It will be recommended that this study be followed up with a study aimed at developing the contents and implementation, that is, a full curriculum, for such a Master's Programme in Optometry.

Better education and training of optometrists - especially education and training offered in South Africa based on and geared to the eye care needs of the public - will make an important contribution to the well-being of our broader population, especially that part of the population who suffered negligence with regard to eye care in the apartheid era. The whole of Africa, in fact, could benefit from the education and training of optometrists who can help prevent blindness and make a contribution to serving the eye care needs of the public better. Such education and training will enhance the gatekeeper role of optometrists in the prevention of blindness and will be to the economic advantage of the country.

This research product will, in addition, be able to serve as an important reference document for education and training in optometry, especially seen against the background of the fact that references and documentation in the South African context are extremely limited.

1.7 SCOPE OF THE STUDY

This study was conducted within the field of Health Professions Education. It is related to higher education and perspectives were gained from that field of study as well. As the relevant health science for the investigation is that of optometry, attention was paid to the demands made on and the requirements of optometry education and training in South Africa from the profession, as well as health care and higher education authorities. International views and perspectives were taken cognisance of too, as universities and technikons in South Africa educate and train optometrists who must be acceptable internationally, as well as in South Africa.

As this was a needs analysis to determine the needs of optometrists with regard to post-graduate studies, as well as their opinion concerning the needs and requirements of society as to eye care at a level that can only be addressed by optometrists who have expanded their knowledge and skills to a post-graduate level, the target population in the study was limited to South African optometrists who had not as yet gained a clinical and an applicable post-graduate degree-level qualification in optometry. As reregistration is to become compulsory for optometrists in South Africa, CPD with a view to maintaining an acceptable level of competence is also linked and addressed briefly in this study.

It is recommended in this report that this study be followed by further studies, designing a curriculum for post-graduate studies. Therefore, in this study, the researcher concentrated on the needs which exist and the opportunities which are already available to address these needs. It is furthermore recommended that these needs and opportunities be confirmed by a panel of experts according to the Delphi technique. According to Clayton (1997:377), the Delphi technique is "a method which

is used to obtain the most reliable consensus of opinion of a group through a series of intensive questionnaires interspersed with controlled feedback". This method would therefore be eminently suitable, as the opinion of a variety of experts all over South Africa would have been obtained and their judgement determined (cf. Burns & Grove 1997:368). Thereafter the next step will be the development of a Master's curriculum. A model for attending to the needs falls outside the boundaries of the current study, but recommendations in this regard will be made in addition.

1.8 ARRANGEMENT OF THE DISSERTATION

In this chapter, Chapter 1, an orientation to the study has been provided; the rationale behind the investigation has been explained; and the problem which initiated the study has been elucidated. The goal and the objectives of the study have been stated; the field that was covered has been demarcated; and the methods of investigation have been briefly discussed. The value which the study holds, is also pointed out.

Chapter 2 is a report of part of the literature study, namely the part that deals with factors influencing the design of optometry education and training programmes. The history of the optometry profession is related, while the transformation of the health care system and the higher education system, in which optometry education and training finds its home in South Africa, is discussed.

In Chapter 3 the report of the literature study is continued, providing information and perspectives on post-graduate optometry education and training in South Africa, in Africa, as well as in some other countries. Special attention is given to programmes that have been followed by South African optometrists who wish to further their education and

training, in addition to the special needs these programmes address.

CPD in optometry comes under scrutiny in Chapter 4. CPD will play an increasingly important role in optometry in South Africa in the future. Therefore criteria for CPD programmes and the content of the programmes are discussed, as well as the role these programmes can and ought to play in improving eye care.

In Chapter 5 the research design, as well as the methods and techniques followed, is explained. Theoretical aspects of research pertaining to this study are discussed, a needs analysis as process is explained, and the rationale for deciding on this method of investigation is provided. This chapter contains a report of the course of the study and explains how the data gathered by means of the questionnaire were processed.

In Chapter 6 the results of the study are reported and the data analysis, as well as the findings of the investigation, is outlined and discussed.

In Chapter 7 a summative discussion of the study is provided.

In Chapter 8 recommendations on post-graduate optometric education in South Africa are made. These recommendations are based on the literature cited, as well as on the findings.

In Chapter 9 the conclusions are summarised and the limitations of the study discussed.

1.9 CONCLUSION

Designing an education and training programme is a complex issue. Increasing demands made on optometry as a health care service

necessitate the education and training of optometrists in South Africa to be taken under scrutiny, especially in view of the dire need for more specialist eye care in the efforts to eliminate preventable blindness in Africa. The expansion of the scope of practice in optometry and the career ladder which was accepted in South Africa for optometrists afford them the opportunity not only to further their knowledge and skills, but also to reach a level of specialist optometry services. Education and training institutions thus have to respond to the needs of optometry learners and develop programmes that will address the training needs of optometry learners, especially with regard to post-graduate studies, where specialist training finds its home. However, before such a programme can be developed, the needs of optometrists regarding further education and training need to be determined, as well as the opportunities that currently exist in South Africa for such optometrists to satisfy these needs. The study that is reported here was conducted with this in mind.

CHAPTER 2

FACTORS INFLUENCING THE DESIGN OF OPTOMETRY EDUCATION AND TRAINING PROGRAMMES

2.1 INTRODUCTION

As previously stated, change is one of the most noticeable and inevitable characteristics of the new millennium. Furthermore, the whole world as well as all aspects of daily life is subject to it. Health education and training is no exception in this regard and thus it would be best to treat these changes as challenges which have to be met in a straightforward and unwavering manner while co-operating with others in the process of learning. As already mentioned in Chapter 1, it is the aim of this study to establish the needs that should be addressed in optometry education and training in a time of change and new perspectives. In the process we should, where applicable, follow the example of others to be successful (cf. Kisil & Chaves 1995:13).

The importance of health care, not only in South Africa, but also world-wide, is being increasingly emphasised. The reason for this is very aptly expressed in the words of Oswald (1996:37) when he states that, throughout the world, economic and political considerations are fuelling an active, explicit and continuing debate concerning the purposes of health care and the organisation of health care services. He adds that this involves the identification of priorities for patients and services, as well as a review of the competencies and attributes desired of those who are trained in the health care sciences.

According to MacLeod (1996:15), prominent trends in health care and health profession education are characterised by specific changes, namely a change from:

- independent decision-making to group decision-making;
- disciplinary isolation in education to interdisciplinary and multiprofessional educational initiatives;
- physician-driven health care to multiprofessional balance;
- independence in care to co-operation and collaboration with multidisciplinary and multisectoral groups;
- specialist domination to a blended primary, secondary and tertiary care team approach;
- primary institutional focus to a community-based balance;
- curative care to health promotion, as well as disease prevention; and
- male dominance to gender equality.

South Africa does not exist in isolation, since the problems and challenges which it experiences, resemble those of countries abroad. An example in this regard is that, according to Olivier (1998:2), the critical outcomes required in this country very closely resemble what is expected of education and training in other countries. Health care practitioners will require a number of specific enabling competencies and attributes if they wish to remain effective and efficient. These they will already have to start practising as undergraduates. According to Oswald (1996:39), these characteristics are as follows:

- Being able to take responsibility for their own learning in order to practise lifelong self-education.
- Possessing the skills to take advantage of sophisticated information technology to ensure efficient updating of their knowledge.
- Constantly re-evaluating their understanding, skills and attitudes, in addition to having the characteristics of flexibility and self-awareness to deal with choices and pressures.
- Possessing critical reasoning skills to evaluate evidence, as well as being able to reject or accept solutions and suggestions.

- Being able to effectively operate as part of a team, as effective health care depends on well-structured teams.
- Possessing a high level of communication skills; obtaining and giving information; negotiating and counselling.
- A sound base in ethical decision-making. Without a firm grasp of ethical principles, choices - far from being a liberating force - will lead down paths towards inhumanity, inequality, irrationality and exploitation.

Because of the continuous developments in the area of health care, a constant evaluation of curricula is required to reflect the many changes occurring in the philosophy, knowledge and practice of optometry.

In this chapter factors influencing the design of optometry education and training programmes, as described in literature, will be taken under scrutiny. The history of the optometry profession will also be attended to. The transformation of the health care system in South Africa, as well as the transformation of education and training in South Africa will be discussed.

2.2 THE HISTORY OF THE DEVELOPMENT OF THE OPTOMETRY PROFESSION

Baldwin (1992:634) paints the following picture with regard to the history of the optometry profession: "Optometry's roots lie in sight testing and delivery of spectacles. Competent performance of even these limited functions requires skills and at least a rudimentary knowledge base. Those who have also engaged in other pursuits - first astronomers, then watchmakers, then physicians - from time to time have provided sight testing and dispensing. However, only optometry can claim them exclusively from their earliest application centuries ago. Independently

providing the means of improving visual acuity is the legacy that unites all who call themselves optometrists today”.

The history of optometry education has evolved as knowledge about vision and its perceptual and multisystem dependency are being discovered. Initially most of this was technologically-driven as new spectacle and contact lens materials and designs were placed on the market.

Applying new knowledge about products required little change to basic undergraduate training, as background knowledge was adequate. New technology also brought new non-invasive diagnostic instruments to the workplace which required review of the ocular pathology knowledge base. The regular interference with corneal physiology caused by the use of contact lenses that can be worn for extended periods also required a review of microbiology and ocular physiology.

As optometry found itself in a position where it had to educate patients on an ever-increasing basis about pathophysiological changes in the eye and the role of systemic disease, a new focus on the biological sciences and various public health responsibilities became apparent.

This move into the eye health arena made optometry aware of the public need for a health care professional that could see to routine eye examinations and the management of various ocular abnormalities beyond the supply of purely corrective devices only.

Today, areas of specialisation in the developed world exclude the dispensing of spectacles as part of the daily task and certain universities offer this subject as an elective. Optometry therefore almost came full circle where the deregulation of the dispensing of spectacles is considered with a new focus on the regulation of a new health care role.

The concept of visual acuity and refraction will be radically transformed in the near future, as its measurement will become essentially objective and not subjective. Similarly new technology will provide off the shelf and surgical options for the correction of certain refractive errors.

These, as well as other technology-driven objective procedures, will entail unique solutions for Africa's eye care problems and, because of its unique background, optometry is placed in an ideal position to utilise these advances in a new role as a health care provider as well as a public utility.

Although this study refers to post-apartheid South Africa, it is important to note the history of optometry education in South Africa against the background of the African continent. This aspect will be dealt with in the next chapter (see 3.2.1).

It is interesting to note that European immigrants had introduced optometry to Africa over several centuries and, by the early 1900s, optometry was being practised in South Africa, as well as in a few scattered African cities by European immigrants trained primarily in England or Germany.

2.3 THE TRANSFORMATION OF THE HEALTH CARE SYSTEM IN SOUTH AFRICA AND THE EYE CARE NEEDS OF THE SOUTH AFRICAN POPULATION

2.3.1 Introduction

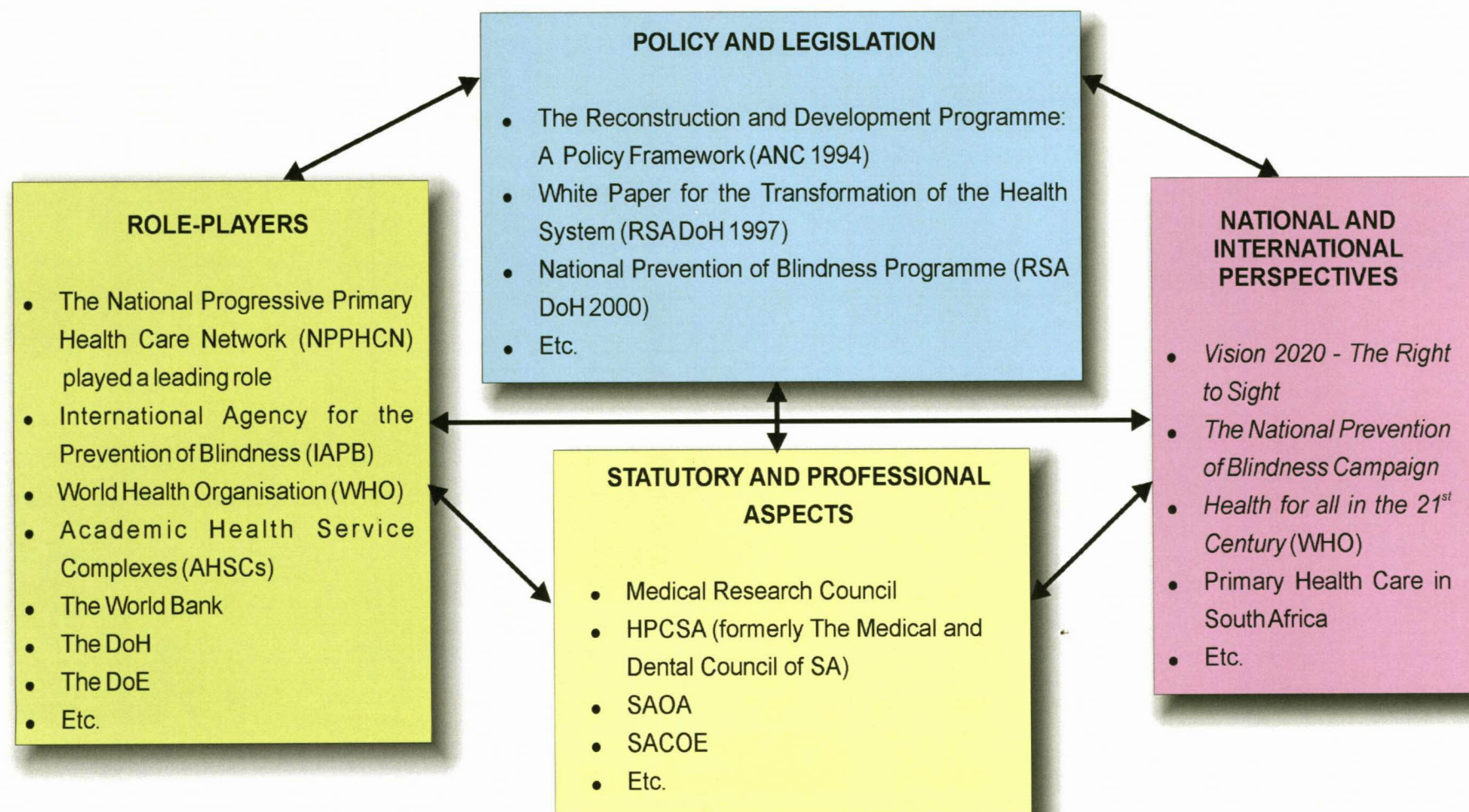
The health of a nation is determined by many factors. Demographic, socio-economic and environmental factors interact with individual behaviour and health service interventions to result in a particular health profile (Bradshaw 1997:s.p.). Health surveys carried out in South Africa revealed numerous health problems (cf. RSA DoH 1999; Bradshaw 1997).

While attempts to extend basic primary care to all who need it will be particularly important in the pursuance of the goal of the WHO's *Health for all in the 21st century*, a more comprehensive approach, including more preventive and health promotion initiatives, is needed in South Africa.

One of the initiatives for better eye care in South Africa is the *Prevention of Blindness Programme* (RSA DoH 2000), which puts the focus on the *Vision 2020: The Right to Sight Campaign* of the WHO (IAPB s.a.c,d). The new millennium indeed brought many new initiatives and opportunities to facilitate the development and enhancement of eye and vision care world-wide. Two trends which have emerged nationally and internationally with a notable impact on health policies and health care delivery, are the primary health care approach and the community-based approach.

The above and other related factors influencing the health care system in South Africa and the eye care needs of the South African population are schematically presented in Figure 2.1.

FIGURE 2.1: FACTORS INFLUENCING THE HEALTH CARE SYSTEM IN SOUTH AFRICA AND THE EYE CARE NEEDS OF THE SOUTH AFRICAN POPULATION



2.3.2 National and international perspectives

The National Progressive Primary Health Care Network (NPPHCN) was instrumental in putting health and related issues on the agenda for the first democratic elections in South Africa in 1994. When the present government came into power in 1994, these obstacles were addressed and a set of policy objectives and principles to address the needs of all the people of South Africa were drawn up on which the Unified National Health System of South Africa was based (ANC 1994:43).

In 1997 the White Paper for the Transformation of the Health System of South Africa was published by the Ministry of Health (RSA DoH 1997). The object of the White Paper was said to be the presentation of a set of objectives and principles upon which a unified national health system could be built (RSA DoH 1997:2).

In the above-mentioned document it is stated, *inter alia*, that Academic Health Service Complexes (AHSCs) are essential national resources, as they play "an important role in educating and training health care workers; caring for the ill; creating new knowledge; developing and assessing new technologies and protocols; evaluating new drugs and drug usage; and assisting in the monitoring and improvement of health care quality" (RSA DoH 1997:91).

A number of principles as set out in the White Paper were adopted with a view to enhancing the role of AHSCs in the development of health care in South Africa (RSA DoH 1997:94). One of these is the principle which states that "[t]he curricula of AHSCs will be revised to place greater emphasis on the needs of the communities, in accordance with primary health care principles" (RSA DoH 1997:94).

It becomes clear from this White Paper (RSA DoH 1997) that the main aim of health promotion is to improve the health of all South Africans through creating a social, political, economic and physical environment which helps to make health choices easy. In its mission statement for the health system of South Africa the following is stated by the Ministry of Health: "To provide leadership and guidance to the National Health System in its efforts to promote and monitor the health of all people in South Africa, and to provide caring and effective services through a primary health care approach" (RSA DoH 1997:13). It is further stated in this White Paper (RSA DoH 1997:94) that the types and numbers of graduate students required in health professions; the appropriateness of their training; and the extent of continuing education required should be established. It is in respect of this goal of the health authorities that this research can, *inter alia*, make a meaningful contribution.

In restructuring the health system of South Africa, the following goals were set (RSA DoH 1997:7):

- To unify fragmented health services at all levels into a comprehensive and integrated national health system;
- to promote equity, accessibility and utilisation of health services;
- to extend the availability and to ensure the appropriateness of health services;
- to develop health promotion activities;
- to develop the human resources available to the health sector;
- to foster community participation across the health sector; and
- to improve health sector planning and the monitoring of health status and services.

Poor health has a powerful effect on a region's economic progress. According to The World Bank (1994:1), productivity in some countries in Africa could increase by up to 15% were illness and disability attacked

more strenuously. The harsh realities and desperate need for better eye care are underscored by the following facts:

- 45 million people suffer from blindness.
- 180 million people have visual disabilities.
- 500 000 children go blind every year.
- 150 million people are afflicted with trachoma (Padilla 2000:10).

Tens of millions of people around the world are classified as blind. They can have their vision restored to the point where they could function and lead productive lives ... with the help of optometry. The challenge to optometry is to create an environment where optometric services reach those in need wherever they are (Brisbin 2001:3).

Two major initiatives in optometry in South Africa and elsewhere need to be discussed here:

2.3.2.1 *Vision 2020 - The Right to Sight*

"Every five seconds one person in our world goes blind ... and a child goes blind every minute" (IAPB s.a.d:1 of 21).

In the *Vision 2020 - Right to Sight Campaign* document the following facts about world blindness are supplied:

- An estimated 45 million people world-wide are blind.
- Every year, an additional one to two million people go blind.
- More than two-thirds of this blindness is treatable and preventable.
- A majority of the blind live in the poorest sections of the developing world.
- Without proper intervention, the number of blind will increase to 75 million by 2020.

- Restoration of sight is one of the top most cost-effective interventions in health care (IAPB s.a.d:1 of 21).

Vision 2020 is a world-wide concerted effort designed to eliminate avoidable blindness by the year 2020. This initiative was launched jointly by the WHO and 20 international non-governmental organisations (NGOs) involved in eye care and the prevention and management of blindness. The programme is aimed at enabling all parties and organisations involved in combating blindness to work in a focused and co-ordinated way to achieve the common goal of eliminating preventable and treatable blindness. Over the next two decades the programme will be taking steps to prevent an estimated 100 million people from becoming blind (IAPB s.a.c:1 of 8).

Vision 2020, in conjunction with the Global Initiative for the Elimination of Avoidable Blindness of the WHO, is taking on the following responsibilities:

- To increase the awareness of blindness as a major public health issue.
- To control the major causes of blindness.
- To train ophthalmologists and other eye care personnel to provide appropriate eye care.
- To create an infrastructure to manage the problem (IAPB s.a.c:1 of 8).

In its efforts to face these responsibilities, *Vision 2020* focuses on creating adequate eye care facilities, particularly in underprivileged areas, creating a foundation of well-trained eye care workers, in addition to implementing specific programmes to control the major causes of blindness (IAPB s.a.d:1 of 21).

The challenge which *Vision 2020* faces, entails the fact that there are nearly 45 million blind people and 135 million with low vision, comprising a total of nearly 180 million people with some degree of visual impairment.

Blindness has an enormous personal, social and economic impact, limiting the education and life choices of otherwise healthy people. Furthermore it places a significant burden on families, communities, as well as social and health services. Blindness is also associated with a lower life expectancy. The direct global economic burden of blindness is estimated at US\$25 billion and this figure could double or triple if the indirect costs are considered (IAPB s.a.c:1 of 8).

Ninety percent of the world's blind live in developing countries. In India there are at least nine million blind people, six million in China and seven million in Africa. This is indicative of the fact that people who live in developing countries are ten times more likely to go blind than people who live in the highly industrialised countries.

In this bleak picture the one ray of hope is that 80% of the world's blindness is avoidable, and that treatments available for the prevention and cure of blindness are among the most successful and cost-effective of all health interventions (IAPB s.a.c:1 of 8). Specific activities on which the initiative will concentrate, include intensified surgical interventions for cataract, which - at present - accounts for half of all blindness; the provision of spectacles, especially for school children; and the prevention and treatment of nutritional deficiencies that lead to blindness in children (IAPB s.a.d:1 of 21).

2.3.2.2 *The National Prevention of Blindness Campaign (Policy)*

The South African National Prevention of Blindness Programme was established in 1998. It was a development which resulted from the National Cataract Programme. The Bureau for the Prevention of Blindness (established in 1944) is a component of the South African National Council for the Blind and has the task of taking eye care to rural and underserved areas in the country. In 1994 the Bureau for the

Prevention of Blindness recognised the need for a national eye care plan. A working group was established, comprising representatives from the Department of Health, health professions and NGOs involved in eye care. Based on recommendations made by the working group, the National Cataract Programme was established in 1995. The programme was operational till 1998, when it was agreed that the National Cataract Programme should be expanded to become the National Blindness Prevention Programme (RSA DoH 2000:2).

The National Prevention of Blindness Programme falls under the auspices of the Directorate of Chronic Diseases, Disabilities and Geriatrics of the National Department of Health in South Africa. This programme is a component of the *Vision 2020* programme of the WHO and is committed to the elimination of avoidable blindness in South Africa by 2020. The aims of the National Prevention of Blindness programme are the following:

- To provide support to Provincial Departments of Health and the Southern Africa Developing Countries (SADC) in their prevention of blindness programmes.
- To co-ordinate prevention of blindness programmes in South Africa.
- To protect and promote the rights of blind persons.
- To reduce the prevalence of blindness in the country from 0.75% to 0.50% by the year 2005 (RSA DoH 2000:5).

Among the resources required for this plan to be carried out successfully, the following were identified:

- Primary care level: At least one clinic nurse at each clinic or community health centre trained in primary eye care.
- Secondary care level: At least one ophthalmic nurse per 100 000 of the population. One optometrist per 250 000 of the population.

- Tertiary care level: One ophthalmologist/ophthalmic medical officer per one million of the population (RSA DoH 2000:5).

In concurrence with the aims of the National Prevention of Blindness Programme, the National DoH (RSA DoH 2000:5-6) stated that provincial programmes should pursue the following aims:

- The provision of immediate access to primary eye care in the health care clinics and community health centres.
- The provision of referral access to secondary and tertiary care.
- A reduction in the prevalence of blindness from 0.75% to 0.50% by the year 2005.

Cataract surgery should be seen as the main thrust of the programme, and other focus areas are glaucoma, childhood blindness, diabetic retinopathy, and refractive errors and low vision.

The prevention of blindness will be addressed at four levels:

- Primary prevention consists of measures to prevent diseases, injuries, or conditions which may result in complications, impairments or disabilities. Such measures include health education, immunisation, maternal and child health services, as well as safety promotion. Prevention of corneal scarring from malnutrition, infection and trauma is an important primary prevention activity in blindness prevention in South Africa.
- Secondary prevention consists of early identification and intervention in the treatment of diseases, injuries or conditions to prevent the development of complications or impairments. Early detection and treatment of diseases/conditions and injuries may prevent complications, impairments and blindness. Glaucoma is a good example.

- Tertiary prevention consists of measures to limit or reduce impairments or disabilities. Cataract surgery is an important tertiary prevention activity in blindness prevention in South Africa.
- Quaternary prevention consists of measurements to reduce the effect of untreatable disease or disability. Blindness rehabilitation is an important quaternary prevention activity in blindness prevention in South Africa.

2.3.3 Primary health care (PHC)

World-wide a primary health care (PHC) philosophy has been developed since the WHO stipulated in 1977 that governments should aim at attaining an acceptable level of health for all their citizens in the *Health for all by 2000* declaration (WHO 1978). In South Africa this philosophy has resulted in emancipated, pro-active legislation (RSA DoH 1997).

A PHC approach extends beyond the narrow, clinical sense of the term; it is more than medicine. The impetus of the primary care movement partly springs from the humanistic wish for access to, and continuity of care for all, and partly from a pragmatic reality (Miller 1983:1). PHC is defined differently by different people, while primary care sites vary widely in philosophy, organisation, as well as with regard to the health provider roles. Thus there is no one primary care model (Miller 1983:6).

To explore the question: "What is primary care?" several perspectives must be taken into account. Within society many different systems are involved in activities directly affecting the health of people. Aspects such as road and city planning, educational and welfare programmes, agriculture and energy resources are all inextricably bound to the health and disease status of individuals and groups (Parker 1974:17). Certain organisations and personpower configurations, however, combine to form a health care system of a community, each with its own or a variety of

tasks and responsibilities. These subgroups are concerned with matters such as planning or activities to protect people from hazards in the environment, whilst others may be geared to educational and promotive approaches to medicine and health care (Parker 1974:18).

Personal health care is the most visible of these sub-groupings. In general, personal health care can be divided into three functional levels, namely a **primary** level, where basic services are rendered; a **secondary** level, where ambulatory services of a specialised nature are rendered; and the **tertiary** level, where highly complex and sophisticated services are rendered in an institution. According to Parker (1974:18), this three-level model of personal health care, although not a perfect fit in every respect, may still be helpful in conceptually differentiating levels of care and can be applied to divergent situations. This model is said to work so consistently, because each level is natural, relating to the nature of health conditions, health problems, and disease states to which every individual is subject (Parker 1974:18).

This model can also serve as a useful framework in defining the role of the optometrist in the community and in designing outcomes for the present situation in South Africa, once the needs to be addressed have been established.

In order to achieve effective primary health care, it is said that the curricula of AHSCs will have to be revised to place greater emphasis on the needs of the communities, in accordance with primary health care principles (RSA DoH 1997:94). Needs thus have to be defined and curricula should be reviewed and adapted accordingly.

In the Government Gazette No. 17910 (RSA DoH 1997:13) it is stated that: "...health teams and workers at all levels should develop a caring ethos and commit themselves to the improvement of the health status of

their communities. They should not only be responsible for the patients who attend their facilities, but also have a sense of responsibility towards the majority of the population in their catchment areas". This statement puts a responsibility on training institutions to adapt their curricula to ensure that they train students in accordance with these principles and also to make sure that they come up to these expectations in the services they render.

The aim of health promotion is to improve the health of all the people of the country through creating a social, political, economic and physical environment which is conducive to health. To achieve this, the following objectives need to be pursued:

- "To contribute to the development and achievement of a healthy nation, national health goals and targets;
- to promote standards of excellence in health promotion practice, drawing on both international and local experience;
- to promote and develop health promotion activity in government and civil society; and
- to develop a skilled cadre of health promoters" (RSA DoH 1997:108).

According to the DoH (RSA DoH 1997:107), health promotion in South Africa will be developed in accordance with the principles which underpin the WHO's movement of *Health for all in the 21st century*, namely:

- "Equity: everyone should have similar opportunities to health and, therefore, certain target groups will have to be prioritised, e.g. low-income families, rural people and women.
- Empowerment and respect: health promotion activities should be designed to increase and enhance the control that communities and individuals have over their own health - in the process, traditional values and beliefs will be respected.

- Participation: communities and individuals will be involved as respected partners in the planning and implementation of health promotion programmes.
- Intersectoral activity: multidisciplinary, inter-agency collaboration will be undertaken wherever relevant and possible.
- Standards of practice: the highest standards of practice, incorporating the above principles and based upon researched needs and adequate evaluation, will be encouraged”.

2.3.4 Statutory and professional aspects

In discussing the factors influencing education and training programmes in health care, as well as in an effort to determine the needs and opportunities that exist in South Africa for the education and training of optometrists, the role of statutory and professional bodies should be attended to, as health professionals have to register with these bodies and therefore have to meet their requirements.

2.3.4.1 *The Health Professions Council of South Africa (HPCSA)*

The Health Professions Council of South Africa (HPCSA), formerly the Medical and Dental Council of South Africa, is a statutory body which has continued the activities of the former health sciences councils of the Republic and formerly independent Ciskei and Transkei. In addition, the HPCSA regulates the health professions, including optometry, in South Africa.

According to The Interim Medical and Dental Council of SA (1995:1-2), the aims of the Council are as follows:

- “to assist in the promotion of health of the population of the Republic;

- to control and administer all matters in connection with the training of persons in, and the methods of putting into practice this training, as regards the diagnosis, treatment or prevention of physical or mental defects, diseases or deficiencies in the human being;
- to promote liaison in the field of training in the Republic as well as elsewhere, and to improve the standards of such training; and
- to advise the Minister on statutory amendments to support the universal norms and values of the medical profession, with greater emphasis on professional practice, democracy, transparency, equity, accessibility and community involvement”.

The function of the Council which is especially pertinent to this study in optometry education and training, is the one which states:

- **“Recognition of professional qualifications** - Educationally the work of the Council and the boards encompass the recognition of qualifications for registration, laying down of minimum standards of training, inspection of training, and conducting certain examinations” (The Interim Medical and Dental Council of SA 1995:2).

As the Council regulates the profession, it also regulates, by implication, education and training for the profession. It is clearly stated in its documents that no person or educational institution may offer training to qualify a person to be registered with the Council in any category unless such training is approved by the Council (The Interim Medical and Dental Council of SA 1995:3).

The compilation of new programmes, therefore, is not monitored by the Council, but the Council will have to recognise the final professional qualifications and approve the training courses (programmes) in order for qualified optometrists to be able to register with the Council (The Interim Medical and Dental Council of SA 1995:2).

2.3.4.2 *The South African Optometric Association (SAOA)*

On 31 March 1924 the South African Optometric Association (SAOA) was founded by a group of 13 opticians in the boardroom of the Scientific and Technical Club, Johannesburg. Initially it was known as The South African Optical Association with its main action for the furtherance of the Optical Profession in South Africa. According to Hamilton (1934:18), "[t]he last meeting of 1924 was held in August and through a gross misunderstanding based on an accusation that the Association was formed to make a ring in prices, the Association went into recess, and consequently the minutes of that memorable August meeting in 1924 were only passed as read on the fourteenth day of April, 1926".

In 1927 legal opinion confirmed that opticians were "considered to be professional men". This opinion was requested as the Medical, Dental and Pharmacy Bill served before Parliament at the time and in an interview with the Medical and Dental Association, the Optical Association was informed that Opticians were "left out of the controversy over this Bill". It was not until 1974 that the profession was officially recognised in the health legislation of South Africa. In July 1928, the SAOA became one of the 25 founding members of the International Optical League, later to become the World Council of Optometry or the WCO. In its 2001 review of the constitution, the SAOA redefined what it stands for in the following objectives:

- Representing optometrists with authority and credibility in all matters concerning their interests in the health care arena.
- Promoting the integrity and image of the optometric profession.
- Providing optometrists with knowledge relevant to the demands of their practice.

- Setting the minimum standards for the profession such as qualifications, adherence to ethical standards, alignment to world health standards and attendance of CPD programmes.
- Promoting education, research and academic excellence.
- Influencing the eye care environment to meet the needs and expectations of the community by promoting improvements to health care policy and legislation.
- Encouraging involvement in eye care promotion and education.
- Promoting trust, integrity, professional conduct efficiency and goodwill within the profession.
- To support, improve and protect the status, rights, privileges and interests of all members.
- To lobby the Government, the Council, and any relevant body for the professions represented by the Association.
- To make and enforce ethical rules, regulations and By-Laws, while attempting to resolve amicably issues between and among members and the public via the Ombudsmen and the Disciplinary Committee.
- To facilitate in the maintenance of standards of practice by members to the public via CPD.
- To judiciously use all subscriptions, entrance fees, levies and donations for the pursuance of the aims and objectives of the Association, while also using funds entrusted for the furtherance of Optometry by way of bursaries, research grants and subsidies.
- To be the guardian of the codes and tariff guidelines for members, setting out the practice guidelines in all fields of practice.

- To strive to assist members in their ability to provide the professional services to the public by way of projects and initiatives that are co-ordinated nationally and marketed via the Association.
- To disseminate information to members in order to keep them up to date with the latest developments in our industry.
- To act in an advisory capacity regarding member concerns and requests where possible (SAOA 2000:1 of 2).

Today, the Association still enjoys vast support from the profession, as some 80% of optometrists are members.

2.3.4.3 *The South African Council on Optometric Education (SACOE)*

As the SAOA was initially responsible for optometric education in South Africa, the Professional Board for Optometry relied on the education committee of the SAOA for its educational input. This became an increasingly cumbersome process when other institutions started programmes and were not obliged to offer the SAOA external examination in order to qualify students for entry into the profession. Representation on this committee was a further problem and the committee started operating as The Society of Optometric Educators so as to accommodate all role-players in the field. This, however, proved to be too informal by its *ad hoc* nature and the Board found itself again lacking input from the educators. By 1996 an education committee was formed as a substructure of the Board with representatives from all the institutions and private practitioners.

The need for institutions to share a common forum remained, however, and in January 1997 the SACOE was established, adopting the constitution of the SAOA as a co-opted education committee. Initial

meetings were well attended, but as the education committee of the Board started to deliver results and became part of the regulatory process, interest waned and today hardly any meetings are organised under the SACOE banner.

Annual meetings of the African Optometric Educators are organised directly between institutions and the SAOA may participate by sending a representative. It is also this group that will form a subcommittee of the WCO, based in Philadelphia.

2.4 THE TRANSFORMATION OF EDUCATION AND TRAINING IN SOUTH AFRICA

2.4.1 Introduction

There are various factors related to the transformation of education and training in general and of optometry in particular. In the next section these factors will be discussed. First, however, a schematic presentation of these factors will be provided in Figure 2.2:

FIGURE 2.2: FACTORS RELATED TO THE TRANSFORMATION OF EDUCATION AND TRAINING

POLICY AND LEGISLATION

- NEPI (1992)
- Health Professions Act (RSA 1974)
- SAQA Act (RSA 1995)
- Education and Training White Paper (RSA DoE 1995)
- NCHE Report (1996)
- NQF Bill (SAQA 1997)
- White Paper for the Transformation of the Health System (RSA DoH 1997)
- Draft White Paper on Higher Education (RSA DoE 1997a)
- White Paper 3 on Higher Education Transformation (RSA DoE 1997c)
- Higher Education Act (RSA 1997)
- Green Paper on Further Education and Training (RSA DoE 1998)
- Regulations under the SAQA Act (Act 58 of 1995) (RSA 1998)
- Etc.

TRANSFORMATION OF EDUCATION AND TRAINING

- Programme-based approach influencing education and training
- OBET outcomes
 - Critical (essential) outcomes
 - Specific outcomes
 - Career or vocational outcomes
 - Learning outcomes (knowledge and understanding; doing skills; attitudes and values)
- Establishment of the NQF resulting from SAQA legislation
 - Objectives
 - Principles outlining specifications of qualifications
 - Three major challenges facing SA higher education
- Educational strategies for health sciences education
 - SPICES model (student-centred strategy; problem-based learning; integrated approach; community-based approach; elective strategy; systematically structured)
- Etc.

BODIES WHICH INFLUENCE EDUCATION AND TRAINING

- The DoE
- The DoH
- SAQA and the NQF
- NSBs
- ETQAs
- The NCHE
- The WHO
- Etc.

2.4.2 The roles of the Department of Health (DoH) and of the Department of Education (DoE)

It is difficult to decide which of these two Departments plays a more prominent role in the health professions. Suffice to say that one complements the other and that neither can exist and be meaningful without the other. In a sense, they are therefore two sides of the same coin.

"South Africa's transition from minority rule and *apartheid* to a democratically elected government requires that all existing practices, institutions, and values are viewed anew and rethought in terms of their fitness for the new era. Higher education is a vitally important activity in modern society. In South Africa today the challenge is to ensure that it can succeed in stimulating, directing and using the creative and intellectual energies of the entire population" (RSA DoE 1997a:9). It is essential to mention, *inter alia*, a number of challenges and principles for higher education as proposed in the Draft White Paper on Higher Education (RSA DoE 1997a:9-14), namely that higher education needs to become more responsive to societal needs and interests; institutions should become more innovative in their teaching, research and delivery of services; and conditions must be created to facilitate the adaptation and improvement of higher education to enable it to contribute to the common good of society through the production and application of knowledge, the building of human capacity, and the provision of lifelong learning opportunities.

The Draft White Paper on Higher Education (RSA DoE 1997a) puts forward certain conditions and requirements of the Department of Education (DoE) which can be reached by means of curricula or educational programmes. Developing or reviewing curricula is an important aspect and - according to Lubisi, Wedekind, Parker and Gultig

(1997:7) – the following features should be attended to when curricula are dealt with:

- Mutual respect for diverse religious and value systems, cultural and language traditions.
- Multilingualism and informed choices regarding the language of learning.
- Co-operation, civic responsibility and the ability to participate in all aspects of society.
- An understanding of national, provincial, local and regional developmental needs.

In a chapter on Human Resources in the *South African Health Review* (Van Niekerk & Sanders 1997:s.a.), it is clearly stated that one of the main issues in the health care policy is about where the responsibility for training health care practitioners should reside - in the DoH, in the DoE, in the Professional Council, or in a combination of these and other stakeholders. SAQA has the statutory responsibility for determining all standards in the education sector, including health sciences education.

As the education system in South Africa has undergone major changes in recent times, it is clear now that it has become essential for education institutions to adapt their curricula to ensure that they stay in line with developments and satisfy requirements and guidelines.

2.4.3 A programme-based approach in education and training

Act 101 of 1997 - the now well-known Act on Higher Education (RSA 1997) - is asserted to be the end product of in-depth reflections, arguments and discussions, as well as the ideas and inputs of a variety of stakeholders in and experts on higher education in the RSA, in addition to those of experts from other countries (Steyn 1999:3). Two sentences in

the preface to the Bill (RSA DoE 1997b:2) have specific relevance here. It is stated that it is:

"...desirable to:

- establish a single, co-ordinated higher education system, which promotes co-operative governance and provides for programme-based higher education;
- restructure and transform programmes and institutions to respond better to the human resource and economic needs of the Republic of South Africa".

This Act was preceded by the White Paper 3 on Higher Education Transformation (RSA DoE 1997c) in which the challenges awaiting higher education were listed. The White Paper stipulates the following: "The programme-based approach, through ensuring greater articulation between the different tiers in the higher education system, promoting flexibility and diversification in the range of programmes offered and fostering co-operation between institutions will result in structural changes and a reconfiguration of the institutional landscape..." (RSA DoE 1997a: 18).

According to Steyn (1999:4), the rationale for a programme-based approach includes, *inter alia*, enhancing the meaning and coherence of the training; countering content overload; eliminating unplanned overlapping between subjects and courses; including fundamental, core and elective modules, thereby promoting – among other things – lifelong learning skills; indicating articulation with other programmes; equipping the learner for an interwoven reality, i.e. the principle of the world being a set of interrelated systems in which problem-solving contexts do not exist in isolation; and staff members developing an entrepreneurial and team approach.

SAQA clearly outlines the six programme elements which should be attended to, namely:

- Curriculum specialisation in one or more of the 12 organising fields.
- A planned combination of critical and specific outcomes.
- A demonstration of applied competence in learners.
- A basis for further learning, with the incorporation of credits as well as entry and exit opportunities.
- Added value in terms of personal enrichment, provision of status, recognition, enhancement of marketability, and employability.
- Advantages added to the community and economy - delivery of high-level person-power, increased productivity and addressing inequalities (SAQA 1997:15).

The modules in a programme have different functions in each learning programme. Modules may contain fundamental, core or elective learning. Fundamental learning is aimed at basic or generic (critical cross-field) outcomes; core learning is aimed at the competencies which constitute the core of the qualification, that is, the learning which is compulsory in situations contextually relevant to the particular qualification; and electives are selected additional credits at the specified level to ensure that the purpose of the qualification is achieved. The idea of specialisation can also be brought in here with competencies related to specialised areas, or else competencies that broaden the core (RSA DoE 1998:39).

In a programme-based curriculum the academic disciplines are not taught and learned because they form part of the scientific structure, but because they facilitate specific learning outcomes which contribute to achieving the outcomes of the programme. Concepts, theories, methods and knowledge structures fulfil an instrumental role in realising specific competencies, and are imbedded in such learning outcomes. Steyn (1999:8) states that knowledge, skills and values/attitudes are an integrated part of the applied competence.

The UFS accepted a programme-based, outcomes-based approach to curriculum development (Steyn 1999:9). Therefore, as this research is aimed at determining the needs to be addressed in an optometry education and training programme, the philosophy underlying programme-based and outcomes-based education and training needs to be attended to.

2.4.4 Outcomes-based education and training (OBET)

In accordance with the regulations of the SAQA Act (Act 58 of 1995) (RSA 1995), education and training programmes should be outcomes-based. Although it has been said that the movement to outcomes-based education and training (OBET) in South Africa offers such an enormous challenge to educators that it may be called a paradigm shift, the concept is not entirely new. Good educators have always measured the value of their instruction in terms of that with which the learners leave the teaching-learning situation - in other words, instruction has been evaluated by assessing the outcomes (Lubisi *et al.* 1997).

South Africa instituted a new education and training dispensation of which SAQA, National Standards Bodies (NSBs) and Education and Training Quality Assurance bodies (ETQAs) are the core role-players. The success of an outcomes-based learning system depends on the development and maintenance of education and training standards. Negating standards will be detrimental to the system, as well as to the economic development of the country as a whole. It is therefore important that those involved in education, training and human resources development should understand the ways in which traditional education and training approaches must be capitalised in, while at the same time the ability to learn in various situations is reinforced by building the capacity of learners with the aim to promote lifelong learning (Olivier 1998:ix).

The point of departure of OBET is the proposed results of learning in terms of knowledge, skills and values, rather than the content of that which has to be studied, as the focus of OBET is on what learners know and can do. The proposed outcomes have to be clearly stated, since "[t]he aim of such explicitly stated outcomes is to direct the instructional and learning process, while it also makes the appropriate evaluation of the process and, ultimately, the outcomes possible" (Nel & Bezuidenhout 1998:20). In addition, these authors define competence as "...the capacity for continuous performance within specified ranges and contexts resulting from integration of a number of capabilities" (Nel & Bezuidenhout 1998:21).

OBET emphasises the relationship and interplay between the relevancy of students' learning and the adequacy of their professional and career preparation by specifying the outcomes or abilities critical for future professional performance (Friedman Ben-David 1999:23). Determining the needs of professional optometrists therefore is crucial for the establishment of the outcomes for optometry education and training.

There are various kinds of outcomes, namely critical cross-field education and training outcomes (briefly critical outcomes); specific outcomes; and career outcomes. Critical (essential) outcomes are broad and people-directed skills and competencies; specific outcomes refer to the more clearly defined aspects of the educational process and are not only context-related, but are also related to competence and skills in respect of the concepts, methods, history and theory of a discipline (Lubisi *et al.* 1997:11); while career outcomes empower people for a specific career (Nel & Bezuidenhout 1998:21) (cf. Figure 2.2).

It was deemed necessary to take a closer look at critical outcomes, since they have to inform the specific outcomes. In addition, the number of credits required for fundamental knowledge - i.e. critical outcomes

knowledge - has to be specified when registering a programme with SAQA. Therefore it was regarded as important to scrutinise these outcomes to make an informed decision as to whether they should be offered as such in, for example, an orientation module, but also to ensure that they are imbedded in the other modules of an education and training programme.

The *South African Qualifications Authority: Regulations under the SAQA Act (Act 58 of 1995)* state that the critical outcomes include, but are not limited to the following:

- a) "Identifying and solving problems in which responses display that responsible decisions using critical and creative thinking have been made;
- b) working effectively with others as a member of a team, group, organisation, community;
- c) organising and managing oneself and one's activities responsibly and effectively;
- d) collecting, analysing, organising and critically evaluating information;
- e) communicating effectively using visual, mathematical and/or language skills in the modes of oral and/or written persuasion;
- f) using science and technology effectively and critically, showing responsibility towards the environment and health of others;
- g) demonstrating an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation;
- h) contributing to the full personal development of each learner and the social and economic development of society at large, by making it the underlying intention of any programme of learning to make an individual aware of:
 - i. reflecting on and exploring a variety of strategies to learn more effectively;

- ii. participating as responsible citizens in the life of local, national and global communities;
- iii. being culturally and aesthetically sensitive across a range of social contexts;
- iv. exploring education and career opportunities;
- v. developing entrepreneurial opportunities" (RSA 1998:8).

Critical outcomes are working principles and as such they should direct teaching, training and education practices, as well as the development of learning programmes and materials (Lubisi *et al.* 1997:11). All the specific outcomes should therefore flow from these critical outcomes - hence their importance in a needs analysis exercise such as this research (see Appendix B; Instructional Technology Global Resource Network s.a.; Instructional Technology 2000). Due to their generic nature, critical outcomes should not be - and in this exercise were not - broken up into more detailed level descriptors.

Since specific outcomes are context-specific, it is of crucial importance that detail concerning the level of complexity, scope and learning context should be included in the formulation thereof, otherwise assessment cannot be fair, transparent and effective (Bezuidenhout 1999a:1; Lubisi *et al.* 1997:13).

The third group of outcomes, namely career or vocational outcomes, entails a description of the attributes of the qualified person. Requirements of professional councils and the faculty or university concerned should be reflected in these outcomes, as well as the critical outcomes at the particular exit level and the specific outcomes required to obtain the qualification (Bezuidenhout 1999a:1).

According to Steyn (1999:11), learning outcomes contain three integrated elements, namely:

- Knowledge and understanding (knowledge of the content, concepts and theories);
- doing (skills and abilities); and
- attitudes and values.

Examples in this regard are the following:

- Knowledge and understanding: Throughout the (optometry) programme students should be encouraged to achieve outcomes on the first three levels of the cognitive domain as described by Bloom (1956). They will have to master new knowledge, interpret the knowledge, and apply it in a problem-oriented situation. They should be guided gradually to apply old and newly acquired knowledge to new situations and to master new planning and management skills. This is a deviation from traditional instructional methods.
- Doing (skills): Higher cognitive levels, such as analysis, synthesis and evaluation (Bloom 1956) need to be applied with regard to basic and clinical skills. Students' cognitive development should gradually be incorporated into the instructional modules. They must learn to collect and analyse, as well as convert knowledge into problem packages that can be prioritised and applied as part of practical skills during interventions, first in the classroom and then in a clinical or practical situation.
- Attitudes and values: In an education and training programme, affective development should take place together with cognitive and skills development. Students need to be guided and supported, and through the role models of the lecturers to be induced to become empathetic professionals, willing to treat and manage clients/patients regardless of their background or social standing in life. Respect for patients and colleagues; recognition of patients' and human rights; an awareness of

moral and ethical responsibilities; and a positive attitude and outlook are important (Bezuidenhout 1999a:2).

As outcomes play such a crucial role in education and training, attention should be paid to the formulation thereof to ensure that the needs of the learners will be addressed. A well-formulated outcome should in the first place contain a verb which answers the question: "What will the learner be able to do as a result of the learning?" In the second place, the outcome should contain an object which answers the questions: "With what?" or "In connection with what?" In the third place are questions related to conditions/context, e.g.: "Under which conditions?"/"In what context?" (Bezuidenhout 1999a:2). An example in the above regard would be the following sentence: Students will be able to prepare (action word) a patient (object) for a physical examination (context).

An outcomes-based approach to education and training has implications for methodology. Specific outcomes may vary, but they must be underpinned by critical outcomes. This means that the instruction and learning must be directed towards understanding, as well as acquiring abilities and skills, rather than memorising information. In this regard Lubisi *et al.* (1997:26) point out that the ability to solve problems, communicate effectively, work in groups, etc., cannot be developed except by practising those activities and constantly refining performance in response to assessment of progress.

More will be said in a later section on educational strategies and methodology, but with particular reference to OBET the following should receive attention in the development of an education and training programme geared to addressing the needs of learners and the communities they serve as a means to satisfy the well-founded requirements of OBET. In determining the needs of optometrists with

regard to their education and training, attention will have to be paid to the following aspects:

- An emphasis on activity-based learning, with opportunities for learners to explore ideas and approaches to learning and to practise skills.
- Co-operative as well as individual learning contexts, in order that learners can develop skills in working collaboratively in a group and individually, as well as to develop the ability to recognise when each mode is appropriate.
- An emphasis on formative evaluation, so that the importance of the processes and developmental nature of learning as well as the end product can be realised.
- An integration of theory and practice, and manual and mental learning where practicable, as well as an integration of classroom learning and application to the broader society (Lubisi *et al.* 1997:26).

It is clear that an outlook that emphasises acquisition of skills or competencies is replacing that which has been based on the acquisition of knowledge as the sole purpose of education. It is also clear that learners can no longer cope in the traditional way with the amount of knowledge at their disposal. The solution to such a dilemma is equipping learners with skills that will enable them to be lifelong learners (Tisani 1998:48). The passing of the SAQA Act (RSA 1995) as well as the establishment of the NQF has effectively introduced an outcomes-based education and training system and, by following the principles of this approach, it is hoped that the findings of this research will be relevant in current times to make a contribution to addressing the educational issues facing optometry education in the country. Optometry is a dynamic profession where new knowledge and methods are developed continually. Thus it is of paramount importance to train students who have the skills to integrate theory and practice; to contextualise their knowledge, skills and attitudes into real-life situations; and who are equipped to be lifelong learners.

2.4.5 The South African Qualifications Authority (SAQA) and the National Qualifications Framework (NQF)

The idea of an NQF is the result of debates, research and policy formation discussions which started in the early 1990s. As early as June 1991 the *National Education Policy Investigation Renewal Strategy*, a discussion document, was released, while a final official policy document was due to be released in the second half of 1992 (NEPI 1992:59-61). It emphasised the importance of integrating education and vocational training into a coherent system (Ministerial Committee 1995:9). The idea was submitted in many forums, but it was developed in earnest in the National Training Initiative which involved representatives from labour, management, government and providers of education and training (SAQA 1997:3). Much deliberation and the exchange of ideas followed. Consequently agreement was reached on the concept of transparent national standards, understood as specific descriptions of learning achievements, agreed upon by all major stakeholders. The standards, it was decided, would be housed within a qualifications framework designed to promote lifelong learning; to integrate education and training; to recognise prior learning; and to allow for portable, flexible credits and qualifications (SAQA 1997:3).

The strategy for transforming the higher education system, the ability of the new system to meet a wider range of needs and an understanding of the boundaries between higher and other levels of education all rely heavily on the notion of higher education programmes. It was deemed essential that such programmes be offered within a coherent qualifications framework, namely the NQF (NCHE 1996:15).

The first official endorsements of the key role of an NQF for education and training were in the White Paper on the Reconstruction and Development Programme (RSA DoE 1994), and in the White Paper on Education and Training (RSA DoE 1995). An Interministerial Working Group was

established to draft the NQF Bill which was passed into law as the SAQA Act (Act 58, 4 October 1995, Gazette No. 16725) (SAQA 1997:2).

SAQA consists of a chairperson and members nominated from the education, labour and business sectors, higher education institutions, adult education bodies, child development, the teaching profession and special education (Nel & Bezuidenhout 1998:16). SAQA's functions include the following:

- The development of the NQF policy, directives and criteria for registration and accreditation.
- The implementation of the NQF: registration and accreditation of and assignment of functions to bodies that comply with the requirements (registration of standards/qualifications).
- Advising the Ministers of Education and Labour.
- Consulting with parties/bodies involved (Nel & Bezuidenhout 1998:17).

The SAQA Act makes provision for SAQA to see to it that an NQF be developed, in addition to formulating policy and criteria for the registration of bodies that can establish education and training standards (NSBs), as well as the accreditation of bodies responsible for monitoring and auditing performance in terms of such standards and qualifications (ETQAs) (Bezuidenhout 1999b:9).

According to the White Paper on Education and Training (RSA DoE 1997a:21) the NQF will be "the scaffolding on which new levels of quality will be built". This "scaffolding" (NQF) has eight qualification levels. It was said that each level would be described in terms of registered statements of essential outcomes. The framework that was established gives recognition to general education and training (GET) (level 1 and lower); further education and training (FET) (levels 2 to 4); and higher education and training (HET) (levels 5 through 8). Table 2.1 depicts a schematic

presentation (diagram) of the three bands of the NQF (general, further, and higher education and training), its levels and its sublevels. It also indicates some of the providers at various levels, as well as the phases within school in the GET band (Ministerial Committee 1995:31; Standard Bank Human Resources – Information Technology 2003:3 of 3; GCIS 2003:195-201).

TABLE 2.1: SCHEMATIC PRESENTATION OF THE NATIONAL QUALIFICATIONS FRAMEWORK (NQF)

NQF		
Level	BAND	Types of qualifications and certificates
8 7 6 5	Higher Education and Training Band	Doctorates, Further research degrees Higher degree, Professional qualifications First degrees, Higher diplomas Diplomas, Occupational certificates
FET Certificate		
4 3 2	Further Education and Training Band	School/College/Trade certificates Mix of units from all School/College/Trade certificates Mix of units from all School/College/Trade certificates Mix of units from all
GET Certificate		
1	General Education and Training Band	ABET LEVEL 4 : Grade 9 (Standard 7) ABET LEVEL 3 : Grade 7 (Standard 5) ABET LEVEL 2 : Grade 5 (Standard 3) ABET LEVEL 1 : Grade 3 (Standard 1)

The objectives of the NQF as laid out in the Act are to:

- create an integrated framework of learning achievements;
- facilitate accessibility to and mobility and progress within education, training and vocational fields;
- enhance the quality of education and training;

- accelerate the rectification of unjust discrimination of the past in respect of education, training and work opportunities; and consequently
- contribute to the complete personal development of each learner and the social and economic development of the nation at large (SAQA 1997/1998:2; Kraak & Young 2001:162; NICATS 2002).

Phillips (1996:8) delineates the set of principles which underpins the NQF. According to these, qualifications are required to be:

- credible both in South Africa and around the world;
- coherent in that they provide clear learning pathways;
- relevant in that they take into account changing knowledge, technology and occupational structures;
- quality-focused in terms of nationally agreed learning outcomes and assessment criteria;
- flexible enough to be gained anywhere and at any age and in ways other than through formal education;
- accessible in providing appropriate entry points and multiple pathways to the qualification;
- portable in that they recognise the importance of generic and transferable skills;
- responsive to the rapidly changing needs and diversity of South African society and its economy;
- reflective of the needs of both learners and providers of learning;
- progressive in that learners can progress through the eight levels of the NQF;
- articulated so that learners' achievements are recognised across providers;
- effective and efficient in the use of resources, in order to minimise cost barriers to learning; and
- appropriate in that they are "fit for purpose".

The demands of the future and the situation in South Africa as a developing country require that education and training programmes, while necessarily diverse, should be educationally transformative. Thus it is required that these programmes be well-planned, coherent and integrated; they should be value-adding, building contextually on learners' existing frames of reference; they should be learner-centred, experiential and outcomes-oriented; they should develop attitudes of critical inquiry and powers of analysis; and they should prepare students for continued learning in a world of technological and cultural change (NCHE 1996). It is also emphasised that it is vital that qualifications obtained in South African higher education should be internationally recognised (NCHE 1996:18). In determining the needs which should be addressed in optometry education programmes, these demands were attended to and the principles stated in this NCHE Report (1996:19) were taken cognisance of.

Three major challenges which face South African higher (health professions) education have been identified from literature, namely:

- The need to create an equitable system of education and training which serves all South Africans.
- In order to achieve significant levels of economic growth and to become internationally competitive, the quality of education and training needs to be greatly improved.
- Education and training have been separated, both by the way they are organised and by the way society used to think about them (HSRC 1995:6).

For an institution to be allowed to award qualifications, the programme leading to such a qualification has to be registered with SAQA. Thus registration is subject to a number of definite conditions as set forth in the Regulations under the SAQA Act (RSA 1998). For the purposes of this study these regulations will not be dealt with in detail; suffice it to say that

in the process of defining the needs and opportunities for optometry education and training.

To conclude, the NQF effectively began with the establishment of the SAQA office in November 1997. According to Cosser (2001:153), progress achieved in the implementation of the NQF is documented according to SAQA's three "infrastructural deliverables", namely standards-setting, quality assurance and information management. Critique directed against the NQF implementation and - more specifically, delivery - is, *inter alia*, that research carried out by the Human Sciences Research Council during the period from November 1999 to February 2000 indicates a number of inadequacies in the SAQA machinery which retarded progress on standards generation. These problems include "bureaucratic malaise"; lack of direction in SGB formation activity; lack of policy on level descriptors; failure of SAQA to draw the DoE into standards generating activity; and lack of consensus on the nomenclature, articulation and entrance/exit features of qualifications. By February 2001 these and other shortcomings had, however, been addressed (Cosser 2001:155).

To summarise, it has to be borne in mind that the difficulties confronting SAQA in regulating the pace of delivery should not be underestimated, as some regard the process as being too slow, while others who fear too rapid a transformation, find the pace too quick. According to Cosser (2001:156), "[t]he NQF is an ambitious project, and SAQA does not have the resources to please all of the people all of the time". The Authority recognises certain imperfections, thus the interim registration process was designed precisely to accommodate the qualifications currently offered by providers nation wide on the premise that it is preferable to bring qualifications into the fold now and to enjoin quality later than to strive for quality now and risk losing the support of those most anxious to see progress (Cosser 2001:156). Thus for the time being the Framework with

its three bands, its objectives and its principles are the same as was originally the case. Legislation with a view towards change is currently in process, but no new legislation has as yet been passed.

2.4.6 Educational strategies for health sciences education

Making recommendations regarding the delivery of relevant and applicable post-graduate studies in optometry education and training in which the needs as defined in this study can be addressed, will be the ultimate goal of this research.

One of the phases in curriculum development has to do with determining the didactic course of teaching-learning (that is, the methods used). The important question to answer here is: Which educational strategies should be followed in the curriculum? (Nel & Labuschagné 1996:5). Health care education and training as well as health care delivery are going through profound changes and this will and should influence optometry education and training. Health care workers are "learners for life" and they should already be prepared for this from their early study years onwards. Therefore serious attention should be devoted to educational strategies. To adapt to changing demands and circumstances in education and health care, as well as to address the needs of learners, changes in approaches and strategies are required.

In the innovative approaches to health sciences education, a number of strategies are receiving increasing attention. These have been put on various continuums and a model for educational strategies, called the "SPICES model", was established (Harden 2000; Harden, Sowden & Dunn 1984:285). Each of the strategies mentioned in this model represents the starting point of a continuum extending between two extremes. It can be depicted as follows:

Student-centred	⇐ _____ ⇒	Lecturer-centred
Problem-based	⇐ _____ ⇒	Information transmission
Integrated	⇐ _____ ⇒	Discipline-based
Community-based	⇐ _____ ⇒	Institution-based
Electives	⇐ _____ ⇒	Standard programme
Systematic	⇐ _____ ⇒	Needs-driven.

(Adapted by Nel & Labuschagné 1996:10.)

The left-hand side represents the more modern **SPICES** approach; while the more traditional approach is represented on the right-hand side. In a programme for optometry education and training these strategies will have to be considered to decide where on the continuum the education and training should be situated to address the needs of the learners best. Seen as a whole, it might be inferred that the more modern approach would be appropriate in current circumstances and would also satisfy the requirements set for optometry education and training better than the traditional approaches.

These strategies were studied with a view to making informed decisions regarding the needs in optometry education and training in South Africa. Subsequently the strategies and what they entail will be discussed (Nel & Labuschagné 1996:7-64; Harden *et al.* 1984:286-297). In the **student-centred** strategy, the student is the central or key figure in the educational process. Under guidance of the lecturer, the students participate actively in the educational process and develop independence, which is required to prepare them to accept responsibility for lifelong learning. Other advantages of a student-centred approach are that the students:

- learn in an active way;
- learn more self-discipline;
- learn to make decisions regarding the following:

- learning objectives;
 - course content;
 - the method used to achieve the objectives;
 - learning resources and their use;
 - sequence and pace of learning;
 - time of assessment; and
- learn to assess their own work (Nel & Labuschagné 1996:12; Harden *et al.* 1984:286-287).

Students entering the university often have the common and incorrect notion that the lecturer is the "ultimate source of knowledge" and that they come to university "to be taught" and not to learn. These two notions are immediately refuted if a student-centred approach is followed. When students accept ownership for their learning, they are more motivated and they receive an opportunity to actively participate in the teaching-learning process. The responsibility this entails facilitates inter- and independence, which are of cardinal importance in lifelong learning – a factor which is a prerequisite for successful practice as an optometrist.

Problem-based learning is a method where a professional problem is used as stimulus for learning and this approach is usually twofold, namely to use problem-based learning as a method to develop a usable body of integrated knowledge and to develop problem-solving skills. Problem-based learning aims at establishing an integrated body of knowledge that is related to the problem; developing problem-solving skills; and developing clinical thinking skills (Nel & Labuschagné 1996:7; Harden *et al.* 1984:287-288). Thus the development of self-directed learning skills is encouraged through confronting students with professional problems (Dolmans & Schmidt 1994:372).

A typical feature of problem-based learning is that it involves students working together in small groups. Active participation in the teaching-

learning process empowers students to exert some influence on what and how they learn, in addition to testing and deepening this learning by means of discussion and debate. Problem-based learning contextualises knowledge and promotes the development of skills and confidence in self-directed learning (Usherwood & Primhak 1996:341).

By utilising clinical/practical problems as the basis for studies, the relevance and importance of the material students have to study become clear immediately, because they recognise the material as needed to understand and manage the problem. Immediate use of knowledge (application) strengthens and consolidates the learning process. The interdisciplinary nature of problems is aimed at promoting the integration of learning content and interdisciplinary co-operation. A primary goal of education is to help students to develop into independent learners who will accept active responsibility for their learning for a lifetime of continuing professional education in order to be able to stay abreast of developments in the health sciences (Nel & Labuschagné 1996:22).

In an **integrated** approach, study material is organised in a way that makes it possible to combine subjects/topics which are traditionally offered in separate academic courses or disciplines. Interestingly enough, during the past two decades more emphasis has been put on the lecturer taking responsibility for this integration and on bringing the subjects together so that they are presented to the students as a meaningful whole (Nel & Labuschagné 1996:34; Harden *et al.* 1984:288-289). In optometry integration is important, especially in the clinical applications.

The **community-based** approach refers to health sciences education and training provided in an environment which resembles that in which students will eventually work. It is designed to make students more responsive to the real needs of people. A significant amount of training

should therefore occur outside of the tertiary care facility (Nel & Labuschagne 1996:34).

Given the new priorities in South Africa as regards a holistic approach to health and development, coupled with the need to integrate curative and preventive systems, the basic premises of traditional South African health education need to be revised. From the outset in this needs analysis process it was accepted that one of the premises that should underlie education and training for optometry should be that of training students to be capable to respond to the most basic community needs, as well as working in co-operation with other health science professionals on development projects to achieve a multisectoral approach to health promotion and eye care.

In 1988 the following principles, which had been adopted for medical education, were taken cognisance of in deliberations on the needs in optometry education and training:

- The curriculum should be based on community rather than tertiary care experiences.
- The curriculum should be integrated by presenting a series of problem-solving exercises rather than isolated special subjects.
- There should be emphasis on small group learning.
- The curriculum should represent the health care needs of the region.
- Students should be recruited from the communities the institution serves on the basis of community commitment and selected on the basis of potential rather than academic merit (Nel & Labuschagne 1996:41).

One of the major criticisms against the current training of health science practitioners is that it is not sufficiently relevant with regard to the health care needs of the country (Nel & Labuschagne 1996:43; Wall 1999). As far

as the new health authorities in South Africa are concerned, relevance is a priority, especially in the light of the emphasis placed on primary health care, the call of the government to prevent blindness, and *Vision 2020: The Right to Sight* (IAPB s.a.c,d).

In a traditional standard programme students go through a stereotyped, standard, prescribed course and they have few, if any, opportunities to study a subject in more depth or to study a subject of their own choice. All the students are therefore subjected to exactly the same course as regards content and methodology, whereas with an **elective** strategy, room is left for more flexibility in the curriculum, allowing students some choices, especially if they want to study a specific topic or subject more in depth (Nel & Labuschagné 1996:56; Harden *et al.* 1984:293-294).

The goals of an elective strategy received attention in the needs analysis. Of particular importance are the following:

- It is a way of coping with an overcrowded curriculum.
- It affords freedom and choices within the curriculum.
- Opportunities for students to develop personal interests.
- Opportunities for students to take responsibility for and further their own learning.
- Student participation in decision-making in curriculum development processes.
- There is closer contact between the student and the lecturer.
- Opportunities to facilitate career choices by students.
- Students' individual aspirations may be met in this way.
- A positive change may be brought about in the students' attitude towards matters concerning health care in general and eye care in particular (Nel & Labuschagné 1996:56; Harden *et al.* 1984:294).

There might, however, be some resistance against the elective strategy, as electives can overload lecturers with work; lecturers might reveal a lack of interest and awareness; electives can affect other course work; assessment presents a problem; and some lecturers might take the view that independent work undertaken during electives can be more profitably engaged upon under supervision after qualification (Harden *et al.* 1984:294-295). It is abundantly clear, however, that the advantages far outweigh the disadvantages.

The last strategy in the SPICES model is that of a **systematically structured** curriculum. According to this strategy, the programme is planned in a way that will ensure that each student receives ample exposure to everything he/she will need to complete the programme successfully (Nel & Labuschagné 1996:60). Harden *et al.* (1984:295) claim that, in a planned or systematic approach to the curriculum, a programme is designed for all students so that the experiences necessary for their training are covered. With an opportunistic strategy, on the other hand, the learning experiences of the students will be mainly determined by the material available and, to a lesser extent, by the interests of staff members (Harden 2000). According to Harden *et al.* (1984:295), factors supporting a move towards a more systematic or planned approach are the following:

- Students need to experience a variety and range of [eye care] health problems.
- Rationalisation of competencies. A more systematic approach will help students to identify with competencies.
- Rationalisation of time. A systematic approach has the potential advantage that the students can become competent and confident with the least waste of time and resources. The students do not need to see further instances or receive further instruction in areas where they are already competent.

The new outcomes-based approach fits well into this strategy, as the outcomes which students have to achieve are clearly delineated. In this way it is ensured that students will have sufficient exposure and the stated outcomes will all be reached, even though provision is made for different ways to do so. Learning programmes should in other words be structured, but flexible (Lubisi *et al.* 1997:8).

Educational strategies used in health sciences education constitute a very topical issue. The curriculum in health sciences education and in particular the educational strategies which are used, were addressed in the WHO's Edinburgh Declaration (*Medical Education* 1988:481-482) and thereafter at each congress on health sciences education. It is abundantly clear that expectations in this regard are high and that traditional systems *per se* will no longer suffice. Nel and Labuschagné (1996:64) affirm that changed and changing circumstances have to be considered. Therefore the time is now ripe to ensure that the changes which are required to keep in step with innovations, are taken.

It stands to reason that curriculum development is a task which cannot be completed once and for all, but it is a dynamic and cyclic process, starting with a needs analysis (see Appendix B; Instructional Technology Global Resource Network s.a.; Instructional Technology 2000). Needs must be determined before they can be addressed and actions should be tested and questioned on an ongoing basis [see Appendix B; Nordby (1997); Wall (1999)]. This is not a once-off exercise, but a cyclic process which should be repeated, adapted and improved relentlessly and assiduously in the interest of optometric education and training.

2.5 CONCLUSION

In this chapter it was pointed out once again that the aim of the study is to establish the needs that should be addressed in optometry education and training in a time of change and new perspectives. The changing health scene in health care and health professions education were discussed, while the competencies and characteristics of health care practitioners were also highlighted (see 2.1). Factors influencing the design of optometry education and training programmes, as described in literature, were taken under scrutiny and the history of the optometry profession was attended to (see 2.2). The transformation of the health care system in South Africa was discussed by dealing with national and international perspectives. *Vision 2020 – The Right to Sight* (IAPB s.a.c,d) (see 2.3.2.1) and the National Prevention of Blindness Campaign (see 2.3.2.2) were discussed. Primary health care with special reference to the White Paper for the Transformation of the Health System in South Africa (RSA DoH 1997) was discussed (see 2.3.3). As professionals have to register with statutory and professional bodies, the latter were discussed (see 2.3.4). The very important aspect of the transformation of education and training in South Africa and legislation in this regard were dealt with. The aspects which were discussed, were namely a programme-based approach in education and training (see 2.4.2); outcomes-based education and training (see 2.4.3); SAQA and the NQF (see 2.4.4); and educational strategies for health sciences education.

In the next chapter a selective review of optometric education will be provided.

CHAPTER 3

A SELECTIVE REVIEW OF OPTOMETRIC EDUCATION

3.1 INTRODUCTION

Early in the 20th century optometrists started moving from jewellery stores into offices, while some pharmacists developed optometric skills and made the career change to optometry. Most knew they were part of an evolving profession, but few could have imagined that optometry would evolve into the full-scope eye and vision profession of the current day (Kogan 2000:333). Changing into a profession, of course, involved changes in the education and training of optometrists.

Formal optometric training for a recognised profession is only about 100 years old. Recognition legislation was passed around 1900 to 1903 in Minnesota, California and North Dakota in the USA. An ophthalmologist established an optical school, "The Klein School of Optics", in the year 1894 before any statutory recognition of the profession (Normole s.a: px). The 20th-century profession has dramatically changed since it separated from its predecessors, the opticians. In 1909 the first Act governing the practice of optometry in a Canadian province was proclaimed, and by 1925 all provinces in Canada had legislated optometry Acts (Spafford 2001:1).

In South Africa the profession was officially recognised in the Health Professions Act of 1974 (RSA 1974). Most countries in Africa have no optometry legislation and in Europe the process was led by the British. In modern Europe a few countries are still in the process of recognising the training of optometrists at University level, while in a developed country

like the Netherlands, the profession was only recognised in the year 2000 (Kogan 2000:333).

Undergraduate training in the former East Block and Asia is evolving through different levels of higher education with China perhaps the first to offer optometry as a subspeciality in medical schools. That is perhaps the best example of post-graduate training in these parts of the world.

Australia and New Zealand are following a combination of British and USA models which appear to merge what was previously post-graduate into a longer undergraduate course.

Fierce legal battles preceded most legislation. In the USA and in Britain, opticians argued that "eye testing and spectacle provision was a human service of the optical sciences, spectacles belonging in the same category as telescopes, cameras and microscopes. All these were aids to vision, whose working principles were part of the science of optics and not pharmacology". The medical profession, on the other hand, argued that "any examination of the human body was a medical function and thus only doctors were they entitled to prescribing spectacles" (Normole s.a.:px).

The above arguments governed the training and practice of optometry for another 95 years (Penisten 1993).

Only 20 years ago, optometrists in most states in the USA were embroiled in fierce legislative battles to win authority to use diagnostic and therapeutic pharmaceuticals. Even then, however, most practitioners probably could not have foreseen the major role optometry would soon play in the care of eye disease and the co-management of surgical patients (Kogan 2000:333).

At the start of the 21st century, most optometrists are well aware that their profession – as well as the entire world of health care - is once again in a period of rapid change. However, just as most optometrists at the turn of the 20th century might not have envisioned the contact lens or seriously believed that in the mid-1970s they might soon be referring patients for laser correction, most of today's practitioners have probably not yet begun thinking seriously about many of the developments that could affect practice in the not-too-distant future (Kogan 2000:333). These developments are both rooted in, and impact on, optometric education.

Therefore it is necessary to take a look at optometric education and training and what is happening in other countries, but especially in South Africa, since it is the country with the most advanced optometric education and training system in Africa. Furthermore it is also the country where optometric education and training, as well as the practice of optometry, have advanced most rapidly over the past couple of years. It is clear that what has been lacking, is a mechanism that measures educational content versus the fast-changing needs of the workplace and the public. Such a mechanism needs to parallel changes in the health and educational policy as well.

3.2 OPTOMETRIC EDUCATION AND TRAINING IN SOUTH AFRICA

3.2.1 Introduction

Compared to other African countries, South Africa has the oldest optometric educational heritage. Round about 1931 formal courses were started in Johannesburg at a vocational training institute (currently the Wits Technikon), while at the moment there are four university-based optometric training programmes, one of which is at a technikon. In

addition, there is one programme for dispensing opticians, also based at a technikon (Penisten 1993:726).

The political changes occurring in South Africa over the past several years have been extraordinary, while optometry and optometric education have also changed. All the education and training courses are now open to all races and all have seen student enrolment increases (Penisten 1993:726). The restructuring of higher education curricula, including optometric education and training, however, was not a priority in the flurry of education policy proposals which accompanied the historic political transformation of South Africa. "The need for systemic change in higher education - for a united system with an equitable distribution of access - overshadowed demands for curriculum reform, temporarily at least" (Breier 2001:ix). The National DoH, however, identified a need for registered optometrists and in the National Prevention of Blindness Programme (RSA DoH 2000:38) spelt out the objectives for their training, which implied the restructuring of curricula.

As a profession, optometry was only recognised in South Africa around 1927, while formal training started at the Wits Technikon in 1931 (Penisten 1993:px). The training leaned heavily towards mathematics and geometric optics and the more medically-orientated subjects were probably taught with guilt and a sense of encroachment on the field of doctors (Penisten 1993:px).

On 31 March 1924 13 opticians gathered in the Boardroom of the Scientific and Technical Club in Johannesburg to witness the birth of what is now known as The South African Optical Association. Of the 13, whether lucky or otherwise, the following still remain in action for the furtherance of the optical profession in South Africa (Green 1934:18).

Early in 1927, the Association was gravely concerned with the legal status of opticians, but - after investigation - legal opinion considered opticians to be professional men. During this time the Medical, Dental and Pharmacy Bill served before Parliament and the M.L.A.s who were interviewed expressed the opinion that opticians had been left out of the controversy over this Bill (Green 1934:18).

The year 1931 was a true stepping-stone with regard to the future of the optical profession in South Africa. A special committee was appointed to draw up a syllabus for an optical course, resulting in a three-year course presented at the Witwatersrand Technical College under the auspices of the SAOA. Towards the end of 1931 a School of Applied Optics was established at the Wits Technical College. On 7 February 1932 the School started off with 10 students (Hamilton 1934:17). That year the first supplementary examination (the first of its kind ever to be written in South Africa) was also taken by 10 candidates. Of these seven were successful and three were referred (Green 1934:19).

This part-time (evening) course was composed of Physical Optics, Optical Bench Work and Workshop Practice in the first year; Anatomy and Physiology, and Visual Optics in the second year; and Visual Optics and Pathology and Ethics in the third year. The third year dealt with advanced work in actual sight-testing with particular regard to the use of special instruments like retinascopes, ophthalmoscopes and keratometers (Hamilton 1934:23). At the end of the course a Fellowship examination was written. This was conducted along the same lines and was of the same standard as the fellowship examinations of the British Optical Association and the Worshipful Company of Spectacle Makers. Successful candidates were entitled to affix FOA and were recognised as qualified opticians (Hamilton 1934:23).

In 1934 the efficient training of opticians in South Africa was an accomplished fact (Hamilton 1934:23). The Witwatersrand Technical College was the first and only institution in South Africa for the training of opticians and it satisfied a much-needed and long-felt want. At the time the need was expressed to consider the institution of full-time day courses. Over the following decades the course evolved into a full-time four-year diploma course by 1962 and it is still offered at Wits Technikon.

In 1974 the scope of optometry was defined as follows: "The performance of eye examinations on patients with the specific purpose of detecting visual errors in order to provide clear, comfortable and effective vision, ...". Furthermore the following was stated: "The correction of errors of refraction and related factors by the provision of spectacles and/or spectacle lenses and/or spectacle frames and/or contact lenses and/or the maintenance thereof by any means other than medical or surgical" (RSA 1974).

In 2001 the scope of optometry was defined under Regulation No. R.228 as follows:

'1. In these regulations any expression to which a meaning has been assigned in the Act shall bear such meaning and, unless the context otherwise indicates – "**scheduled substances**" means any medicine or other substance prescribed by the Minister under section 22A of the Medicine and Related Substances Control Act, 1965 (Act No. 101 of 1965);

"**use of a scheduled substances**" means the use of a scheduled substance by an optometrist in his or her practice exclusively during procedures and not the dispensing or sale thereof;

"**the Act**" means the Health Professions Act, 1974 (Act No. 56 of 1974).

Acts pertaining to the profession of optometry

2. The following acts are hereby specified as acts which shall for the purpose of the Act be deemed to be acts pertaining to the profession of optometry:
 - (1) The performance of eye examinations on patients with the specific purpose of detecting visual errors in order to provided clear, comfortable and effective vision;
 - (2) The correction of errors of refraction and related factors by the provision of spectacles and/or lenses and/or spectacle frames and/or contact lenses and/or the maintenance thereof, or by any means other than surgical procedures;
 - (3) The use of scheduled substance which is approved by the Professional Board for Optometry and Dispensing Opticians and the Medicines Control Council and subject to the –
 - (a) Conditions determined by the Professional Board for Optometry and Dispensing Opticians and the Medicines Control Council;
 - (b) Provisions of the Medicines and Related Substances Control Act, 1965 (Act No. 101 of 1965) and;
 - (c) Person practising the profession of optometry being in possession of a permit issued in terms of section 22A (12) of the Medicines and Related Substances Control Act, (Act No. 101 of 1965), to acquire, possess and use the specific Schedule 1, Schedule 2, Schedule 3 or Schedule 4 substances for diagnosis purposes.
3. These regulations shall not prohibit the provision of spectacles and/or spectacle lenses and/or spectacle frames by a registered dispensing optician on the prescription of a registered and suitably qualified medical practitioner or a registered optometrist.

Repeal

4. Government Notice No. R. 2315 of 3 December 1976 as amended by Government Notices Nos. 1844 of 16 September 1977 and R. 2613 of 29 December 1978 are hereby repealed' (RSA DoH 2001:1).

Currently it is clear that there is a need to train specialist optometrists in South Africa, both for the private and the public sectors. In 2000 there were three universities and one technikon offering training in optometry, with 200 students qualifying each year. There were $\pm$ 2 000 registered optometrists (1 970 of whom were working in the private sector, i.e. 98.5%); 20 were working in academic institutions (i.e. 0.1%); while only 12 were working in Provincial Departments of Health (i.e. 0.6%) (RSA DoH 2000:37). Optometrists therefore represent an underutilised and potentially valuable human resource for health care.

The African continent is characterised by an extreme lack of eye care facilities and personnel (Naidoo 2000:8). In South Africa optometry was the domain of the minority and literate white citizens, as training was only accessible to them. Optometry was also restricted to optical appliances and was never considered part of health care. Optical companies cashed in on eyewear fashion as a major feature of optometry. Thus the profession was never taken seriously by the medical profession and was relegated to spectacle manufacturing for those who could pay. (SAOA correspondence dated 24 November 2000.)

The establishment of a Department of Optometry by a group of Americans at the University of the North in South Africa in 1974 set the stage for a new era in optometry training in South Africa. In the USA optometrists were compelled by law to refract, diagnose and treat eye diseases. Thus the training was different with an emphasis on pharmacology and eye

diseases. At this stage two other departments of optometry were established in South Africa: one at the Rand Afrikaans University and the other one at the University of Durban-Westville (UDW). The training at the University of the North, however, was ahead in terms of world developments in the field of optometry, as - due to lack of expertise - the other two departments could not cover the same scope as the Americans at the University of the North did. The Americans left the country soon after a state of emergency had been declared in 1986.

At present students can receive education and training in optometry at the Technikon Witwatersrand, the University of the North (UNIN), the UDW, the Rand Afrikaans University (RAU) and the University of the Free State (UFS) - the latter having introduced its optometry programme in 2002. Dispensing opticians are trained at the Cape Technikon.

In its National Prevention of Blindness Programme the National DoH set forth the objectives that should be pursued in optometry education and training in South Africa. These read as follows:

"The optometrist should be able to:

1. diagnose and manage all common eye problems
2. do all refractions and dispense prescription glasses
3. assess and manage low vision, and organise and run a regional low vision clinic
4. recognise and refer those conditions which require referral to the tertiary level
5. organise and run a school screening programme (only children > 8 years) [However, this regulation is currently being repealed.]
6. provide training, supervision and support to traditional healers, community health workers and clinic nurses in primary eye care and ophthalmic nurses

7. select patients who require eye surgery, and do post-operative management of patients
8. manage a district eye clinic, including record keeping and maintenance of stocks.

The practical skills of the optometrist include:

- Full refraction
- Slit lamp examination of the anterior segment of the eye
- Tonometry
- Fundoscopy
- Subconjunctival injection
- Removal of superficial foreign bodies
- Chalazion surgery
- Rehabilitation" (RSA DoH 2000:38).

In order to gain a clear picture of the education and training of optometrists and dispensing opticians in South Africa, the programmes offered at the different institutions will be described succinctly.

3.2.2 Technikon Witwatersrand (TWR)

The course in optometry at the Technikon Witwatersrand (Wits Technikon) in Johannesburg was instituted in 1930 (or in 1931 according to some sources) with the first students enrolment in 1932. The SAOA was the custodian of what evolved into a four-year Diploma in Optometry course (programme) and students wrote a fellowship examination which qualified them as optometrists.

In 1996, under the new education dispensation, a programme offering a B.Tech. degree was introduced. The B.Tech. programme in Optometry is a four-year full-time programme at NQF level 7. Currently an average of

18 students qualify per year, but it is envisaged that eventually 40 will complete the programme annually. To be admitted, students are required to have completed NQF level 4 (highest school, i.e. further education and training level), whereas in the areas of knowledge and skills, preference is given to students with science, mathematics, biology and competence in English. Students are afforded recognition of prior learning (RPL). When submitted to SAQA for interim registration, the admission requirements entail the FET (Further Education and Training) certificate at NQF level 4 with numeracy and science skills, biology and English language skills, or an equivalent qualification. Students with an appropriate qualification at NQF level 6 and with previous relevant registration with the HPCSA are also admitted.

According to the interim SAQA submission the programme carries 120 credits per year. In the old curriculum all subjects had to be passed in the third year to continue to year four.

The exit-level outcomes of the programme, as submitted for interim SAQA registration, read as follows:

The qualifying optometrist will be competent to:

1. Apply scientific optometric skills, optical and allied technologies to ascertain the accuracy of the prescription of the eye care products to visually compromised people.
2. Apply scientific health care skills and optometric technologies in the diagnosis, prescription and delivery of eye and vision care therapy within the context of health services appropriate to the needs of the community.
3. Interact consultatively in the delivery of eye care products, therapy and medication to visually compromised people, while applying self-reflex learning strategies during interactions.

4. Apply appropriate medico-legal ethics, health and safety regulations and codes of conduct in the (assessment) evaluation, diagnosis and delivery of service and products to patients/clients.
5. Apply advanced optometric skills in the assessment of ocular and visual parameters.
6. Apply advanced optometric skills within the health care skills in the assessment of ocular and visual anomalies.
7. Manage and administer human, technical and other resources to ensure optimal diagnosis, prescription and delivery of eye and vision care/services.
8. Apply self-reflective learning strategies to continually improve the optometrically-related service within health care service appropriate to the specific needs of the patient/client to ensure professional contribution to the needs of society. (Written communication from Von Poser dated 2 June 2002.)

A structured (clinical) master's programme, incorporating a research dissertation, is awaiting Senate approval. (Personal communication with Von Poser on 22 May 2003.)

In 2002 the Faculty of Health Sciences of Wits Technikon was split into two Schools with Optometry, Podiatry and Radiography in one School and Chiropractic, Homeopathy and Somatology in the other. A joint clinical facility, which serves the densely populated Hillbrow patient base, was established on campus. Currently institutional affiliation with the University of the Witwatersrand is realised via an Academic Health Service Centre (RSA DoH 2000:38).

The 2002 Asmal Report on Higher Education proposes that RAU and the Technikon Witwatersrand should merge from 2003 onwards (RSA MoE 2002; GCIS 2003:200).

3.2.3 University of the North (UNIN)

In 1975 the four-year B.Optom. degree was implemented at UNIN in Pietersburg (currently Polokwane). During the apartheid years this department was under the leadership of various American educators and survived on educational grants. At the moment the programme is still suffering from a lack of capacity and renewed efforts are underway to improve the situation. The Northern Province (the Limpopo Province) was the first provincial authority to employ optometrists at a recognised professional level. Amalgamation with the Medical University of South Africa (MEDUNSA) is in progress (RSA MoE 2002).

The programme for optometry at UNIN delivers three qualifications, namely a B.Optom., an M.Optom. and a Ph.D.Optom. (The latter was approved and registered, but no student has enrolled to date.)

- **B.Optom.**

The programme for the B.Optom. qualification has a duration of four years. During 2002 there were 35 students in the final year. To be admitted to the programme, a student only needs a matriculation certificate (NQF level 4). The programme carries 240-250 credits per year. No electives are available. Only one exit-level outcome is stated, namely that the students must be able to examine a patient and provide the necessary management or referral. The programme has been offered since 1975.

- **M.Optom.**

This is a two-year, non-modular, research programme. During 2002 only one student was enrolled in the programme, the admission requirements

of which entail a B.Optom. or equivalent. The exit-level outcome of the programme is stated as follows: The ability to carry out research in Optometry and Vision Science and publish the findings in accredited journals. The programme has been offered since 1997.

◦ **Ph.D.Optom.**

The programme for this qualification was approved, but no student has thus far been registered. The programme is registered as a three-year research course, with an M.Optom. being the only requirement for admission. The exit-level outcomes entail that a qualifying student will have the ability to carry out research and publish the findings, as well as having the ability to train research students. (Written communication from Alabi Oduntan dated 3 June 2002.)

3.2.4 The University of Durban-Westville (UDW)

In 1980 the UDW opened its doors to optometry students with a programme for an entry-level bachelor's degree in optometry. The programme carries 558 credits over four years and qualifies 35 students per annum. Requirements for admission are a B.Sc. degree or studying towards a B.Sc. degree or minimum matriculation requirements such as a matriculation exemption certificate or a certificate with the university admission endorsement; mathematics passed at higher grade or at least a 50% pass at standard grade; and biology and physical science with a similar pass mark. All candidates are interviewed with final selection based on academic merit (70%) and the interview (30%). A modular, part-time clinical as well as a full research master's degree has been offered since 2001. (Written communication from Naidu dated 2 June 2002.) However, the clinical master's has now been re-routed into the research master's. (Personal communication with Moodley during May 2003.)

Merger agreements with the University of Natal are underway.

3.2.5 The Rand Afrikaans University (RAU)

In 1983 a programme delivering a B.Optom. degree was introduced at RAU in Johannesburg with financial assistance from the SAOA. This Department of Optometry has also over the years awarded several M.Phil. degrees with the main areas of research that of linear algebra. (Written communication from Richter in May 2002.)

The B.Optom. degree offered at RAU is obtained after completing a four-year programme. Approximately 60 students qualify per annum. The admission requirements are a level 4 NQF certificate with at least a C symbol for mathematics on the higher grade, as well as Science and Biology. The programme carries 226 credits per year. This Department also offers a non-modular programme without electives for a Master's degree in Optometry. This is a research programme culminating in a dissertation. (Written communication from Richter in May 2002.)

3.2.6 Cape Technikon (CT)

The Cape Technikon offers a programme for dispensing opticians. The curriculum is currently being revised and a new curriculum has been proposed for the three-year diploma programme in order to align it with the career ladder concept. This will mean that the two academic years will be similar in content to the B. Optom. degrees offered elsewhere.

3.2.7 The University of the Free State (UFS)

In 2002 the UFS initiated the first integrated B. degree in optometry in South Africa, offering a broader biological base and expanded clinical training compared to the education and training offered at other departments.

An M. Optom. also gained SAQA approval at the same time as the B. Optom. programme. Thus the master's programme is registered with the education authorities, but no students have enrolled as yet.

It should be noted that prior to 1994 the Wits Technikon course trained mainly white male students, UNIN mainly black students, the UDW mainly Indian students, and RAU mainly white Afrikaans-speaking students. This UFS programme, offered in Afrikaans and in English, has both male and female students of all population groups.

A new era in optometric education, training and possibly scope of practice has dawned with the introduction of a new Department of Optometry at the UFS. This department is housed in the School of Allied Health Professions, within a Faculty of Health Sciences that also houses a School of Medicine. The programme is offered in close collaboration with ophthalmology (Ramela 2002:6). Currently none of the other institutions offering optometric education and training programmes have close links with medicine and therefore have limited access to public sector teaching hospitals, as well as the vast clinical training opportunities the public sector offers. The UFS course is offered in close co-operation with the Medical School and particularly the Department of Ophthalmology (Kriel & Nel 2001a:2).

◦ **B. Optom.**

To be awarded a baccalaureus degree in Optometry (B.Optom.), students have to complete a four-year programme. This is an outcomes-based education and training programme in accordance with the SAQA Act (Act 58 of 1995) (RSA 1995) and the related regulations and guidelines. Other important emphases entail those regarding resource-based instruction; integrated education and training (with special emphasis on the integration of theory and practice, as well as horizontal and vertical integration of content); an emphasis on an approach which will foster independent and lifelong learning; and a special emphasis on team and group work (Kriel & Nel 2001a:1).

Candidates are afforded the opportunity to exit the programme at diploma level, obtaining a qualification as dispensing optician, or continue to the level of a professional baccalaureus degree in optometry which, in turn, will form the basis for the Professional Master's degree (Kriel & Nel 2001a:2).

◦ **M. Optometry**

The M. Optometry programme is unique in that it will be offered in clinics as well as in the training hospitals, while sharing facilities and material with ophthalmologists, as there are many tangencies (Kriel & Nel 2001a:2).

The programme offers an opportunity for a large market of optometrists in South Africa to pursue post-graduate studies, in addition to affording them the opportunity to make a contribution to the prevention of avoidable blindness in South Africa and the general standard of care by fulfilling a gatekeeper role at primary or secondary level (Kriel & Nel 2001b:2).

In the programme the candidates are provided with the opportunity to obtain a master's degree, or to exit with a post-graduate diploma in optometry. After SAQA's approval had been gained, a thorough planning phase for the master's programme was put into motion before the programme would be implemented. The reason for this is threefold, namely that the results and recommendations of this study would be awaited; the successful implementation of the B. programme would be well underway; and that a clinical service in the Free State, as well as the necessary posts in the public sector would have to be created. It is normal practice at the Faculty of Health Sciences at the UFS to only phase in and implement programmes when the essential proven research has been done; when the necessary facilities have been created; and relevant expertise has been obtained. (Personal communication with Prof. M. Nel, Head of Educational Development, Faculty of Health Sciences at the UFS on 20 May 2003.)

The programme will compare favourably with similar programmes in other countries, albeit with a unique South African approach geared to this country's needs and resources. The Professional Board lays down the guidelines for optometry training, therefore the requirements for practice as professional optometrist will be met on successful completion of the programme. The education and training in the programme also satisfy international norms and standards for optometry training (Kriel & Nel 2001b:3). The modular course work will focus on core content, offering learners the opportunity to address their own needs - the main task of the facilitators in the learning programme will be to support learners in the process.

The programme for the master's degree in optometry will be an outcomes-based education and training programme in accordance with the SAQA

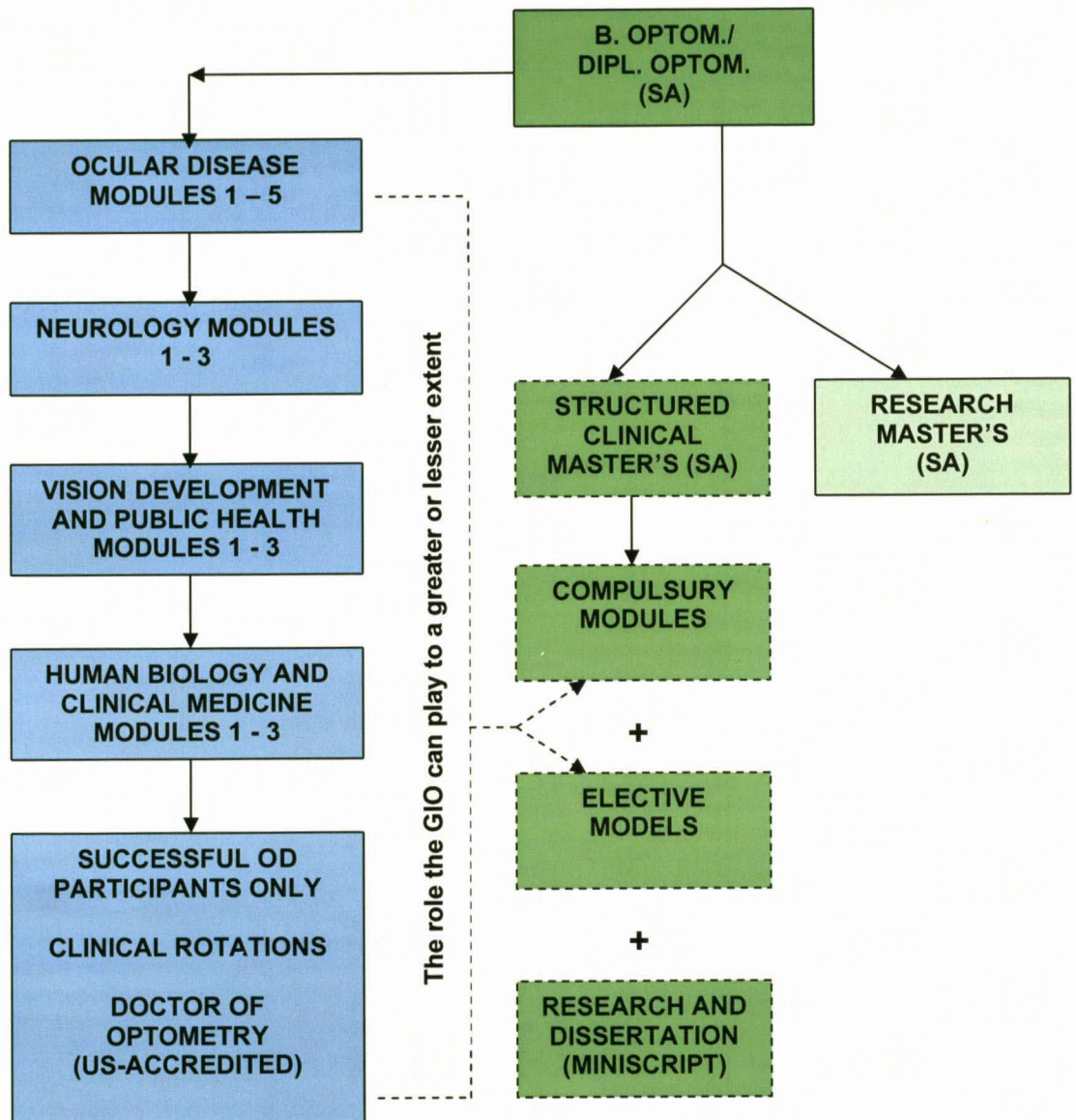
Act (Act 58 of 1995) (RSA 1995), and related regulations and guidelines. In the course work (modules) specific and professional outcomes will be set, while the research module will provide an opportunity to enlarge and refine the knowledge base of the discipline. In both the programmes for the bachelor's and the master's degrees there is an emphasis on directed, learner-centred education, resource-based instruction, integrated education and training (with a special focus on the integration of theory and practice), as well as a team and group work approach. In the modules core content is replenished by directed, resource-based studies and a module with electives will provide an opportunity to learners to satisfy individual needs and pursue areas of special interest. The module on research methodology will lay the foundation and prepare learners for the research project and the writing of the research report (script) (Kriel & Nel 2001b:6).

Assessment in the programme will be based on an integrated and continuous evaluation approach. The end evaluation will comprise a written and an oral examination, as well as an evaluation of practical and clinical work, in addition to the research script. Skills will be evaluated in real settings (Kriel & Nel 2001b:6).

3.2.8 The Graduate Institute of Optometry (GIO)

In the past, the only post-graduate optometry education in South Africa was offered through the New England College of Optometry (NEWENCO) in collaboration with the SAOA and later the GIO, which worked together for furthering the profession of optometry in South Africa. (Figure 3.1 provides a visual presentation of the work done by the GIO; the role it has played up to now and which it can still play in the future.)

FIGURE 3.1: THE ROLE OF THE GIO IN POST-GRADUATE OPTOMETRY EDUCATION IN SOUTH AFRICA (MASTER'S LEVEL)



(Adapted from the Graduate Institute of Optometry 1999:6.)

*The Doctor of Optometry (USA) follows after a basic science degree. A Doctor of Optometry degree serves as the entrance requirement for a Masters degree in Optometry (USA).

In 1994 an agreement was reached to provide graduates of optometry approximately 190 contact hours of course work in the areas of ocular disease, pharmacology, the treatment and management of ocular disease, and clinical medicine. These courses were identified from the NEWENCO curriculum as ones that are greatly needed, especially to help towards the diagnostic and therapeutic optometric legislation for South Africa (The Graduate Institute of Optometry 1999:7).

To date, the Certificate of Advanced Study (CAS) NEWENCO has been repeated three times with some 550 optometrists successfully completing the course. In 2001 The Professional Board approved a revised syllabus for the CAS, which included an introductory module covering selected topics in human biology and excluded the module on treatment and management of ocular disease. Some 180 optometrists completed this version of the CAS delivered by South African faculty.

Between 1996 and 2001 the rest of the course work identified by NEWENCO from its Advanced Standing International Programme was delivered in South Africa. This took on the form of three further Certificates of Advanced Study, covering some 300 lecture hours. A total of 35 South Africans completed all the courses and a small number enrolled for the clinical rotation year required for the NEWENCO-accredited degree.

Each course was taught within a number of modules over an extended period of time. Examinations were given for each course and the grading system was based on the USA system. On successful completion of all the course work and examinations, a CAS was awarded (The Graduate Institute of Optometry 1999:6-7). Besides the CAS Ocular Disease and Pharmaceutical Application, three other certificates were offered. These

were CAS Neural Basis of Vision, CAS Vision Science and Public Health and CAS Clinical Medicine and Biological Sciences.

NEWENCO accredited a six-month clinical rotation site at the Edendale Hospital in Pietermaritzburg. The irony of the situation is that South African optometrists are paying an American Institution \$23 000 tuition fees for the clinical year, while they spend half of that time in South Africa in a clinical situation that is crucial to their training in general. Most South African Optometry and provincial Health Departments have yet to recognise this opportunity. At the Edendale site, graduates perform the duties they have been educated for as part of the eye care team; this being a major contributing factor in the cataract surgery waiting period of less than a week at this hospital.

The reason why this is not happening at other hospital Eye Departments is partially due to the inability of South African Optometry Departments to establish clinical training in the public sector and the unwillingness of Ophthalmology Departments to accept optometrists as part of the eye care team, thus resulting in primary care being performed by ophthalmologists, whilst the surgical backlog is not addressed effectively.

The GIO has therefore played a catalyst role in the post-graduate training for optometrists and will continue to do so in an effort to redefine what is needed in under- and post-graduate training in order to address the needs of Africa and South Africa in particular (The Graduate Institute of Optometry 1999:7).

3.2.9 Summative remarks

Optometric education and training in the developed world have progressed by leaps and bounds over the past decade. Educational

institutions are striving towards satisfying the needs of the population, as well as of the health and higher education policy. The process is, however, a slow one that is hampered by the regulatory process, the lack of political will, and "own turf" struggles.

The post-graduate programmes that will be offered at the UFS will make a contribution to equip optometrists better for practice, especially in the light of the expansion of the scope of practice in South Africa.

Currently, about 180 graduates per annum are still trained largely from the 20.0% of the population who can afford private care, in order to serve that same 20.0%. This results in an oversupply in the private sector and inappropriately trained practitioners for the public or rural settings.

One may also assume that, during this period of redefinition of what is required in under- and post-graduate training, a certain amount of cross-pollination between under- and post-graduate training as well as among Institutions will be realised. This may well result in a movement of accent in certain fields to post-graduate level and vice versa as the public need, the need for community service and the need for specialisation are addressed.

Controlling this process will be a challenge for educators and regulators, but it should be seen against the ultimate goal of transforming the profession into a public utility, adhering to the demands of primary health care.

Table 3.1 provides a visual presentation of the major strengths and weaknesses of undergraduate and post-graduate optometric education and training in South Africa as perceived by the researcher.

**TABLE 3.1: SOME OF THE MAJOR STRENGTHS AND WEAKNESSES
OF UNDERGRADUATE AND POST-GRADUATE OPTOMETRIC
EDUCATION AND TRAINING IN SOUTH AFRICA**

UNDERGRADUATE OPTOMETRIC EDUCATION	
<u>STRENGTHS</u>	Sound Physical Sciences base. Relatively well funded. Broad exposure to all related fields.
<u>WEAKNESSES</u>	Inadequate education and training in the bio-medical sciences and the diagnosis of related disease. Little exposure to public health and public sector clinical settings (service delivery). Limited clinical exposure in: ▫ general clinical skills; ▫ ocular trauma and emergencies; ▫ surgical co-management; ▫ contact lens fitting procedures; ▫ low vision procedures; ▫ rehabilitation and mobility training; ▫ paediatrics and binocular vision. Inadequate education and training in the neurological basis of vision, treatment and management of ocular disease and practice management. Education and training not addressing immediate public need.
POST-GRADUATE OPTOMETRIC EDUCATION	
<u>STRENGTHS</u>	Well-structured overall (researched-based) programmes. Research in M.Phil. programmes at the forefront of the field of linear algebra and its applications. Availability of physical and financial resources.
<u>WEAKNESSES</u>	No clinical programmes implemented with success. No education and training in speciality areas offered to date. Not aimed at addressing immediate public need or that of the profession. Lack of faculty capacity to offer higher clinical degrees. Not using public sector opportunities (service delivery).

3.3 OPTOMETRIC EDUCATION AND TRAINING IN THE REST OF AFRICA

3.3.1 Introduction

The profession of optometry was introduced in Africa by way of European immigrants. This process occurred over several centuries and by the turn of this century, optometry was practised in South Africa and a few scattered African cities by European immigrants who had trained primarily in England or Germany. In addition to those practitioners with formal training, self-designated professionals could be found who acquired "sight-testing" skills by apprenticeship, correspondence, private tutoring, or sheer ingenuity (Penisten 1993:726).

Until recently, those countries which retained a population of European professionals were the countries most likely to recognise the profession of optometry and, therefore, also to have at least a few optometric practitioners (e.g. South Africa, Kenya, Zimbabwe and Namibia). This situation is now changing. With the opening of several new teaching programmes during the past two decades, optometry is now presenting a significant presence in four African countries (Penisten 1993:726).

Western Africa is represented by Nigeria and Ghana; eastern Africa by Tanzania; and southern Africa by South Africa, as described above. There are no optometric training programmes in northern Africa (Penisten 1993:726).

In total there are nine optometric teaching programmes in these four African countries. Similar to situations in other parts of the world, the term "optometrist" is used in all four of these countries, but the training and practice of optometry vary somewhat among them. The factors which

have influenced the development of optometric education and optometric practice in each of these four countries, are also different (Penisten 1993:726). Since the UFS initiated the first integrated B. degree in optometry in South Africa in 2002, there is now a total of 10 teaching programmes in the above-mentioned four African countries.

The unmet vision needs in Africa are staggering and the state of eye care provides an alarming contrast to the rest of the world. The continent is characterised by an extreme lack of eye care personnel and facilities. A paucity of educational programmes is one of the hallmarks of eye care on the continent (Naidoo 2000:8). Even in the countries with the highest number of eye care professionals (South Africa and Nigeria) current numbers are by far too low (Penisten 1993:728).

Part of the underdeveloped nature of third-world countries is the state of the educational systems. A significant feature of the eye care crisis in Africa is the lack of programmes to train optometrists adequately and appropriately. Onyelucheya (1993:710) asserts that some disciplines have never been developed in third-world universities; most universities offer programmes leading to degrees in "more common" disciplines, whilst the "more rare" disciplines find little or no place in these education and training institutions. Optometry happens to be one of these "more rare" disciplines. The majority of the small number of optometrists in the third-world countries studied abroad, due to the non-availability of optometric programmes at their home universities (Onyelucheya 1993:711). South Africa seems to be the exception here.

Apart from South Africa, only Ghana, Nigeria and Tanzania train optometrists. These programmes vary in scope and produce far too few optometrists to meet the needs of their own countries (Naidoo 2000:9), let

alone make a contribution to the eye care needs of the countries without optometric training programmes.

The challenge to the optometric profession in Africa is to increase the numbers of optometrists graduating from programmes within Africa. Almost a decade ago it was said that new optometric education and training programmes should be established in Africa and that the programmes offered at the time should produce more optometrists willing and able to serve in the countries where they trained, as well as in the neighbouring countries (Penisten 1993:728).

The following is a brief overview of what could be found in literature on optometric education and training in Africa, excluding South Africa, as the latter was discussed earlier in the chapter.

3.3.2 Ghana

In 1993 Penisten reported that new optometric programmes in this west African country represented the meagre beginnings of the profession in this country (Penisten 1993:727). In a few short years a university-based programme was established, but severe financial constraints and equipment shortages limited the effectiveness of the programme. At the time optometry was not legally recognised in Ghana, as 25 persons had to be practising a profession before official recognition could be granted. In 1993 there were only 10 practising optometrists in Ghana and 11 optometric students (Penisten 1993:727).

The WCO, in addressing the global concern for a lack of educational programmes in optometry, commenced with a fellowship programme in 2000, focusing on building human networks of optometric practitioners, educators and public health specialists. In 2001 an American optometrist

started a fellowship at the University of Science and Technology (UST) in Kumasi, Ghana. This fellowship is intended to last for two years and to increase the awareness of much needed resources among the public, government and practising optometrists (Paraschak 2000). The main objective of this fellowship is to provide instruction in ophthalmic and physiological optics to students, as well as consultation in planning and assistance in integrating optometry with medical and public health systems.

After a two-year college training, UST admits students to a two-year optometric programme. The School is, however, now in the process of expanding the programme to four years. Assessing the curriculum development also forms part of the fellowship brief (Paraschak 2000).

The School, with only a half a dozen academic staff members, is reported to have expressed a dire need for equipment and professional books. Such materials will increase the students' learning capabilities and improve optometry's professional image in Ghana (Paraschak 2000).

3.3.3 Tanzania

The only optometric educational programme in east Africa is that of the School of Optometry of the Kilimanjaro Christian Medical College in Moshi, Tanzania. In 1993 the curriculum came under review in order to obtain affiliation with the University of Dares Salaam. Penisten (1993:727) adds that, in a move which could have significant impact on the east African region, plans are being developed to admit a select number of students from surrounding countries. Currently the Department of Ophthalmology of the Kilimanjaro Medical College offers the following programmes:

- **M.Med. Ophthalmology**

Post-internship doctors with a first medical degree may apply for this four-year course, including a year of primary sciences and three years of clinical training in medical and surgical ophthalmology. At present students are from Tanzania and other African countries (Kilimanjaro Christian Medical College 2001:s.p.).

- **Assistant Medical Officer in Ophthalmology**

Assistant medical officers with two years' experience after graduation may apply. This is a two-year course in the practice of ophthalmology, the second year of which involves cataract surgery training. Graduates are recognised by the Ministry of Health as Cataract Surgeons (Kilimanjaro Christian Medical College 2001:s.p.).

- **Ophthalmic nursing**

This two-year advanced diploma course is open to applicants who are already registered nurses. Theoretical and practical aspects of nursing and the eye patient are involved in the course (Kilimanjaro Christian Medical College 2001:s.p.).

- **Optometry diploma**

Form 4-6 school-leavers are allowed to this three-year diploma course in refractions, dispensing and the manufacturing of spectacles and visual devices (Kilimanjaro Christian Medical College 2001:s.p.).

In total four programmes are therefore offered in Tanzania, varying in length from two to four years.

3.3.4 Nigeria and French-speaking Africa

In 1993 Nigeria was the only country in Africa to offer a doctoral programme in optometry. The Department of Optometry of the University of Benin has been offering optometry since 1974 and up to 1993 it awarded a B.Sc. Optom. degree after four years' of study. The other School of Optometry is in the Abia State University. Both the Nigerian Schools of Optometry now award the OD (Doctor of Optometry) degree after six years' training (Penisten 1993:727-8).

According to Penisten (1993:727), the Nigerian government decree defining the profession of optometry provides what at the time was regarded as the broadest scope of optometric practice in Africa. The 1992 optometry decree defines the scope of optometric practice to include the treatment of anterior segment disorders.

Penisten (1993:727) adds that no optometric teaching programme exists in Africa north of Nigeria and none exists in Africa for French-speaking students. This has left a large vacuum for those African countries which were formerly Belgian and French colonies where French, not English, remains the predominant European language (for example Zaire, Algeria and Niger). This situation has been partially addressed by a programme created four years previously at the Ecole Supérieure Internationale D'Optométrie in France. The three-year optometry course trains French-speaking nationals from countries where no optometry programmes exist. Upon successful completion of the course, students are awarded a Diploma in Optometry, whereafter they return to their native countries to practise. Students from several north African countries are currently enrolled.

3.3.5 Summative remarks on optometric education and training in Africa

A significant feature of the eye care crisis in Africa is the lack of programmes to adequately train sufficient numbers of optometrists in Africa. The entire continent has only 10 optometric programmes, which are based in four countries, namely South Africa, Ghana, Nigeria and Tanzania (Naidoo 2000:9). These programmes vary in scope and produce far too few optometrists to meet the needs of their own countries and the continent (Naidoo 2000:9).

Apart from the optometry programmes offered in South Africa, the entire continent has only four optometric education programmes, based in three countries. Very few optometrists are produced in Africa every year and the programmes offered only lead to diplomas and first degrees. Nigeria, for example, had a ratio of one optometrist for every 400 000 people in 1993 (Onyelucheya 1993:710). In 1993 Ghana had but 10 optometrists and 14 ophthalmologists who served the needs of 15 million people (Penisten 1993:727). Of the few optometrists practising in Africa (excluding South Africa), the majority studied abroad due to the unavailability of programmes at home (Onyelucheya 1993:711).

According to Naidoo (2000:10), private optometry practice in Africa has had limited success in spite of the few practitioners in some countries. This is a direct result of the economic devastation of some of the countries. Most care is provided by nurses and ophthalmic assistants who are employed in state clinics and hospitals as well as by philanthropic organisations which conduct various eye care programmes. The range of personnel providing eye care further includes refractionists, optometrists and ophthalmologists. The scope of practice of the various personnel varies tremendously. In some countries (e.g. Malawi)

ophthalmic assistants are primarily responsible for cataract and other surgical procedures. These personnel are often thrust into this role after one or two years of training. According to Western standards, this may sound shocking and incredible; however, for many African countries the evaluation of these programmes is based on the outcome, which is often the alleviation of blindness and access to some care rather than no care at all (Naidoo 2000:9).

In contrast to the situation in Africa, the education and health systems - with special reference to optometry - in the USA seem to be well developed and optometrists from Africa mostly receive their post-graduate training in the USA or through USA programmes. Therefore it seems appropriate to discuss optometric education and training in the USA to establish links with what is happening in South Africa.

3.4 OPTOMETRIC EDUCATION AND TRAINING IN THE USA AND CANADA

3.4.1 Introduction

In the USA a doctor of optometry is an independent primary health care provider who examines, diagnoses, treats and manages diseases and disorders of the visual system, the eye and associated structures. The duties of an optometrist include prescribing glasses and contact lenses; rehabilitation of the visually impaired; and the diagnosis and treatment of ocular disease. Optometrists perform comprehensive examinations of both the internal and external structure of the eye; they perform subjective and objective tests to evaluate patients' vision; analyse the test findings; and diagnose and determine the appropriate treatment (US-UK Fulbright Commission 1999:1).

Optometry is taught only at post-graduate level after an undergraduate university education. The majority of USA students who apply to optometry schools in the USA take their bachelor's degree in a science-related subject; it is not mandatory, however (US-UK Fulbright Commission 1999:1-2).

Four years of undergraduate study is followed by four years of post-graduate training at an accredited optometry school in order for a student to be eligible to practise in the USA. Upon successful completion of an accredited optometry programme, the Doctor of Optometry (OD) degree is awarded. For international applicants, some USA optometry schools may recommend that at least one year of undergraduate education must be completed (US-UK Fulbright Commission 1999:1).

All optometry schools and colleges in Canada (Spafford 2001) and in the USA require applicants to take the Optometry Admission Test (OAT). This is a standardised examination designed to measure general academic ability and comprehension of scientific information. This test includes quantitative reasoning, reading comprehension, physics, biology, general chemistry and organic chemistry (US-UK Fulbright Commission 1999:3).

The OD degree is usually completed in four years. In general the four-year programme includes classroom and clinical training in geometric, physical, physiological and ophthalmic optics, ocular anatomy, ocular disease, ocular myology, ocular pharmacology, neuroanatomy and neurophysiology of the vision system, colour, form, space, movement and vision perception, design and modification of the visual environment, visual performance, and screening. Unique to the educational requirements of optometrists is the advanced study of optics, the science of light and vision, as well as extensive training in lens design,

construction, application and fitting (US-UK Fulbright Commission 1999:2).

MS (master's in science) and Ph.D. programmes are for those who wish to study vision science. These may be taken following a baccalaureate degree or for foreign-trained optometrists who are interested in a research-orientated curriculum. They do not, however, give the candidate the right to practise (US-UK Fulbright Commission 1999:2). In order for a student to become licensed to practise optometry in the USA, he or she must attend a school that is accredited by the Council on Optometric Education of the American Optometric Association, which has a list of 17 accredited schools of optometry (US-UK Fulbright Commission 1999:2).

Residencies are not required for licensing in the USA and they are usually not part of the four-year optometry programme; clinical training is usually part of the last year of the degree course. However, a small number of OD graduates continue with either a clinical or non-clinical residency programme for extended learning in a special area. They may also plan to become a teacher of optometry or a researcher and may begin their master's or doctoral degree studies in a residency programme (US-UK Fulbright Commission 1999:3).

According to the Association of Schools and Colleges of Optometry (ASCO) (ASCO 2000a), the Accreditation Council on Optometric Education (ACOE) defines an optometric residency programme as a planned programme of post-OD clinical education that is designed to significantly advance the optometric graduate's preparation as a provider of patient care services beyond entry-level practice. A residency must last a minimum of 12 months and must be composed of appropriately supervised clinical eye/vision care provided by the resident. A residency

should also include a well-designed mix of self-directed learning, seminar participation, instructional experiences and scholarships (ASCO 2000a).

In the USA there are 17 schools and colleges of optometry: 16 in the States and one in Puerto Rico. The programmes are all accredited under the strict guidelines of the ACOE and therefore meet the educational requirements for eligibility to practise in any State in the USA. Two Canadian schools of optometry are also accredited by the ACOE, namely those of the University of Waterloo and the University of Montreal (ASCO 2000b).

The training of optometrists in Canada has notably changed in a matter of a few decades. Perhaps one of the best barometers of this change has been the relationship of optometry to pharmaceutical use. Optometry was initially a drugless profession. In 1979, the first Canadian law authorising the use of diagnostic pharmaceutical agents (DPAs) by optometrists was promulgated in the province of New Brunswick. By 1992, all provinces had DPA legislation in place. In 1996, the province of Alberta became the first region of Canada in which a law authorising optometrists to use therapeutic pharmaceutical agents (TPAs) was adopted. Since then, two of the remaining nine provinces have developed similar laws for optometrists. Optometry curricula in Canada have needed to keep pace with this shift towards disease detection and management (Spafford 2001:1).

Currently there are two Doctor of Optometry programmes in Canada. At the Université de Montréal, École D'Optometrie, the language of instruction is French. Each year 40 students are admitted to the four-year programme, which has been offered since 1925. Its predecessor existed in a private Montreal College from 1910. At the University of Waterloo School of Optometry (UWSO) the language of instruction is English. The

UWSO began offering a four-year optometry programme in 1967. Every year 60 students are admitted to the UWSO. Its predecessors were the Central (originally Toronto) Technical School since 1920 and the College of Optometry since 1953 (Spafford 2001:1).

In order to gain a clear understanding of optometric education and training in the USA, examples of the programmes that are being offered, will be discussed briefly.

3.4.2 Programmes for optometric education and training

Applicants seeking admission to the Ferris State University must complete 80 credit hours of pre-professional courses prior to admission. Pre-professional training must include some of the following, namely general biology, general inorganic chemistry, college mathematics, etc. (Ferris State University 2002:1).

All optometry schools and colleges require applicants to take the Optometry Admissions Test (OAT). The OAT, which is sponsored by the Association of Schools and Colleges of Optometry, is a standardised examination designed to measure general academic ability and comprehension of scientific information. The OAT includes quantitative reasoning, reading comprehension, physics, biology, general chemistry and organic chemistry (US-UK Fulbright Commission 1999:3).

The Doctor of Optometry programme at the Michigan College is a four-year professional degree programme. The degree Bachelor of Science in Vision Science is granted, following completion of the first two years of the professional programme, provided the student has completed all of the university distribution requirements and does not hold a prior bachelor's degree (Ferris State University 2002:1).

First-year courses cover the basic health and vision sciences which serve as foundation for the clinical sciences. Students also begin their clinical experience in the first semester in a clinical simulation laboratory with fellow-students serving as "patients" (Ferris State University 2002:1).

Second-year students begin their first direct patient care experience during the Fall semester, while third-year courses focus on contact lenses; assessment and management of vision and developmental problems in children; and care of the elderly and low vision patients (Ferris State University 2002:2).

All didactic courses are offered within the first three years of the curriculum, freeing the entire fourth year for a concentrated clinical experience. Except for practice management courses, administrative conferences and senior research projects, emphasis is on real time clinical activities (Ferris State University 2002:3).

Off-campus experiences also allow the student to gain a degree of independence from the parent institution and are viewed as advantageous for both individual professional and personal development (Ferris State University 2002:3).

Prior to graduation, students attending the Ferris State University will typically experience in excess of 1 500 patient examinations - an extraordinary number of patient contacts and an exceptional educational opportunity (Ferris State University 2002:3).

In 2000 the Pennsylvania College of Optometry introduced a reinvented curriculum which, according to Thomas Lewis, President of the College, "sets the standard of excellence for optometric education" (Pennsylvania

College of Optometry 2001). This curriculum is asserted to redefine optometric education for the 21st century, emphasising a more "hands-on", self-directed educational model, featuring cutting-edge technologies like Internet-based education and telemedicine; increased clinical experience; and problem-solving modules linking basic and clinical science courses (Pennsylvania College of Optometry 2001).

This Curriculum 2000 of the Pennsylvania College of Optometry is said to incorporate the view of the College of optometrists as primary eye and vision care providers. It is designed to produce an exceptional clinician equipped with the knowledge, skills and values essential for career success in an increasingly diverse and health-conscious society (Pennsylvania College of Optometry 2001). The curriculum is built around five major components, namely a primary care philosophy; increased clinical skills training; new learning strategies; integration of new technologies; and personal and professional development (Pennsylvania College of Optometry 2001).

The Pacific University College of Optometry offers a 21-month post-graduate programme terminating in a Master's of Science degree with the emphasis on clinical optometry. This programme is built around a core of seminars, designed to enhance the students' knowledge over a broad spectrum of optometric subjects and that also allow for specialisation in a specific area of optometry. The master's programme may be combined with a residency (described in 3.4.1). The goal of the programme is to provide post-graduate education in optometry directed toward preparing individuals for careers in optometric education and the delivery of advanced levels of care (Pacific University 2001:1).

The Optometric Residency Programme at the University of California, Berkeley, School of Optometry, as well as affiliate programmes seeks to

recruit and admit the best-qualified post-graduate optometrists and to provide them with advanced clinical education and concentrated clinical experience in speciality areas of optometry in an institutional or hospital-based setting. The mentored educational and clinical experience will prepare optometrists for lifelong scholarship in patient care, education and optometric leadership (The University of California at Berkeley 2002).

The objectives of the programme are to extend the education of a selected group of graduate optometrists by one year so that they may expand and refine their professional and speciality skills. The didactic and clinical training will improve overall skills as well as develop a speciality area/areas. This programme is enriched by means of additional seminars and other educational opportunities. The duration of the programme is 53 weeks. There are a limited number of positions and only the best-qualified candidates are admitted (The University of California at Berkeley 2002).

With regard to the eye care of elderly patients which was previously referred to, Cohen, Soden, Martin, Liss, Hodson and Meyer (1987:386-389) in an article on a comprehensive eye/vision programme describe the eye care which has been provided to veterans at the Northport VA (Veterans Affairs) Medical Center for the past approximate 36 years. What started as basic eye care, developed into a comprehensive eye/vision programme which started on 1 April 1984. The administration of Northport VA Medical Center and the SUNY State College of Optometry had signed an affiliation agreement establishing a residency programme in rehabilitative optometry. In 1980, the programme was expanded to include positions for two residents, who – among other things – present lectures to various medical centre groups (e.g. nurses, etc.); receive continuing education via monthly staff meetings; and receive veteran affairs education once a week. The establishment of this programme has

provided the residents with experience they will need to meet the changes in eye/vision care delivery systems of the immediate future, while there has also been a vast improvement in patient satisfaction and an increase in essential surgery rates (up to 150.0%) and productivity.

The above-mentioned programme testifies to the fact that, when optometry is co-ordinated with the other health disciplines, patients benefit because they are offered optometry's insights and skills in providing health care as well as ready access to physician services, ophthalmology and other medical specialities (Cohen *et al.* 1987:386).

3.4.3 Summative remarks

Optometric education and training in the USA and Canada are far removed from what is found in the developing world, with special reference to Africa. In contrast to the training in Africa, which is mostly (almost exclusively) undergraduate, the training in the USA is exclusively post-graduate. The optometric education system is well established, with 17 schools and colleges offering a variety of programmes, some with more than one exit level (e.g. Bachelor of Science in Vision Science, Doctor of Optometry) and the possibility of further studies in Optometry (Master of Science, Ph.D.). In the programmes of the USA the various needs of the population are addressed and students have opportunities for research. Innovation is taking place in programmes, while new developments in health and specifically in eye care are addressed in various residency programmes. It should be noted that vast therapeutic privileges are now afforded to optometrists in all states in the USA.

Whilst Africa experiences a serious lack of sufficient numbers of optometrists, a study in the USA indicated a "surplus of eye care providers" or an "excess capacity" (Di Stefano 1999:280). In Canada the

primary vision care needs of the population of just over 30 million people are taken care of by approximately 3 300 practising optometrists (Spafford 2001). Di Stefano (1999:281), however, makes it clear that a convergence between optometry's current capacity to deliver quality eye and vision care and the serious unmet public needs would not only quickly utilise the extra capacity, but may even produce a potential shortage in future. Optometry in the USA is poised well to expand its role as primary eye care practitioner. The expanding scope of practice, increasing participation in managed care, and the quality and breadth of the services optometrists provide, will define the future of optometry in the USA (Di Stefano 1999:281).

The picture of optometric education and training will not be complete if the programmes in the United Kingdom (UK), Europe and Australia are not attended to.

3.5 OPTOMETRIC EDUCATION AND TRAINING IN EUROPE, THE UNITED KINGDOM AND AUSTRALIA

3.5.1 Introduction

The education and training of optometrists in Australia and the UK seem to be at a high level and the institutions providing optometric education provide in the needs of the countries. In Australia optometry can be studied at three universities (Optometrists Association Australia 2001) and in England eight universities offer optometric education and training (City University London 2002). Europe seems to be having problems in providing education of a level that will be acceptable to all the different countries on the continent, but that is now being resolved through the European Council of Optometry and Optics (ECOO) (ECCO s.a.).

3.5.2 Optometric education programmes in Australia, the United Kingdom and Europe

3.5.2.1 Australia

In Australia optometrists are educated to degree level at one of the three institutes conducting optometric courses, namely the University of New South Wales, the University of Melbourne, or the Queensland University of Technology (Optometrists Association Australia 2001).

The duration of each course is four years and it leads to a bachelor's degree in optometry. Teaching in the courses is undertaken by optometrists, doctors and senior academic staff from various faculties. Practical as well as theoretical training is involved. Students must examine patients under the supervision of experienced clinicians in general optometric and specialised clinics. A demonstrated competence in clinical skills is a prerequisite of graduation (Optometrists Association Australia 2001).

Subjects studied early in the training of optometrists include physics, chemistry, physiology, biochemistry, microbiology, anatomy of the eye, and optics. The later stages of the education include the study of pathology of the eye and the diagnosis and treatment of disorders of vision. Particular attention is paid to ensuring that every optometrist is competent in the detection and diagnosis of eye disease (Optometrists Association Australia 2001). Appropriately qualified optometrists in Australia, Tasmania and New Zealand now enjoy therapeutic privileges (*Clinical and Experimental Optometry* 2003:193).

Optometrists may proceed to higher degrees (M.Sc., M.Optom., Ph.D.) at each of the schools of optometry. Research in optometry and vision is

also carried out at several other institutions associated with the universities, e.g. the Optometric Vision Research Foundation, the Victorian College of Optometry, the Cornea and Contact Lens Research Unit (CCLRU), the Collaborative Research Centre for Eye Research and Technology (CRCERT), and the National Vision Research Institute. These institutions are in the main financed by donations from members of the profession, associated industries and Federal and State Governments and instrumentalities (Optometrists Association Australia 2001).

The Department of Optometry and Vision Sciences of the University of Melbourne is research-focused and has a strong graduate school. Higher qualifications are:

- **Postgraduate Diploma in Clinical Optometry**

Master of Optometry (by research or by research and clinical work) (University of Melbourne 2000a; University of Melbourne 2000b).

The Department also teaches Vision Science Research with the Master of Science and offers a Doctor of Philosophy (Ph.D.) (University of Melbourne 2000a; University of Melbourne 2000b).

Graduates in optometry interested in research training usually proceed to the Ph.D. or M.Optom. degree. The choice of a Ph.D. or a master's degree by research depends on the qualifications of the applicant and the requirements of the individual laboratories. An optometrist graduating from a four-year or a 3+1-year course in Australia, New Zealand, the USA or the UK with a good honours degree is eligible to register for a Ph.D. degree (University of Melbourne 2000a; University of Melbourne 2000b).

Graduates in other disciplines can register for either the Ph.D. or the M.Sc. degree, depending on their undergraduate performance (University of Melbourne 2000a; University of Melbourne 2000b).

◦ **Postgraduate Diploma in Advanced Clinical Optometry**

This course is designed to further the knowledge and skills of optometry graduates in selected fields of clinical optometry. It is usually studied for one year full-time or two years part-time. A three-year part-time course may be permitted with formal approval (University of Melbourne 2000a; University of Melbourne 2000b).

Students are required to complete four course work subjects chosen from a list of six subjects. Candidates may be permitted to substitute one of the four required subjects for a subject or a short course of study offered by another department of the university, or by another institution, provided it is approved by the Department as a subject of equivalent workload and standard and is appropriately related to the objectives of the diploma (University of Melbourne 2000a; University of Melbourne 2000b).

Entry to the Postgraduate Diploma requires a four-year full-time degree in optometry, or a degree awarded on completion of a three-year course followed by a year of supervised clinical practice, and completion of professional examinations at the end of that year (University of Melbourne 2000a; University of Melbourne 2000b).

Course objectives are to allow optometrists to re-examine the basic sciences of optometry with the benefit of the latest information and an emphasis on understanding and dealing with clinical problems. Courses are in depth, challenging, and are designed to significantly advance

optometrists' clinical skills in selected fields (University of Melbourne 2000a; University of Melbourne 2000b).

Methods of teaching (with the exception of one course) are designed as far as is practical so that they can be pursued without the need for regular attendance at the university. Candidates are provided with a study guide which includes notes and reading material. The study notes guide reading, ask questions and suggest exercises designed to promote understanding. It is expected of candidates to spend six to 10 hours per week study time on the course. In most modules seminars are held once or twice during the semester to answer candidates' questions (University of Melbourne 2000a; University of Melbourne 2000b).

As far as assessment is concerned, formal arrangements are made for written examinations to be taken in the city of residence of the candidate or a nearby city (University of Melbourne 2000a; University of Melbourne 2000b).

- **Master of Optometry (by Research or by Research and Clinical Work)**

The Master of Optometry may be studied by research or by research and advanced clinical training. Candidates proceeding by research and advanced clinical training undertake a planned programme of clinical work occupying one-third of their time. The principal areas of specialisation include visual psychophysics, clinical visual function, clinical optics, neurophysiology of vision, regulation of ocular growth and refractive errors, binocular vision anomalies, and paediatric vision (University of Melbourne 2000a; University of Melbourne 2000b).

Entry to the Master of Optometry requires a qualification which entitles the graduate to practise optometry. A Master of Optometry by Research takes one to two years full-time, or two to four years part-time to complete. A Master of Optometry by Research and Advanced Clinical Training take two years full-time to complete. Candidates undertake research under the supervision of an academic staff member, producing a thesis of approximately 30 000 words in length on their topic area. Candidates spend approximately one-third of their time on clinical work and the other two-thirds on research under the supervision of an academic staff member/members (University of Melbourne 2000a; University of Melbourne 2000b).

In addition to carrying out their research, all graduate students of the Department attend and participate in the weekly graduate seminar programme throughout their studies. Graduate students are expected to complete a short course on statistics for research workers and are encouraged to attend some of the short courses offered by the School of Graduate Studies on the skills of being a successful researcher and an academic. Graduate students are encouraged to develop their ability to present their research work and ideas, both in writing and verbally. They are given assistance with writing up their work for publication in a scientific or professional journal and they make a short formal presentation of their work to the Department once a year. Students are encouraged to travel overseas to attend major international conferences and present their research. There are travel grants to assist in attending conferences (University of Melbourne 2000a; University of Melbourne 2000b).

The Department also teaches Vision Science research with the Master of Science and offers a Doctor of Philosophy.

3.5.2.2 *The United Kingdom*

In the United Kingdom eight universities have departments of optometry, namely the City University London, Anglia, Aston, Bradford, Cardiff, Glasgow Caledonian, Ulster, and Manchester UMIST (City University London 2002).

The General Optic Council (GOC) is the regulatory authority responsible for the regulation of opticians in the UK and Northern Ireland. It does this by providing for statutory registration, as well as by the accreditation and monitoring of education, training and examination. It also enforces proper standards of practice and conduct. Registration with the GOC is necessary in order to practise as an optometrist or a dispensing optician in the UK (GOC s.a.).

In the UK there are two types of opticians – “optometrists” (previously ophthalmic opticians or OO) and “dispensing opticians”. They must be registered by the GOC in order to practise in the UK according to legal requirements. In order to register, they must have undertaken training at and passed examinations of a university or other training institute approved by the GOC. However, European Community (EC) Directives provide for the recognition of qualifications awarded in countries of the European Economic Area (EEA) and there are special arrangements, including an examination for those qualified in countries outside of the EEA (GOC s.a.).

With regard to Optometrists (OO), the law states that (apart from medical practitioners) only an optometrist can test sight. Dispensing opticians (DO) are not permitted to test eyes. They fit and supply optical appliances, according to prescription from an optometrist (GOC s.a.).

Post-graduate courses offered by the Department of Optometry at the University of Bradford are aimed at optometrists or those with a qualification in a related discipline (e.g. Orthoptics, Ophthalmic Nursing). The course provides further training in advanced methods of eye care provision, in addition to specialist knowledge in a range of subjects related to the clinician's own area of practice. The programme is designed to be as flexible as possible in that, depending upon the number of credits attained, candidates can be awarded a Post-graduate Certificate. Through credit accumulation and transfer, candidates studying for individual modules may be eligible for a Post-graduate Certificate in the relevant module. Accumulation of further credits leads to a Post-graduate Diploma (120 credits) and then the degree of M.Sc. (180 credits) (University of Bradford 2001).

The programme has a modular structure and may be taken on a full-time or a part-time basis. Candidates joining the programme on a part-time basis are normally optometrists in practice who are registered with the GOC. Through the University's Acquired Prior Learning (APL) scheme, such candidates qualify immediately for 60 credits, leaving a remainder of 120 credits to be gained for the award of an M.Sc. A total of 60 credits can be earned through a choice of modules offered by the Department. The modules on offer in any given academic year will come from the following list:

- Ocular therapeutics; Diagnostic Techniques; Binocular Investigation, Clinical Ocular Pathology; Paediatric Optometry; Contact lenses (all 30 credits).
- Low vision and ageing (20 credits).
- Clinical tests and decisions (10 credits) (University of Bradford 2001).

A total of 30 credits is offered each semester. The remaining 60 credits are earned through the research project/dissertation module. Part-time candidates can normally complete the M.Sc. programme in around 18 months' time (University of Bradford 2001).

Full-time candidates may be UK optometrists who have not yet passed the professional qualifying exams set by the College of Optometrists, or those with a qualification in a discipline related to optometry. Alternatively, they may be European Union or overseas candidates. Such candidates will not normally be eligible for credits via APL and will therefore be expected to acquire a total of 180 credits in order to be awarded an M.Sc. degree. A total of 120 credits can be acquired through two taught modules (60 credits) and the compulsory research project/ dissertation (60 credits). The remaining 60 credits are obtained from the following modules:

- Clinical Investigation (30 credits).
- Abnormal Ocular Conditions (20 credits).
- Binocular Vision and Orthoptics (10 credits) (University of Bradford 2001).

If taken full-time, the programme can be completed in one calendar year. Candidates are examined in each module (apart from the research project/dissertation) during the last two weeks of the semester. Assessments consist of a mixture of written papers, multiple choice questionnaires, as well as practical or oral examinations. The assessment of the research project takes the form of a report on an approved topic (which can be undertaken in the candidate's professional practice) or by the submission of a dissertation (University of Bradford 2001).

For research for the M.Phil. and Ph.D., newly renovated and equipped laboratories and close collaboration with local Departments of Ophthalmology enable the Department to offer outstanding research opportunities which are organised into two main groups, namely Visual Neuroscience, and Optics and Ageing. Entrance requirements are normally a good honours degree or an M.Sc. in Optometry, Neuroscience, Orthoptics, Psychology, Ophthalmology, or a related discipline (University of Bradford 2001).

3.5.2.3 *Europe*

The ECOO represents 24 nations. It is a confederation of the leading professional bodies representing 22 countries in Europe, namely Austria; Belgium; Croatia; the Czech Republic; Denmark; Finland; Greece; Ireland; Italy; Luxembourg; the Netherlands; Slovenia; Spain; Sweden; Switzerland; the UK; France; Germany; Norway; Poland; Portugal; and Slovakia (ECOO 2001:1).

European law defines the rules for recognising qualifications and requires free movement of professionals. However, European law does not set a common standard for the profession. Optometry has established the highest levels of its own standards via the ECOO's European Diploma. The profession protects existing standards, encourages higher standards, and advocates new laws recognising the scope of optometry (Di Stefano 1999:11).

At the 1999 General Delegates Meeting, the WCO concluded that the best approach to producing internationally accepted standards of qualifications for entry into the profession was not via a world diploma, but agreed that a modular system based on regional examinations would provide a practical and flexible approach (Di Stefano 1999:11).

The optometric profession in Europe is evolving from a technical profession into a health care profession. Optometrists are trained increasingly at universities and institutes of an equivalent level. Courses normally last three or four years. This is the case in Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden and the UK. Elsewhere, optometrists are usually trained at a technical school after high school, having gained either an intermediate high school certificate or a final high school certificate (baccalaureat). Usually a course lasts two or three years and includes a period of apprenticeship with an optical firm (ECOO s.a.).

Opticians are also trained at a technical school after leaving secondary school. The Member States of the European Union have their own national policies on the training of the professions in general (the training of a handful of professions, including doctors, has been harmonised by EU law). Nevertheless, the optometric profession is beginning to standardise its training by applying the ECOO European Diploma in Optometry (ECOO s.a.).

The European Society of Optometry is the promotional and informational vehicle and uniting force of the profession in Europe. It uses the various languages of members and according to its statutes, its field of action includes all the territory of historic Europe. Linguistic character must not be confused with nationality. Borders do not exist in scientific work (European Society of Optometry 2000). The Society is apolitical and aconfessional. It is a transnational organisation with its headquarters in Brussels and there are no national sections. The main goal of the Society is the recognition of a free and independent profession. As far as education and training are concerned, the European Society of Optometry insists that it must be carried out at university level. The Society prepared

a syllabus of minimum university teaching which is the basis of a professional diploma and which is being adopted by schools of optometry in Europe (European Society of Optometry 2000).

This diploma, the ECOO European Diploma in Optometry, was developed by the ECOO. The diploma is aimed at harmonising the standard of optometry in Europe in order to facilitate the free movement and practice of optometrists throughout Europe. The diploma demonstrates that optometrists in Europe have the training and skills necessary to be a principal provider of primary eye health care (ECOO 2000:1). This diploma comprises three parts, namely:

- Visual perception and optical technology.
- Management of visual problems.
- General health and ocular abnormality (ECOO 2000:1).

To gain the ECOO European Diploma in Optometry, candidates are required to pass a written multiple choice question examination and a practical (patient care) examination of all three parts. Within each part, candidates must successfully pass the written examination before they can sit the patient care examination (ECOO 2000:1).

The patient care examination will test the clinical, practical and communication skills of candidates. Candidates need to possess the fundamental knowledge and understanding of the scientific principles on which optometric practice is built. They must have the ability to apply this knowledge to the prevention, detection and management of clinical conditions (ECOO 2000:1).

Depending on demand, the written examinations take place at various centres throughout Europe. The patient care examinations are run at

examination centres in France, Germany and the UK. Initially and still at present the examinations have been run in three languages, namely English, French and German. It is hoped that more languages will soon be available (ECOO 2000:1).

Various education and training institutions therefore exist in the 22 different European countries previously referred to. These institutions make provision for education and training at technical school level (post-16 or post-18 years of age, i.e. technicians and opticians), as well as at university or equivalent level (i.e. optometrists) (ECOO s.a.).

According to an overview of optometric education compiled after the World Conference on Optometric Education 3rd session held on 8 November 1998, it was indicated that continuing education is organised in 83.0% of the European countries, professional and educational organisations are involved at 44.0% (professional) and 41.0% (educational). Post-graduate training represents 83.0% of continuing education. Seminars which are organised, cover the entire field of activity, namely scientific, technical and commercial. Professional organisations set up compulsory continuing education in only three countries (17.0%) (AEUSCO s.a.:page 6 of 9).

The ECOO states that optometric profession in Europe is evolving from a technical profession into a health care profession, with more and more entrants having been educated at university or university-level institutions (ECOO 2001). It is foreseen that the majority of optometrists will still combine the activities of refracting and dispensing optical appliances due to the structure of the health care systems and the retail market for optical products. The ECOO believes that optometrists are the most appropriate clinical providers of eye care and examinations and, as national health authorities seek to control the expenditure on health care, it is expected

that they will increasingly turn to optometrists as alternative providers of primary eye care, particularly refractions (ECOO 2001). It should be noted that certain European countries have vast numbers of ophthalmologists who would perform more refractive work than their counterparts in, for instance, the UK, the USA, Australia or South Africa where surgery and a consultant role are favoured.

3.6 SUMMATIVE PERSPECTIVE

Summatively it has to be pointed out that, just as economic and cultural factors differ world-wide, education - and higher education in particular - differs. Because optometry is recognised at different levels in the eye care team in different parts of the world, education has advanced at a different pace and no one model can be implemented on a universal basis (at least not for the foreseeable future). However, it is clear that optometry is striving world-wide to achieve wider recognition and, if political matters are set aside, the public need demands that the profession plays a bigger role in the avoidance of blindness.

The challenge for South African educators is to find a model that will address the immediate public need, whilst allowing for the vertical development within a career path to the highest post-graduate level possible.

Post-apartheid policy created the opportunity that needs to be seized and developed beyond the borders of South Africa in order to play a part in Africa where there is perhaps the greatest potential for the profession to realise its multiple exit model in addressing needs at primary and secondary level.

When trends in optometry education are considered, it is not only important for students to develop, but also for lecturers to develop themselves in order to give the best possible education to others. Elam (1996:114) indicates that there are different ways for educators to do this. While health care teachers may learn predominantly from experience, there are more methodical ways of learning about teaching, cognition and learning, as well as research in education. These are, for example:

- Individual initiatives reflection and teaching scripts. One method would, for example, be to create a journal about teaching experiences, while teaching scripts might also prove useful for instant instructional purposes.
- Self-directed learning would, for example, include extending personal knowledge (by writing and conducting personal research; by critically observing a colleague's teaching in order to learn his/her methods; by actively soliciting feedback from learners; and by having discussions with colleagues and students to increase the awareness of perspectives and assumptions about teaching and learning).
- Formal faculty development programmes, which would include mentorship programmes teaching rounds, workshops, advanced education, sabbaticals, organisational change efforts, etc. (Elam 1996:114-115).

3.7 CONCLUSION

This chapter dealt with a selective review of optometry, not only in South Africa, but also world-wide. The humble beginnings of the profession as well as its development into a fully-fledged force to be reckoned with, were depicted. Optometric education and training in South Africa were dealt with first and legislation as encompassed in the Regulations defining the Scope of the Profession of Optometry of the Health Professions

Council of South Africa (RSA DoH 2001) were expounded (see 3.2). The different South African institutions where education and training are offered, coupled with what education and training entail in each of these institutions, were discussed. The institutions referred to are the TWR (see 3.2.2), UNIN (see 3.2.3), UDW (see 3.2.4), RAU (see 3.2.5), the CT (see 3.2.6), and the UFS (see 3.2.7). The roles of the GIO and NEWENCO in South Africa were discussed, while the nature of CAS, as well as the different kinds of CAS, was also explained (see 3.2.8).

Subsequently optometric education and training in the rest of Africa were reviewed (see 3.3.1). Ghana (see 3.3.2), Tanzania (see 3.3.3), as well as Nigeria and French-speaking Africa (see 3.3.4) were addressed. This was followed by describing the nature of optometric education and training in the USA and in Canada. Besides the general background; requirements for study; different degrees and programmes as well as the length of time they take; various bodies involved and residencies were discussed; while prominent institutions were also referred to (see 3.4.1 - 3.4.3). Hereafter optometric education and training in Australia, the United Kingdom and Europe, as well as the role of the ECOO in these countries were addressed (see 3.5.2.1 - 3.5.2.3). Summative perspectives were provided and trends in optometry education and training were touched upon (see 3.6).

In the next chapter the role of CPD will be examined in great detail, especially as it is playing an increasingly important role in optometry in South Africa at the moment and will continue to do so in the future. Criteria for CPD programmes and the content of the programmes will be discussed, in addition to the role these programmes can and should play in improving eye care.

CHAPTER 4

CONTINUING PROFESSIONAL DEVELOPMENT (CPD) IN OPTOMETRY

4.1 INTRODUCTION

Currently higher education is characterised by further or continuing learning or development. The notion of a "vocation for life" learnt once will have to be surrendered in favour of the idea of constant, that is, lifelong learning, especially in the field of health professions. This fact is emphasised by the European Union of Medical Specialists (UEMS) in the following statement: "Continuous training shall ensure, in accordance with the procedures specific each country, that persons who have completed their studies are able to keep abreast of medical [and eye care] progress" (2002:1 of 3).

The rapid rate of developments in health sciences, coupled with the impact of this on health care practice, has made it impossible to keep up to date with developments relevant to practice. The knowledge and skills of every individual decay over time and need to be refreshed and reinforced. From a professional point of view, it should be mandatory to maintain professional competence. Different reasons exist for this, among which are legal considerations (Nel 1995:1).

CPD is an independent third phase of education, geared to the renewal, maintenance, enhancement and facilitation of knowledge and skills.

On the one hand, research has indicated that knowledge starts becoming obsolete from day one of an optometrist's practice and the situation deteriorates over time. By the time an optometrist has been in practice for

20 years, serious gaps in knowledge and skills exist. On the other hand, primary health care is receiving increasing emphasis and most practice-based optometrists have little or no knowledge of community work. They have little experience of detecting the early presentation of vision failure, the extent of eye disease in communities, or the impact of disability on relationships in family units. In practice they are not always kept informed of the latest developments in basic care.

Lewis (1998:339) asserts that students and practitioners are expected to learn and know an enormous number of facts; some (perhaps many) of which will be useless or false within a decade. A recognition of the contribution of research and technology to practice has reinforced the concept of "a lifetime of learning" which is so essential for optometrists.

Thus there is a serious need for optometrists to be re-educated. "We must grow, we cannot afford to shrink" (Marren 1995:3).

4.2 RATIONALE

CPD [in optometry also called continuing optometry education (COE)] has undergone enormous changes in recent years in terms of its theoretical base, the methodologies used, and the expectations of what should be delivered (Cantillon & Jones 1999:1276). CPD has become increasingly important for health professions and patients. As reaccreditation/reregistration with regulating bodies has become more widespread, the effectiveness of CPD programmes has come under closer scrutiny.

Another aspect which has to be borne in mind is that there is no sharp division between continuing medical education and CPD, as – according to Peck, McCall, McLaren and Rotem (2000:432) - during the past decade continuing medical education has come to include managerial, social, and

personal skills. These authors add: "The term continuing professional development acknowledges not only the wide ranging competencies needed to practise high quality medicine but also the multidisciplinary context of patient care" (Peck *et al.* 2000:432).

The primary purpose of CPD is to maintain and improve clinical performance (Cantillon & Jones 1999:1276). Recertification and reaccreditation are part of the international trend to shift the purpose of CPD to assuring adequate performance (Levine, Moore & Pennington 1984). The world in which health care professionals work, has changed enormously. Increasing consumerism and patient empowerment; growing accountability to professional and external bodies; and more emphasis on efficiency and effectiveness have led to an intolerance of variance in practice. Quality assurance and the maintenance of standards have become powerful forces for change. In optometry the expansion of the scope of practice has put an increasing pressure on optometrists to engage in COE activities.

Since South Africa is undergoing a period of change, it is important to determine the impact of changes and, as change is usually a costly process, it should be brought about in the most effective and efficient manner possible. In accordance with the World Health Organisation's philosophy, South Africa - with the rest of the world - strives for the elimination of preventable blindness by 2020 and CPD is one of the measures that can be employed in endeavours to achieve this (IAPB s.a.d:1 of 21).

One of the major objectives of accreditation and certification bodies, professional associations/boards and employers, is to ensure that professionals in health services are kept sufficiently qualified to keep on practising. Research has indicated that, as time goes by, major deficiencies occur in what the practising professional ought to know and

be able to do. These deficiencies increase the longer the practitioner is in practice - to the extent that it becomes a serious matter by the time he/she has been practising for 20 years (Cohen 1992). In South Africa long distances to centres where courses are offered, coupled with a lack of time and funding to undergo retraining, contribute to most health practitioners being on their own to stay informed of developments in their field.

The profession of optometry is undoubtedly in need of CPD programmes as well. The importance of CPD programmes for optometry to keep up to a professional level cannot be denied. This fact is emphasised repeatedly in the literature by various authors. Gutman (1998:9), for example, states that optometrists must update their knowledge and keep up with scientific innovations which are changing at an astonishing speed. Since knowledge is rapidly being generated in all health care fields, the need for occupational specialisation is enhanced. Le Roux (1992:109) reiterates that - in order to stay professionally productive - the practising professional's knowledge and skills must be updated continuously, while he or she must also be brought up to date concerning developments in the particular field. Universities are especially equipped to fulfil this function.

The necessity of updating courses, completion courses and other CPD programmes increases with policy changes and changes in the regulation of practising optometry. There is an increasing need of CPD programmes in a situation such as the current one in South Africa, where necessary change in the educational level required in the profession is brought about and the scope of practice is broadened.

Education based on new theories and techniques, stretching beyond what students have learned in the structured curricula, is a valuable asset for professionals who wish to gain up-to-date knowledge and enhance their professional roles (Kabouridis & Link 2001:103).

4.3 CRITERIA FOR CPD PROGRAMMES

The need for CPD is now well recognised. An undergraduate professional qualification is no longer regarded as a lifelong certificate of competence. To keep abreast of developments in professional practice, the professional has to find some way of keeping up to date (Harden & Laidlaw 1992:2).

There is growing international consensus regarding which forms of CPD are most effective in stimulating behavioural change. Systematic reviews of educational literature revealed that, although there have been comparatively few rigorous evaluations of educational interventions, there is sufficient evidence showing that continuing education programmes could improve clinical performance and patient outcomes (Cantillon & Jones 1999:1277).

The traditional approach to CPD will no longer suffice. Thus proactive action is called for from the side of the health care professions, including optometry, to ensure that services remain relevant and that the needs of the community and the public at large are satisfied. An undergraduate optometry qualification is no longer regarded as a lifelong certificate of competence; to keep abreast of developments in optometrical practice an optometrist has to find some method of keeping up to date. The need for COE has been well documented and, with the formalising of COE by the Professional Board in South Africa, swift and innovative approaches are of the utmost importance.

The demands made on adults in vocational life are subject to accelerating change in a highly industrialised and mechanised society, with a knowledge explosion in all fields. Education based on new theories and techniques, offered by universities and other institutions beyond the structured curricula, is a valuable asset for professionals and young

graduates who wish to gain up-to-date knowledge and improve their skills (Kabouridis & Link 2001:103).

The following factors play a role when CPD programmes are considered:

- The most recent, practically-oriented knowledge, skills and attitudes must be transferred.
- The most effective, time-effective instructional methods, which are educationally suitable for adult learners, must be applied.
- There must be a direct link between CPD, practice and current optometry education approaches.
- Training must be provided by teams with different professional backgrounds.
- Educational inputs (in the planning, preparation and presentation) are imperative (Nel 1995).

To maintain and encourage quality in all forms of CPD and post-graduate education and training, sets of educational criteria are required. By using such criteria, programme designers and presenters can ensure quality in their products; those responsible for auditing and administering programmes can verify high standards; and clients can choose between programmes and assess their value.

Harden and Laidlaw (1992) identified a set of criteria, called the CRISIS criteria, which must be met to produce effective CPD programmes. "CRISIS" is an acronym which stands for "convenience", "relevance", "individualisation", "self-assessment", "interest", "speculation" and "systematic presentation" (Harden & Laidlaw 1992:2). CRISIS is a practical tool, based on 15 years' experience in the production and evaluation of CPD programmes at the Centre for Medical Education at the University of Dundee, while the criteria have since been proven to be suitable for use in other CPD programmes too.

The criteria contained in CRISIS are the following (Harden & Laidlaw 1992:3):

Convenience	makes voluntary participation easy.
Relevance	reflects the user's day-to-day role in practice.
Individualisation	allows learners a say in what is learnt and to adapt the programme to their own needs.
Self-assessment	encourages learners to evaluate their understanding of the subject and to remedy gaps that exist.
Interest	arouses attention and encourages learners to participate.
Speculation	recognises controversial and grey areas in the field and
Systematic	offers a planned programme with coverage of the whole subject or an identified part of it.

The CRISIS criteria have been used in areas other than medicine (cf. Harden & Laidlaw 1992:3) and have been found to be closely related to Brookfield's (1986) principles for effective practice in facilitating adult learning (Mulholland 1990:69-72).

Factors related to health professionals' decision to attend CPD programmes were identified by research. These included such items as convenience, travel, scheduling, preferable days, months, and fees. Aspects related to delivery systems also play a role, e.g. programme format, programme amenities, and programme location (Escovitz & Augsburger 1991:42). Other factors which influence the quality of CPD programmes are the involvement or participation of the learners, methodology, content, and the subject knowledge and teaching ability of the programme deliverers (Kabouridis & Link 2001:103). All these are included in CRISIS.

CRISIS, it is acknowledged, may seem a simplification in the complex world of continuing education and the real life situations of professional practitioners, but it does identify the characteristics of programmes that are successful in achieving the goals of CPD (Harden & Laidlaw 1992:15). Each of these characteristics as described by Harden and Laidlaw (1992:3-15) is relevant in designing CPD programmes and in defining the needs of practitioners with regard to professional development. Therefore they demand further attention.

4.3.1 Convenience

Continuing education opportunities must be available at the right place, at the right time and at the right pace. Access to resources should be rapid and easy. Subsequently each of these aspects will be discussed.

4.3.1.1 Place

Attending courses away from a professional's practice is expensive in time away from the practice, travelling costs and accommodation. Thus a tradition has long existed whereby practitioners keep up to date by "educating" themselves at home through journals, books and magazines. Far greater resources go into centralised learning, while community-based learning has stayed the poor relation (Harden & Laidlaw 1992:3). In the 1990s research indicated that the most frequently used form of continuing learning was conference or seminar attendance, whilst the next in prevalence was continuing education through printed home study materials (Escovitz & Augsburger 1991:41).

Harden and Laidlaw (1992) recommend that centralised courses should be made more convenient by adjusting the hours of post-graduate centres and by providing practitioners with more details of events and resources.

The need for convenience has been reflected in the rapid expansion of distance-learning activities, where the learner is situated at a distance from the teacher, but with interaction between the two (Harden 1988:140).

4.3.1.2 *Time*

To attend a conventional course at a post-graduate centre or university, the learner must adapt to fixed hours and schedules. This may be difficult for busy practitioners with a range of commitments. The co-operation of partners in a group practice may be required. This problem can also be intercepted by distance learning where the user chooses the time and duration of each period of activity (Harden & Laidlaw 1992:4).

Any fixed time, even a regular commitment at a set hour on a particular day of the week, is awkward to keep to for professionals in practice. In a study conducted in Ohio (Escovitz & Augsburger 1991:45) among health care professionals to determine their preferences in CPD programmes, the respondents generally indicated a preference to attend one-day programmes and preferred these programmes to be held on a Wednesday or a Saturday. Medicine and optometry indicated a preference for two-day programmes (Saturdays and Sundays), with optometry the only discipline indicating a preference for one-day programmes held on a Sunday. With regard to the time of the year programmes should be offered, December was the least preferred month overall, but August was the least preferred by optometrists.

4.3.1.3 *Pace*

In formal courses learners are traditionally constrained to learn at the same pace. On the one hand, practising professionals who are new to a topic may find it difficult to keep up. Those with the same previous experience, on the other hand, could learn more quickly, but are forced to

slow down and may then suffer boredom in the course (Harden & Laidlaw 1992:4). The ingenuity of the course planner can be taxed here to make allowances in the planning of the courses. Distance learning offers a solution, as learners can work at their own pace, repeating as necessary or skimming material already known.

Convenience in CPD can be increased by taking the education to the learner rather than expecting the learner to come to the education - the features and advantages of distance learning for CPD have been described by Harden and Laidlaw (1992).

Practising optometrists frequently find it impossible to schedule long periods for study and the times which are available for learning programmes may be irregular. In these circumstances it is best to divide a programme into a series of modules, each of which may stand independently. This is also in line with the new policy for education and training in South Africa.

It is likely that the future will see continuing efforts to make CPD more convenient for the practising optometrist and most likely distance learning will be part of this - not a replacement of other forms of CPD, but an adjunct.

4.3.2 Relevance

Topics addressed in CPD programmes should be seen by the learners as being relevant, as well as of practical importance, dealing with everyday problems rather than just being of academic interest.

In the research of Escovitz and Augsburger (1991:43), "currentness" and "content" were consistently the two top reasons indicated by respondents

for attending CPD courses (optometrists also indicated requirement for relicensure as a top reason).

The presentation of a series of facts is often seen as the basis of continuing education programmes, but by themselves they may not be regarded as relevant. It is how these facts are applied in practice that makes them relevant. Facts themselves are simply inert knowledge, of little use; therefore CPD programmes should not be overly theoretical (Harden & Laidlaw 1992:6). Newton and Newton (1991:45) assert that relevance should be made explicit. Knowledge alone is in other words not enough - the learner must be shown the uses to which that knowledge may be put. According to Sheets and Henry (1988:82), it was found in an evaluation of programmes that participants did best in topics that they could apply immediately or in the near future.

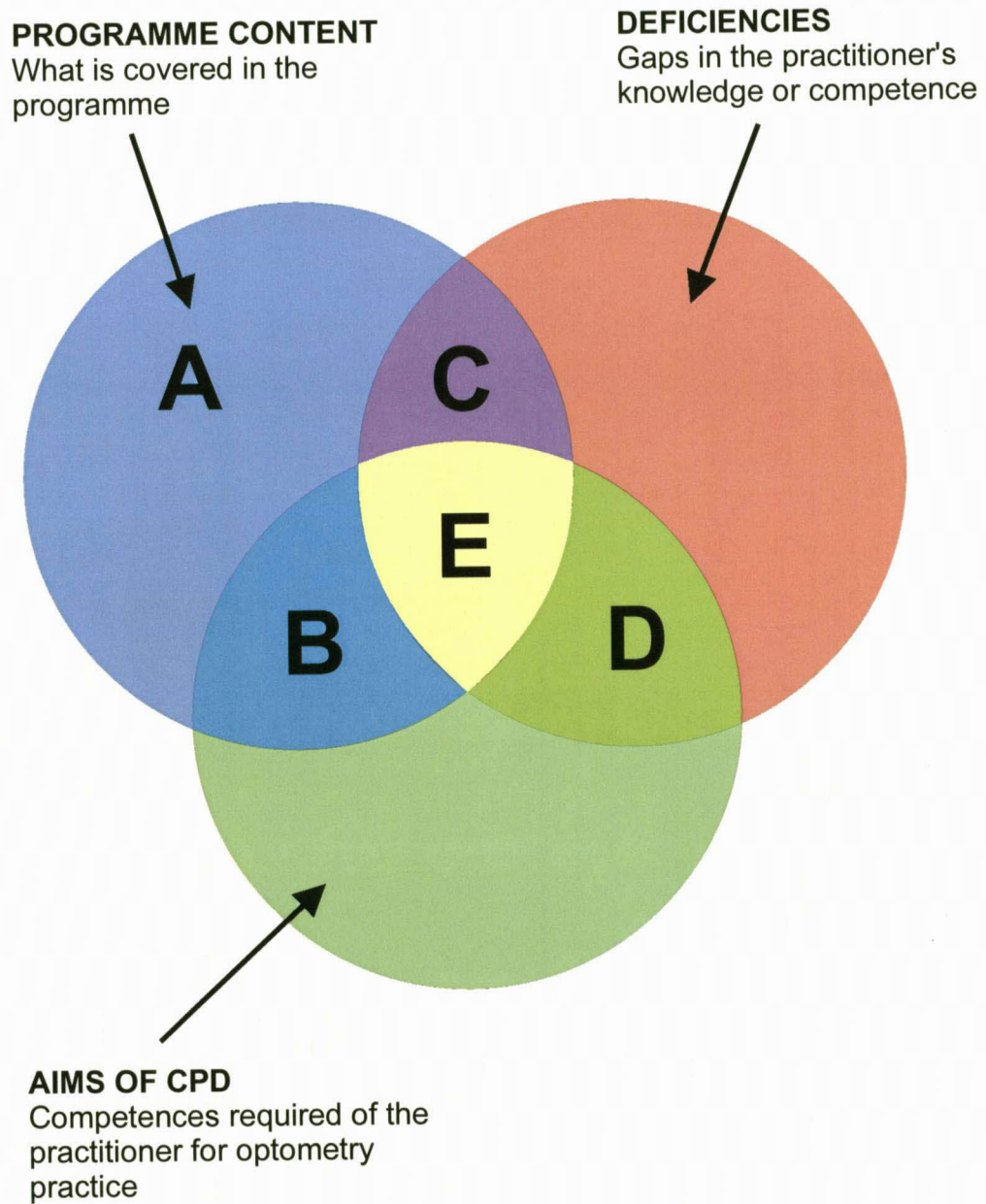
Lack of relevance is a complaint found frequently among users of CPD programmes. Relevance is related to the choice of topic and also to the way or context in which the content can be put to use. In a survey optometrists ranked the content of continuing education programmes as the primary factor for attending a course (Escovitz & Augsburger 1991:43). Kabouridis and Link (2001:108) in their study of short courses for adult learners (CPD) found that such courses should be designed around the real needs of the learners. They found that the theoretical parts of a programme were deemed important, but that the relevance should be clear and that adults needed more practical training to absorb new concepts.

According to Harden and Laidlaw (1992:6), relevance of a programme is determined by three factors, namely the extent to which there is a match or a mismatch between the content of the programme; the aims and objectives of CPD in the area under consideration; and the deficiencies in the learner's knowledge or competence.

Relevance of a programme can be improved by doing a needs analysis among the professionals for whom the programme will be designed. To ensure relevance, content and material should be aimed at a particular audience and carefully checked for appropriateness. Eraut (2001:9) states that his experience in researching CPD in several professions identified three problem areas which are rarely given sufficient attention, namely the identification of learning needs; prioritisation of those needs; and matching prioritised needs to learning opportunities and activities. These can all be classified under Harden and Laidlaw's (1992) description of relevance.

Figure 4.1, which is adapted from Harden and Laidlaw (1992:6), is a graphic presentation of the relationships between the three components of relevance.

FIGURE 4.1: THE RELATIONSHIP BETWEEN THE THREE COMPONENTS OF RELEVANCE IN A CPD PROGRAMME



The components can each be described as follows:

- **A:** Aspects of the programme where there is a mismatch between the educational activity on the one hand and the objectives of CPD and the needs of the participant on the other hand.
- **B:** Aspects of the programme which, though relevant to continuing education in general, are not relevant to the participant, as he/she is already competent in that area.
- **C:** Aspects of the programme which address areas where the participant is not fully competent, but which are not relevant to his/her practice.
- **D:** Deficiencies in the participant's competence in areas where he/she should be competent, but which have not been addressed by the programme.
- **E:** A relevant programme. The area of competence addressed is, for example, required for optometry practice. The optometrist is not fully competent in that area and the topic is addressed in the programme.

Relevance depends heavily on meeting the learning needs of professionals (cf. Eraut 2001). Dunn, Hamilton and Harden (1985) discuss methods available to identify the needs of practitioners with regard to CPD. These include, *inter alia*, the following:

- Task analysis.
- Delphi technique ("panel of wise men").
- Critical incident survey.
- Behavioural event interview.
- Interviews with recent graduates.
- Study of recent text books and other information of the subject.
- Statistics.
- Study of errors in practice.

Relevance can be accentuated by presenting the subject-matter in a context with which the learner can identify. Lay-out and design in a printed programme may also be used to emphasise relevance (Harden & Laidlaw 1992:7).

4.3.3 Individualisation

Learners following a CPD programme come from various educational backgrounds and differing professional circumstances. Their needs will therefore differ. A recently qualified optometrist may be up to date on a subject, but lacking in experience; more senior colleagues may have the experience, but lack up-to-date theory and skills.

The variation in individuals' needs may be divided into 10 areas (cf. Harden & Laidlaw 1992:9):

- The type of practice, e.g. rural, urban, community, state.
- Previous experience and information of the topic.
- The degree of interest in the specific field.
- Preferred learning strategies and methods, e.g. lectures, group work, problem-based learning, practical skills.
- Learning ability and speed.
- Amount of time available/willing to spend on CPD activities.
- Time of day and day of week available for learning.
- Preferred location for learning, e.g. home, in the practice, post-graduate institution, conference centres, etc.
- Learning on one's own or with other professional members of the health care team.
- Teaching responsibilities, e.g. in an academic position, participating in undergraduate training, etc.

A real effort should be made to individualise continuing education programmes in order to increase the likelihood of success. A number of strategies can help a programme meet the individual needs of the learners (Nel & Nel 1995:8):

- Do not involve too large a target group in the CPD programme. The smaller the group, the better the individual needs of each learner can be addressed.
- Page lay-out and design, the use of headings and summary lists can help learners to match the programme to their needs. A carefully designed contents page and a quick reference guide may help learners to find parts of the programme which are of particular interest to them.
- Feedback and self-assessment provide a powerful method of individualising a programme (Harden & Laidlaw 1992:9). Responses of learners can, on the one hand, indicate whether they are competent in an area and they can then simply be given a brief reinforcement. On the other hand, if responses demonstrate a failure to understand a particular area, more detailed information can be provided.
- Programmes may also be designed to take account of different learning styles and strategies. Learners should be afforded the opportunity to choose between problem-based, problem-oriented or information-oriented approaches.
- Programmes should be designed to take into account the time the learners have available to study the topic. In this case the learner must be given the opportunity to make a choice between a programme which briefly summarises facts and makes proposals as to, for example, patient management challenges or an in-depth programme, including, for example, an extended series of case studies, complete descriptions and explanations, as well as full information on the topic.
- Some professionals choose to share continuing education programmes with other members of the health care team. To meet this need, programmes can be designed for use by different disciplines.

Individualisation seems to be of particular importance in a COE programme in South Africa, as the training of optometrists spans a wide range and it is important to satisfy individuals' needs, also depending on their field of interest and their practice circumstances.

4.3.4 Self-assessment

According to Harden and Laidlaw (1992:10), a feature which often distinguishes successful from unsuccessful CPD programmes, is the incorporation of a self-assessment component. Continuing education has been equated to continuing self-assessment; critical self-appraisal being the hallmark of the good professional. The examination of clinical practice should be the key element in continuing education, which otherwise becomes an intellectual or scientific game without a clear consequence [New Leeuwenhorst Group (1986) as quoted in Harden & Laidlaw 1992:10]. Even excellent practitioners can develop bad habits and become outdated, an aspect which will show up in the mirror of self-assessment.

Self-assessment can contribute in various ways to successful CPD:

- It can serve as a diagnostic test to determine whether learners need to participate in a learning activity/programme and, if so, to select parts of the programme from which they would benefit.
- It can assess whether learners have the competence or prerequisites to undertake the programme.
- It can indicate whether learners have mastered the topics covered in the programme.
- It can demonstrate to practitioners that they can go beyond the contents of the programme and apply it in their own context. (Harden & Laidlaw 1992:10).

Harden and Laidlaw (1992:10-11) describe self-assessment as a three-stage process:

- In the first stage, a question is put to the learner. This may be in the form of an illustrated description of a patient with a choice of various management options. In a computer-based course patient management problems can be presented as evolving cases, with developments affected by prior decisions.
- The next stage entails providing the learner with a mechanism to respond. This may be in writing, or the response may be to make selections from a range of options, or to score various choices on a scale. In computer-based courses the responses may influence the further development of the problem - the learner then faces the consequences of his/her own decisions and the assessment is a valuable learning opportunity. If learning takes place in a group, the required response may be a discussion by the group.
- The key part of self-assessment is feedback. Feedback should indicate whether the answer was correct or wrong and provide a reason. The learner should be referred back to the learning programme or additional reading matter where appropriate.

Implicit in any self-assessment is the notion of a standard as a benchmark. The standard may be derived from the views of an expert in the field or the consensus of a panel of experts. It was found very valuable to allow participants in CPD programmes to compare their responses with those of peers (Harden & Laidlaw 1992:11).

The feedback may be available immediately or provided later. Feedback provided later may be more sophisticated, more individualised and may

contain information about the responses of other participants. Harden and Laidlaw (1992:12) found self-assessment to be the most important aspect of CPD in predicting the effectiveness of a programme. It can clarify or even change the participant's educational objectives and can prompt reflective deep processing of information, rather than surface learning. The inclusion of self-assessment in a CPD programme is regarded as being important, even if it has a minor place in the programme. Computerised programmes provide the learner with the opportunity to repeat assessments as often as regarded necessary to understand and master the learning experiences (Super 1989:705).

4.3.5 Interest

Any continuing education programme has to compete for time in the lives of very busy people. Even such a simple thing as the title of a course may motivate a practitioner to take part. According to Harden and Laidlaw (1992:12), continuing education must be interesting to be successful. There are three main reasons for this, namely:

- To attract the attention of a potential participant.
- To encourage potential users to become actual users, as well as to invest money, time and effort.
- To hold attention and sustain the participant's motivation to complete the course.

The biggest motivator for continuing education seems to be the inherent satisfaction of finding out new things and developing new talents (Harden & Laidlaw 1992:12). A study (Levine, Moore & Pennington 1984:45) showed that optometrists expressed the highest interest in continuing education programmes which were related to specific case management protocols, as well as programmes addressing general continuing

education topics with regard to patient and professional relations, and interprofessional relations.

Personal contact with optometrists may help to gain their interest, while the topic of the programme will also always be a major motivator. A combination of five factors has been identified to maximise the attractiveness of a programme and the interest of potential participants (Nel & Nel 1995:10; Harden & Laidlaw 1992:12-13):

- Relevance: This is most important. Anything that makes a programme more relevant, will also make it more interesting.
- Presentation: The way in which the programme is "packaged", affects interest. Escovitz and Augsburger's (1991:44) research indicated that even travelling long distances will not be a hindrance if a potential participant is really interested in a particular programme. The respondents in this study indicated a preference for programmes which include a key note speaker as part of the package. Other matters with regard to the "packaging" of a programme include the way in which the material is presented, the medium or approach that is utilised, and the persons presenting the programme.
- Text design and lay-out: With printed materials, a well-designed and laid-out package may help to motivate learners to enrol for a programme and to study the material. The design must guide them through the material; colour and blocked paragraphs are helpful in this regard. Material should also be offered in manageable chunks, while sufficient space for notes encourage learners to annotate the text.
- Visuals and colour: The use of illustrations, in text or by means of projection during presentations, adds to the interest of learners and facilitates learning.
- Active involvement: Learner participation is well recognised as of the utmost importance for effective learning - no less so in the case of professionals enrolling for continuing education programmes. In

computer-assisted learning and simulations active participation is a key contributor to maintaining interest.

4.3.6 Speculation and systematic presentation

Presentation should consist of two aspects, namely speculation and, furthermore, it should be systematic. Subsequently each of these aspects will be dealt with.

4.3.6.1 Speculation

CPD programmes should not only concentrate on aspects of the discipline which are established facts and in the process ignore areas where there may be controversy. Areas of speculation and controversy should also be included for the following reasons (Harden & Laidlaw 1992:14):

- They will add to the interest of the programme.
- They will make the programme more credible - neglect to include issues of controversy may lead to the programme being seen as irrelevant to every-day practice, where issues are seldom clear-cut and where uncertainty is common.
- Confronting such issues in a CPD programme may help the learner to address them with more confidence in practice.

These areas - which are a focus for speculation - should, however, be clearly distinguished from aspects which should be objects of mastery. Areas where speculation may exist, include the following:

- Topics where there can be more than one "correct" answer.
- Recent advances which may not have been generally adopted or about which there is still uncertainty.

- Subjects which are socially sensitive and have different interpretations (Harden & Laidlaw 1992:14).

4.3.6.2 **Systematic**

Much of CPD takes place in a haphazard way. Practitioners may read optometry journals and attend all the meetings in the local post-graduate centre for a year, but not be sure what has been covered at the end of that time. Barker and Suchoff (1995:44) define an optometric COE programme as "a planned program of post-O.D. clinical education which is designed to advance significantly the optometric graduate's preparation as a provider of patient care services ... ". Although some CPD learning may proceed happily in an *ad hoc*, opportunistic and unstructured manner, this is not a satisfactory basis if optometrists are to keep up to date in all aspects of practice. Structures are critical when undertaking further vocational education: a lack of or unclear structures are often criticised by participants in CPD programmes (Kabouridis & Link 2001:106). The learning capability of older people - who are used to thinking in a wider, more holistic sense - is often superior to that of younger people and because the attention span of learning is restricted by the stamina of the participants during longer learning efforts, the systematic structuring of CPD learning activities is a priority task (Kabouridis & Link 2001:106).

To be systematic, a CPD programme should let the learners know how and why aspects of the subject will be covered over a planned period. The benchmark for systematic coverage of a particular topic is that a programme should cover all that the learners need to know or be able to do (Harden & Laidlaw 1992:15). CPD programmes should include a well-designed mix of self-directed learning, seminar participation, instructional experiences and scholarship (Barker & Suchoff 1995:44).

4.4 TYPES OF CPD PROGRAMMES

The CRISIS criteria for CPD programmes cover a wide field, but do not distinguish among various types of CPD interventions. Jennett, Jones, Mast, Egan and Hotvedt (1994), quoted in Eraut (2001:10), distinguish three types of self-directed CPD:

- Informal, ongoing habitual activities directed to the maintenance of competence.
- Semi-structured learning experiences which typically have their basis in immediate patient problems.
- Formal, intentional, planned activities.

As has been indicated, traditional approaches to updating knowledge and skills in a profession will no longer suffice. Traditionally formal initial education and training were supplemented by means of seminars; during local, national and international conferences and other meetings; and lectures or self-enrichment, mainly through printed media. Today, however, structured CPD activities are required to ensure that CPD reaches the practitioners; to keep them informed of the latest developments and knowledge; to help them master new technology; to support them in developing and maintaining clinical skills at the highest possible level; as well as to satisfy the demands of the health care dispensation and professional requirements. These are conditions which have come into force with re-examination and reregistration (Nel 1995:3).

It is advisable to link CPD activities to departments of optometry and faculties of health sciences. In general, it may be said that programmes for CPD can be offered by means of disciplinary congresses, seminars and workshops, as well as over longer periods, e.g. summer or winter schools. It is important, however, to note that programmes will also have

to be taken to the practitioner; therefore a strong component of distance education must be built into COE programmes.

The criteria which should apply in designing CPD programmes have been discussed extensively, but can be summarised in four main points [to some of these points Harden and Laidlaw (1992) did perhaps not specifically pay enough attention]:

- Educational efficiency (educational interface, infrastructure, planning and support).
- Availability of resources (financial, human, physical, technological).
- Attitude towards change (the demands and requirements of our times need to be addressed).
- Interest and needs (needs analyses to be done) (Nel 1995:3).

Programmes which are currently offered or may be considered, include the following:

4.4.1 Formal programmes

- Course/programmes (theory and practical) offered according to a fixed schedule, throughout the year, at a particular institution, but also decentralised if the need arises and resources are available.
- Workshops and seminars (clinical skills will be emphasised).
- Distance learning programmes (e.g. printed materials, computer modules, video programmes, audio lectures created at the institution offering the programme and on which those taking the course can be formally evaluated).
- Subject and optometry journals, in addition to other literature (source retrieval, cataloguing and classification are done, while participants work through the material on the basis of a participant manual - efficient library services are a requirement) (Nel 1995:3-4).

4.4.2 Informal CPD

- Subject and optometry journals and other literature brought to the attention of practitioners on a regular basis.
- Conferences, subject meetings, interest group meetings.
- The use of technology (computer programmes, video tapes, etc. as commercially available, radio and television programmes).
- Refresher courses and practical workshops in departments, training hospitals, other training facilities and clinics (Nel 1995:4).

4.5 CPD IN SOUTH AFRICA

In April 2002 a formal system of CPD was established for optometrists in South Africa. In the document introducing the system (Kriel 2001b:2), it is stated that the system has been developed in such a way as to be user-friendly; that the 25 points required annually will be easily obtainable; that CPD will be neither complicated nor costly for the individual practitioner; and that it will take South African conditions into consideration. The priority in CPD is said to be to achieve improved patient care, while it will at the same time be of benefit to the development of the optometry profession as a whole.

4.5.1 Administration

In South Africa the Professional Board for Optometry and Dispensing Opticians administers the CPD system under the jurisdiction of the HPCSA. The responsibility to accredit and review CPD activities is, however, outsourced to Departments of Optometry. Other professional bodies wishing to be accredited for CPD activities have to apply to the Board for appointment. The Board bears the responsibility to ensure that activities which are outsourced, are carried out in a fair, equitable and responsible manner. Therefore the Board retains the right to review or

withdraw any outsourced responsibilities from accreditors, should the circumstances require it. Prior approval of educational and developmental activities for CPD purposes must furthermore be obtained from the Board. The Board sets the criteria and guidelines for such activities, as well as for the approval and allocation of CPD points. Approved activities are allocated a specific reference number by the Board for administration purposes (*Optisight* 2001:2).

Practitioners whose names appeared on the register for optometrists or dispensing opticians on 1 April 2002, as well as those who registered as optometrist or dispensing opticians in any category of independent practice or public service (excluding those who are registered for non-clinical purposes) after 1 April 2002, are required to comply with the conditions of CPD as a prerequisite for such a practitioner to retain registration.

A practitioner whose name was removed from the register or one who was registered for non-clinical purposes, has to comply with any condition(s) the Board may specify prior to restoration/registration for the purposes of rendering clinical services. If a practitioner does not accumulate the prescribed minimum of points in any one year, such a practitioner will be permitted to obtain as many points as required in the subsequent year (*Optisight* 2001:3).

4.5.2 Categories of educational and developmental activities and allocation of points

The basic premise for point allocation for activities in the three categories of educational and developmental activities for CPD purposes is that one hour equals one point. The eventual responsibility rests with the Accreditors to adapt sub-optimal activities downward to an appropriate

point allocation per time unit and to recommend to the Board accordingly. The following requirements apply:

- Every optometrist is required to accumulate at least 25 points within any one year, provided that any points accumulated during one year, to the excess of 25 points, may be forwarded only to the subsequent year.
- Every dispensing optician is required to accumulate 15 points within any one year, provided that any points accumulated to the excess of 15 points may be forwarded only to the subsequent year.

During one year, not more than 80% of the points may be accumulated in any one category. To comply with this requirement, at least two points have to be obtained by every practitioner in professional ethics annually. A maximum of five points may be obtained in non-clinical but health-related activities annually. Any relevant educational or developmental activity that does not fall within the activities as listed in the categories given, may be submitted to the Board for approval and, if the Board agrees, such activities will be accredited.

4.5.2.1 *Category 1: Organisational activities*

Attendance of formal learning opportunities is credited with one point per hour for attendance. These activities include, but are not restricted to, conferences, congresses, workshops, lectures, seminars, and refresher courses.

4.5.2.2 *Category 2: Small-group activities*

Participation in non-formal learning opportunities is credited with one point per hour where participants are actively involved. In addition, one point per hour is granted for presenting such activities.

4.5.2.3 **Category 3: Individual activities**

These activities include the following:

- ***Self-study***

Only self-study activities evaluated by an approved provider are considered. These activities include, but are not restricted to, studying journals, as well as electronic or computerised material.

- ***Individual learning***

These activities are credited with one point per hour. These include, but are not restricted to, skills training, e.g. gonioscopy and short-term studies at training institutions. Prior approval has to be obtained for such activities to be taken into account for points and attendance must be verified.

- ***Research and publications in peer reviewed/continuing professional development journals***

The first author is credited with 10 points and co-authors are credited with five points each per published article.

- ***Teaching and/or training activities***

Teaching and/or training of undergraduate, post-graduate students and/or peers is credited with one point per hour. This is restricted to practitioners who hold part-time teaching posts.

- ***Paper/poster presentations/lectures to peers***

Papers, posters, invited lectures and keynote addresses are credited with 10 points.

- ***Relevant additional qualifications***

25 points per year are allocated for academic qualifications. These points are added to other points accumulated during the period of study.

◦ ***Evaluations/assessments/examinations***

These activities are credited with one point per hour and include, but are not restricted to, undergraduate and post-graduate examinations, evaluations undertaken on behalf of the Professional Board, and assessment of theses or scripts.

◦ ***Supervision of candidates for higher degrees***

These activities are credited with 10 points per candidate per year and include being the promoter, mentor or study leader for master's or doctorate qualifications.

◦ ***Community service***

As compulsory community service is not yet regulated for optometrists and dispensing opticians, points for community service are awarded to encourage practitioners to participate in such activities, with the added advantage that feedback is provided to the Board and the Department of Health so that specific needs may be identified. One point for every hour worked on a voluntary basis in a recognised government or non-governmental organisation facility is awarded. Application may be made for the recognition of special projects.

◦ ***Professional ethics***

A minimum of two points in professional ethics is required from all practitioners annually.

◦ ***Non-clinical but health-related activities***

A maximum of five points may be obtained in non-clinical but health-related activities in any one year (*Optisight* 2001:2-3).

4.5.3 Deferment and non-compliance

Practitioners may apply for deferment of CPD and the Board reviews such applications individually, on the basis of reasons acceptable to the Board.

In the event of a practitioner not complying with the requirements of the CPD system, the Board may impose any one or more of the following conditions:

- Granting the practitioner a concession for one year extra.
- Requiring the practitioner to follow a remedial programme of continuing education and training as specified by the Board.
- Requiring the practitioner to write an examination as determined by the Board.
- Registering the practitioner in a category of registration which shall provide for supervision as regarded as appropriate by the Board.
- Registering the practitioner in a category of registration restricted to non-clinical practice.
- Erasing the practitioner's name from the relevant register.

The practitioner has a right to appeal against any decision of the Board.

4.5.4 Providers of CPD activities

Providers of CPD activities include any body such as a faculty/department of a university/technikon, a professional association/society/group or any other body which offers educational and development opportunities to practitioners for CPD purposes and may include other related industrial or provider organisations. Providers of CPD activities are required to submit their proposed programmes of activities to a relevant CPD Accreditor for assessment of the professional content and the CPD points value thereof.

Applications for approval of CPD activities must be submitted on the application form provided by the Board (*Optisight* 2001:5).

4.5.5 Accreditors of CPD activities

As referred to previously, the Board accredits a variety of bodies to serve as accreditors of CPD activities. Such accreditors are required to submit their applications for approval on a specified application form. Applicants are required to specify the area(s) for which they wish to be accredited, as well as their expertise and representativeness in the proposed area(s), in addition to their administrative infrastructure.

To get the process going, the Board provisionally approved a number of bodies as accreditors. Specific applications are considered for approval in any one or more of the areas. It is the responsibility of the accreditors to receive and assess applications by providers for the approval of CPD activities. Such assessment is based on the criteria provided and in terms of professional content. After positive assessment, an application is referred to the Board with a recommendation for approval and the proposed point value of the activity (*Optisight* 2001:5).

4.6 THE HEALTH PROFESSIONS COUNCIL OF SOUTH AFRICA (HPCSA)

4.6.1 Background

The HPCSA is a statutory body established in terms of the Health Professions Act of 1974 (RSA 1974). The HPCSA is an umbrella body with 12 professional boards functioning under its jurisdiction. The Council, in conjunction with the professional boards, is committed to promoting the health of the population; determining standards of professional education

and training; and setting and maintaining fair standards for professional practice.

The HPCSA is an autonomous body which receives no grants or subsidies from the government or any other source. It is totally funded by the relevant professions. The main consumer of its services, namely the public, does not and is not expected to contribute financially to its functioning.

4.6.2 Registration with the HPCSA

In order to safeguard the public and indirectly, the professions, registration in terms of the Act is a prerequisite for practising any of the health professions with which the HPCSA is concerned. Practising any of the professions falling under the jurisdiction of the Council for which a scope of practice has been promulgated without being registered with the Council, is a criminal offence in terms of the Act.

Registration confers professional status to a practitioner and thus the right to practise the profession for which he/she is qualified. Practitioners therefore enjoy the security of being registered in terms of the Act in the knowledge that no unqualified person may practise their profession. The HPCSA's registers are to the advantage of practitioners whose names appear in them, since this confers public recognition of the competence of the practitioner, who are therefore in a position to command a reward for the services rendered (*Optisight* 2001:6).

Professionals who register in terms of the Act are: audiologists, audiometricians, biokeniticians, clinical biochemists, clinical technologists, dental therapists, dentists, dieticians, emergency care personnel, environmental health officers, genetic counsellors, hearing aid acusticians, medical orhotists/prothetists, medical physicists, medical practitioners,

medical scientists, medical technologists, medical technicians, occupational therapists, optical dispensers, optometrists, oral hygienists, physiotherapists, podiatrists, psychologists, psychometrists, psycho-technicians, radiographers, as well as speech-language therapists. Pharmacists, nurses, chiropractors, homeopaths, and dental technicians have their own statutory regulatory bodies (*Optisight* 2001:7-8).

4.6.3 Professional Boards

There are 12 professional boards functioning under the jurisdiction of the HPCSA. They are:

- The Professional Board for Dental Therapy and Oral Hygiene
- The Professional Board for Emergency Care Personnel Practitioners
- The Professional Board for Medical Technology, Medical Orthotics/Prosthetics
- The Professional Board for Optometry and Dispensing Opticians
- The Professional Board for Psychology
- The Professional Board for Speech, Language and Hearing Professions
- The Professional Board for Dietetics
- The Professional Board for Environmental Health
- The Medical and Dental Professions Board
- The Professional Board for Occupational Therapy
- The Professional Board for Physiotherapy, Podiatry and Biokinetics
- The Professional Board for Radiography and Clinical Technology.

The Professional Boards assist in the promotion of health of the population on a national basis; control and exercise authority regarding all matters affecting the education and training of all persons in any of the professions falling within the ambit of the Professional Boards; promote the standards of such education and training in South Africa; advise the Minister of

Health on any matter falling within the scope of the Act in order to support universal norms and values of the professions; and maintain and enhance the dignity of the professions and the integrity of the persons practising the professions in order to guide the professions and protect the public.

All matters specifically pertaining to a particular profession, that is those that do not infringe on the functioning and practice of another profession, are dealt with and finalised by the Board concerned. This includes full powers in respect of professional conduct issues and financial matters, including the budget (*Optisight* 2001:7).

A Professional Board's function, as it relates to professional practice, is to set, maintain and apply fair standards of professional conduct and practice in order to effectively protect the interests of the public. It should be noted that the HPCSA itself is not involved in this process, except in so far as decisions relating to strategic policy need to be reached.

The regulations pertaining to professional conduct inquiries of the Professional Boards are discharged in accordance with legal principles, following upon formal complaints lodged against a registered person. The need for impartiality is self-evident and clearly implies the observance of every nuance and fact of legislation, as well as of the basic human rights of the public, but, at the same time, also those of practitioners. The public has the freedom to lodge a complaint with a Professional Board, in addition to having access to avenues of civil legislation. Furthermore, the courts have a legal obligation to inform the HPCSA of proceedings in which registered persons are found guilty.

4.7 DISCUSSION

With knowledge becoming so proliferated, diverse and specialised, it is apparent that no profession, let alone that of a teacher or being a student, can know or master everything that has to be learned (Super 1989:708). In a literature study by Grant and Stanton (1998), they came to the following conclusions regarding CPD:

- The key to the effectiveness of CPD is not to be found in the learning methods adopted.
- There is not a best learning method and no best approach to learning.
- Instead, the key to effectiveness is to make sure that the process of CPD is effectively managed to have the following components:
 - A stated reason for the CPD to be undertaken. This might be specific (for example, a need to develop a new skill), or it might be a general professional reason (for example, a wish to undertake general professional updating with colleagues at a conference). It might also arise from the needs of the service (e.g. to develop the skill to offer new areas of care to patients).
 - An identified method of learning, which might be formal or informal.
 - Some follow-up after the CPD for reinforcement and dissemination of the learning. This might be actions such as reporting back to colleagues, developing new services, demonstrating new skills, or simply feeling more confident in practice.

The role of optometrists in the health care of our nation cannot be denied. The current problem of practitioners who are not up to date with recent developments can be solved by means of COE programmes, designed to meet individuals' needs and serving the health care needs of our communities.

4.8 SUMMATIVE PERSPECTIVE

The profession of optometry has been a leader in the movement to formalise continuing education through mandatory participation related to renewal of licensure in the USA (Escovitz & Augsburger 1991:41). The assumption has been that, by means of this vehicle, practitioners can keep abreast of scientific, technological, clinical patient care, as well as social changes affecting their practices so that they can actively participate in these changes. South Africa is now undergoing the same processes and the following questions need to be answered with regard to COE: Do optometrists participate in continuing education because it is mandatory? Do other factors enter into the decision to undertake COE? Are providers of COE addressing the perceived needs of optometrists? What changes can be made to offer optometrists better opportunities for COE? A needs analysis has therefore become mandatory to find answers to these questions.

Another issue which has to be addressed with regard to COE, is the issue of standards (cf. Barker & Suchoff 1995). With the numbers and types of CPD programmes expected to grow with the establishment of mandatory CPD in South Africa, it has become important to revisit current programmes and reach conclusions as to standards. This will ensure uniformity in the quality of programmes. The philosophy of optometry and COE should encompass a willingness and commitment to change so as to adapt to new knowledge, scientific discovery technological advances, a changing environment, as well as changing human needs.

In summary, this chapter raised several issues that should be attended to when COE programmes are designed. The basic factor that is often criticised by participants in CPD programmes is the structure. CPD programmes must also be based on the real needs of the potential participants. Aspects of participants' motivation should not be negated.

Education and the delivery of health care are interdependent. Currently the nation's emphasis on health care reform raises questions as to the appropriate educational processes to keep optometrists' education and training current and relevant for their participation in the new health care dispensation. The expanding scope of practice and the increased professional responsibility for the treatment and management of ocular disease require that a new look be taken at COE. Therefore a framework for establishing a model to reflect the changes occurring in the profession and in health care in South Africa needs to be established.

Properly designed continuing optometry education activities, meeting professional needs and interests, together with proper evaluation techniques, can and will make effective and efficient contributions to promoting positive change in the attitudes, knowledge, skills and behaviour of health professionals, which, in turn, will positively impact on the welfare of our patients.

Peck *et al.* (2000:435) state that legislated revalidation and recertification of practitioners are driving the profession towards mandatory professional development programmes internationally, covering a spectrum of clinical, professional, and managerial activities. Most systems worldwide rely on professional self-regulation. Even where there is no mandatory system, many optometrists are already active participants in the process. Increasingly there are common features between specialities and across borders and recognition of such between national and international bodies. Whatever system is adopted, however, every optometrist has a personal responsibility to participate in CPD and has a choice of a wide range of accredited educational activities to fulfil that responsibility.

4.9 CONCLUSION

This chapter emphasised the nature, necessity and extreme importance of CPD (cf. 4.1; 4.2). The criteria for CPD programmes were outlined and an exposition of the well-known CRISIS criteria provided (see 4.3). Each of the characteristics of the CRISIS criteria was described and explained in depth, while the perspectives of various authors were also provided. Paragraph 4.4 dealt with the different types of CPD programmes, whereafter paragraph 4.5 described CPD in South Africa. The latter paragraph discussed its administration (see 4.5.1), while the categories of educational and developmental activities and the allocation of points were also outlined (see 4.5.2). Other aspects which were touched upon, were deferment and non-compliance (see 4.5.3), as well as providers and accreditors of CPD activities (see 4.5.4; 4.5.5).

Subsequently an exposition of the HPCSA with the 12 professional boards functioning under its jurisdiction and its function, background and importance was provided, while the aspect of registration with this body was also explained (cf. 4.6.1; 4.6.2; 4.6.3). Finally, some serious issues which should be attended to when CPD programmes are designed, were broached in paragraph 4.8, while the importance of CPD was once again reiterated.

In the next chapter the research methodology will be discussed and dealt with in detail.

CHAPTER 5

RESEARCH METHODOLOGY

5.1 INTRODUCTION

A wise man once stated that a fool can ask more questions in one hour than a wise person can answer in a lifetime. In the same way any analyst finds him/herself in a maze of questions and variables. Therefore it is not possible to proceed without a plan or a method. In planning a research project, it is of extreme importance to decide which methods and techniques will serve the purpose of the research best (Leedy 1993:127). Research has been described as the assumptions, methods and procedures used to create knowledge by empirical and rational means (Landman 1988:80). This research took the form of a descriptive and exploratory study (Babbie & Mouton 2001), comprising a literature review and an empirical investigation.

The literature review covered factors influencing the design of optometry education and training programmes; aspects of optometry education and training; the demands made on optometry education and training as part of higher and health professions education and training, as well as CPD; and the needs and possibilities for optometry education and training in changing circumstances in South Africa.

The data in the empirical study were collected by means of a questionnaire survey, carried out among practising optometrists in South Africa to determine their needs in connection with post-graduate studies, as well as the possibilities available for optometrists in South Africa to further their studies and enhance their knowledge and skills as professionals in health care services.

The empirical study therefore took the form of a needs analysis. A needs analysis is not a new or a rare phenomenon in education – back in 1975 English and Kaufman (in Wolmarans & Eksteen 1987:1) pleaded for a process of defining the ends of education and then selecting the means most promising to assist educators in reaching the "promised land". Curriculum development has to be based on needs. The potential gain of a profound needs analysis includes higher levels of efficiency (that is productivity) and, in the case of educational institutions, consumer satisfaction, which will lead to increasing community service and support (Wolmarans & Eksteen 1987:2).

Recently the optometry profession experienced several significant changes, namely an expanding scope of practice; advances in diagnostic and treatment methods; and the implementation of a reregistration system (based on COE). In tandem with this, HET has also undergone several changes, with an emphasis on OBET; a focus on generic skills; and RPL. Taking this into consideration, if optometry wishes to ensure continued viability, it is essential that the present and the future needs of the professional, as well as of the patient, be taken into consideration - thus the necessity for a needs analysis.

5.2 THEORETICAL PERSPECTIVES ON THE RESEARCH METHODOLOGY

This research was based on a phenomenological preparation, namely the literature review, to provide reliable data for understanding the phenomenon (cf. Verma & Beard 1981:187). The phenomenology here served the purpose of ensuring sufficient background knowledge on the subject, in addition to generating a number of criteria to be used to determine the needs of optometrists with regard to their education and training. These criteria were eventually converted into items contained in

a questionnaire used for the needs analysis. The questionnaire survey constituted the empirical part of the study.

The two main paradigms (models) (Landman 1988:73) which have dominated the educational research scene for the past century were quantitative and qualitative research methodologies (Mafisa 1999:118). The quantitative approach is typically used to answer questions about relationships among variables with the purpose of explaining, predicting and controlling phenomena, while the qualitative approach is typically used to answer questions about the nature of phenomena with the purpose of describing and understanding the phenomena from the participants' point of view (Leedy 1997:104). For this study, a quantitative design was used (cf. Babbie & Mouton 2001), but open-ended questions were also included, adding a qualitative dimension (cf. 5.1). The greatest emphasis was, however, on a quantitative design. According to Robson (in Mafisa 1999:118), a research problem can be addressed by using more than one method, an aspect which seems to have substantial advantages. One vital advantage of the use of multiple methods is the reduction of inappropriate certainty. Using a single method and finding a clear-cut result may delude investigators into believing that they have found the correct solution. Using an additional method may then point to differing perceptions, which might remove specious certainty (Mafisa 1999:118). The two approaches are used to complement each other and to provide a broader understanding of the research problem. As used in this investigation, the multiple approach also enhanced the interpretability of the research findings.

While quantitative methodology relies heavily on figures for analysis, qualitative methodology, with its emphasis on the human element (expression of opinions and ideas), on the other hand, provides additional information which cannot be covered by quantitative methods (Mafisa 1999:119). The open-ended questions in the questionnaire survey

represent the qualitative responses (opinions and ideas expressed in the respondents' own words), while, for the closed questions, quantitative methodology was employed (Babbie & Mouton 2001:52).

The study reported here falls into the category of descriptive surveys. A survey that is primarily descriptive, seeks to describe the distribution within a population of certain characteristics, attitudes, or experiences (Singleton & Straits 1999:243). The objective of a descriptive study, as the name implies, is to describe a phenomenon. Basically a fact-finding enterprise, a descriptive study is structured, and focuses on relatively few dimensions of a well-defined entity. These dimensions are measured systematically and precisely, usually with detailed numerical descriptions (Singleton & Straits 1999: 91). Landman (1988:59) defines descriptive studies as research which does not set out to test hypotheses, but desires to find distribution of variables. This is the type of survey which is primarily concerned with the nature or degree of existing situations or conditions. In this study the existing situation with regard to post-graduate and/or continuing professional optometry education and training was investigated.

It is important that control measures should be applied for research credibility. The two main mechanisms of quality control in research are reliability and validity (Mafisa 1999:120). "Reliability" refers to the extent to which studies can be replicated, that is, consistency of obtaining the same relative answer when measuring phenomena which have not changed (Landman 1988:80). "Validity" is the extent to which an instrument or procedure satisfies the purpose for which it was constructed, that is, it determines that which it was designed to determine (Landman 1988:96).

In this study the reliability of the instrument (questionnaire) was established by means of a pilot study, the inclusiveness of the sample, and the response rate. The validity of the findings rests on the in-depth

literature survey, the experience of the researcher, as well as the number of respondents who participated in the study.

5.3 METHODS AND PROCEDURES

The methods used in this investigation comprised a literature study - which formed the basis of the study - and a needs analysis, the empirical study, to determine the needs of and the opportunities available to optometrists in South Africa with regard to further, post-graduate and/or continuing optometry education and training. Quantitative and qualitative measures were applied.

5.3.1 Literature review

A literature review has as its aim placing the problem in the context of related theory and research, as well as to ensure that the researcher is sufficiently informed about the topic to be able to investigate it in an informed manner (Singleton & Straits 1999:544). A literature review must make clear the theoretical context of the problem under investigation and how it has been studied by others. Thus the idea is to cite relevant literature in the process of presenting the underlying theoretical and methodological rationale for the research (Singleton & Straits 1999:547).

In this study the purpose of the literature review was to establish a background to and a context for the research problem; to justify the need for the research; and to indicate that the researcher was knowledgeable about the field of study and the particular area under investigation (cf. Landman 1988:69). Based on the literature study, a phenomenological perspective was established, as the focus was on the meaning of the phenomenon of continuing/post-graduate/further optometry education and training. This was a search for meanings and, through it, assumptions in concepts and methods were uncovered (Landman 1988:75).

The focus of the literature survey was factors influencing programme design, namely the current state of optometry education and training in South Africa within the context of higher education; the current demands on health professions education and training; the new higher education dispensation in South Africa; health care demands; and the changes in optometry education and training, not only in South Africa, but also world-wide. Attention was paid to the history of the optometry profession, as well as that of education and training in South Africa; the role of statutory bodies; the transformation of education and training in South Africa.

Use was made mainly of research results as reported in journals, government publications and publications of optometry institutions and bodies. The development of the profession; the requirements of world optometry and health organisations; as well as the demands, needs and requirements of the South African health care dispensation received particular attention, in addition to needs identified in the profession, especially with regard to the expansion of the scope of practice. CPD, or - within the narrower focus - COE, was also included.

The literature study (see Chapter 2) indicated that in optometry education and training in South Africa, a need might have developed for further education, based on the developments in the scientific field and the needs and expectations of society, health authorities and the profession. As practising optometrists have it in their ability to address these needs, the logical procedure would be to identify their (the practising optometrists') needs in order to devise a programme that would enable them to satisfy their own needs, the needs of society, the health system and the profession.

5.3.2 The empirical study

"Data sometimes lie buried deep in the minds or attitudes, feelings or reactions of people. As with oil beneath the sea, the first problem is to devise a tool to probe below the surface" (Leedy 1997:191). A commonplace tool for collecting data beyond the physical reach of the observer, is the questionnaire. Questionnaires and data-collecting for traditional researchers are almost synonymous. Questionnaires are defined in literature as a reasonable way to tap attitudes, opinions, perceptions, reactions to specific events, as well as information on developmental needs (Wolmarans & Eksteen 1987:39). Questionnaires can be described as a set of questions dealing with some topic or related group of topics, given or sent to a selected group of individuals for the purpose of gathering data on a problem under consideration (Landman 1988:78).

This method of gathering data is exceptionally suitable for a needs analysis of national scope, as was required in this study (cf. Wolmarans & Eksteen 1987:39). The questionnaire designed for this study comprised six categories, divided into 77 subsections. Some of the items were open-ended questions, while others were closed questions. During the pilot study it was determined that the questionnaire would take approximately 30 to 35 minutes – and, in some cases, even 40 minutes – to complete. The length of time depended on the way in which a respondent answered the questions, i.e. whether all the questions were answered, which would indicate that the respondent was indeed interested in post-graduate studies. The fact that there were approximately 35 questions which required long and detailed answers (e.g. follow-up items or completion items), was another factor to be taken into consideration. The more comprehensively questions were answered, the longer it would take, of course. Questionnaires were dispatched by post as well as by means of electronic mail. Respondents were granted three weeks to complete and

return the questionnaires. (See Appendix C for the questionnaire.) Each questionnaire sent out was accompanied by a covering letter, explaining the purpose of the research, in addition to containing instructions as to how the questionnaire was to be completed. (See Appendix A for the covering letter.) There were in fact eventually four questionnaire rounds over a period of 16 weeks. The covering letter was followed by a list of definitions, which the respondents would need to better understand the questions asked in the questionnaire (see Appendix B).

5.4 RESEARCH DESIGN: EMPLOYING A NEEDS ANALYSIS AS RESEARCH METHOD

5.4.1 The questionnaire

The questionnaire (Appendix C) which was the research instrument in this study, consisted of six different categories, namely:

- Category 1: Personal information. This category aimed at obtaining personal information; information about the biographic details and qualifications of the respondents; as well as the kind of practice and the location thereof (cf. Appendix C 1.7 and 1.8).
- Category 2: Professional development. This category dealt with the professional development of the respondents and it also touched on CPD.
- Category 3: Post-graduate/Post-diploma studies. In this category respondents' needs with regard to post-graduate education were determined.
- Category 4: Further studies to obtain a formal qualification. This category dealt with further education and/or CPD in optometry, as well as with the respondents' views with regard to opportunities available for further optometry studies in South Africa. Reference was also made to

other countries, although the main emphasis was by no means on such countries.

- Category 5: Detailed information on post-graduate/post-diploma programmes. Here the respondents had to provide information as to exactly which were the programmes in question, as well as provide information about the nature of these programmes
- Category 6: Awareness of the public need. It is interesting to note that this category mainly consisted of questions requiring long and detailed answers. It comprised 17 subsections and was definitely the most comprehensive of all the categories.

The following types of items were used:

- Dichotomous questions (two response possibilities, e.g. "Female/male"; "Yes/no").
- Multiple choice questions (e.g. multiple options are mentioned; respondent has to select one).
- Completion items (i.e. a statement that must be completed, because there are too many possible options to include all of them in the item).
- Open-ended items.
- Follow-up items (utilised to collect more information on a previous response) (cf. Wolmarans & Eksteen 1987:50-51; Landman 1988:78).

The rationale for using a questionnaire format to collect information is that it is a cost-effective data collection method; it allows for a large sample size; and geographic dispersion is not a problem. There is also greater accessibility to respondents and they may respond at a time when it is convenient for them (cf. Singleton & Straits 1999:258).

Disadvantages of questionnaire surveys cited in literature include the following:

- To develop a good questionnaire is a difficult task.
- Target groups may sometimes be uninformed, unmotivated, or disinterested.
- Response rates tend to be lower than with other survey methods (Wolmarans & Eksteen 1987:51; Singleton & Straits 1999:259).

To counter these problems which were foreseen, post-paid return envelopes were included. In addition, respondents could also make use of electronic mail, which is inexpensive and fast. The importance of the survey was impressed on respondents in the covering letter and the researcher repeatedly made contact with them (cf. Singleton & Straits 1999:259).

5.4.2 The empirical study: Needs analysis

In programme planning needs analysis as a form of evaluation research has been proven successful (Singleton & Straits 1999:431). A needs analysis or assessment may be undertaken to identify and forecast problems which need attention; to establish perceived priorities among problem areas; to study the scope of a problem; and to estimate the extent to which a programme may be used to address the problems (Singleton & Straits 1999:431). As this study is concerned with education and training needs, Wolmarans and Eksteen's (1987:6-7) definition of the different levels of needs is relevant. They distinguish between macro-level needs, meso-level needs and micro-level needs. The latter, micro-level needs, are identified by comparing individual workers' performance in terms of a competence norm; meso-level needs are organisation-specific and occur within departments or organisations. This study, however, is concerned with macro-level needs, that is, needs which occur at national and even international level (e.g. Africa). Rapid technological developments and the knowledge explosion often result in skills and knowledge not keeping up with the latest developments. The proactive analyst must also show a

sensitivity with regard to factors such as economic, social and political developments, because these have an impact on expectations and changes in those fields will also impact on education and training needs (Wolmarans & Eksteen 1987:6). For this reason, an in-depth literature review was done and a questionnaire was developed to identify the needs of practising optometrists with regard to their education and training; the needs of the society and other stakeholders; and the opportunities they saw with regard to further education and training.

(For further definitions of "needs" and related aspects, see Appendix B: 1.6; 1.7 & 1.8).

5.5 THE PARTICIPANTS

Before dealing with the participants who represented the target population of this research study, the term "target population" should first be clearly defined. Michael Halldorson (1999) of the Department of Psychology at the University of Winnipeg provides a definition of this concept which is eminently suitable for the purposes of this study. According to him, it is the "[p]opulation to which we hope to generalize the findings of a research study. In most research, the entire target population is not accessible to the researcher".

For the purposes of this research study, the above-mentioned definition is directly applicable to it. Thus the researcher wishes to emphasise that it should be noted that the target population for the questionnaire did not comprise the total population of optometrists in South Africa. The reason for this statement is that 1 400 addresses were obtained from the GIO and, indirectly, from the Professional Board where these optometrists had been registered. Two lists of addresses were obtained. One of the lists was the property of the GIO, being their own list which they made use of. The second list also belonged to the GIO and had been obtained from the

Professional Board at some earlier stage. Since it is expensive to obtain an address list directly from the Professional Board (one has to pay to obtain it) and funds for the research project were limited, the researcher made use of the two lists which had been obtained from the GIO, as this did not entail significant costs. Another possibility which had been considered, was obtaining an address list from the SAOA. However, this Association was not prepared to provide such a list, unless questionnaires were provided to them, in which case the Association would send out the questionnaires in question. The costs involved concerning such a scenario had to be considered, especially since it was foreseen that several rounds of questionnaires would have to be sent out. Thus, after consideration, the researcher preferred to handle his questionnaires himself and to send them out either by mail or electronically. Not all of the addresses obtained in this way were correct and usable, however, as there was a good deal of overlapping and duplication. It occurred that sometimes more than one address (a street address and/or an e-mail address and/or a postal address) were provided, while in some cases the optometrist might also have moved. This resulted in the fact that the target group to whom questionnaires had been posted, was eventually 1 131. Of these, 314 came back undelivered ("Not delivered") in closed envelopes. The number of questionnaires which it can thus be assumed had reached their destination, was 820. Of these, 576 had been completed and returned, giving a response rate of 70.2%. An aspect which has to be borne in mind, is that certain exclusion criteria had been applied. After the 576 questionnaires had been received, these criteria were then applied, for example:

- The age group was restricted to between 20 and 60 years, as this age group was deemed to be the most probable age group who would show interest in post-graduate education.
- Individuals who were already in possession of a clinical applicable post-graduate qualification, were excluded.

- Some questionnaires had to be eliminated as a result of the fact that the handwriting was illegible.
- Furthermore, there was also some duplication. Several respondents returned as many as three copies in different manners (e.g. by post, electronically, etc.). In such cases the extra copies were discarded and only one was used. Eventually, after the above steps had been taken, 397 fully completed questionnaires were used for statistical analysis, in other words 68.9% of the questionnaires which had been returned. When measured against Landman's (1988:46) definition of "population" or "universum", namely that it indicates a group that is similar or alike with regard to one or more characteristics as defined by the researcher, the latter is of the opinion that the number which was eventually used, can be regarded as a representative target group. Thus, for the purpose of this study and after completion of the questionnaire (see Appendix C), "population" can be defined as optometrists who:
 - were registered with the Professional Council;
 - were in South Africa at that stage;
 - were practising (i.e. who were not on sabbatical, on maternity leave, etc.) in the private or the public sectors;
 - were between 20 and 60 years of age; and
 - did not have a clinical applicable post-graduate (master's or doctoral) Optom. qualification and who might thus be wanting to obtain a qualification which would allow them to register for practice in the broader scope of practice envisaged for optometry (e.g. the use of diagnostic agents) and/or for self-development.

Finally, the respondents' needs with regard to post-graduate studies, as well as their views on possibilities available to them to satisfy these needs, were determined.

5.6 ETHICAL CONSIDERATIONS

Registered optometrists in South Africa were used for the empirical study and respondents had to provide personal information in order to enable a meaningful profile of needs to be drawn. The respondents had the option as to whether they wanted to fill in the questionnaire anonymously or not. Demographic details had to be provided, however. The information collected by means of the questionnaire was dealt with strictly confidentially and no names or personal information was or will be made known.

The protocol for the study had been submitted to and approved by the Ethics Committee of the Faculty of Health Sciences, the UFS, for approval (ETOVS number: 12/02).

5.7 ANALYSIS OF DATA

Open responses were recorded manually and grouped into categories. After extensive data checking, results were summarised by means of the percentages of respondents answering a specific question. The focus was on simple analysis, i.e. frequency distributions. The data analysis was done by the Department of Biostatistics at the University of the Free State by using the S.A.S. Programme.

5.8 CONCLUSION

In this chapter the research methodology was described. A thorough literature review as well as an empirical investigation was conducted. The data in the empirical study were collected by means of a questionnaire survey. This empirical study took the form of a needs analysis, the nature of which was explained in 5.4.2. The quantitative and the qualitative research methodologies were described and it was pointed out that, for

this study, both these approaches had been employed. The study furthermore falls into the category of a descriptive survey. The concepts "descriptive study", "reliability" and "validity" were described for measurement purposes (see 5.2). In addition, the use of questionnaires during the empirical study was discussed (see 5.3.2) and the pros and cons thereof referred to (see 5.4.1).

The six-category questionnaire used for this study was also discussed (see 5.3.2) and the manner in which the participants were contacted, was described. Ethical considerations, e.g. confidentiality, were referred to (see 5.6) and the data analysed (see 5.7).

The next chapter will deal with the results of the study and outline the findings of the investigation.

CHAPTER 6

RESULTS, DATA ANALYSIS AND DISCUSSION OF FINDINGS

6.1 INTRODUCTION

This chapter will deal with the results, the data analysis and a discussion of the findings which resulted from the questionnaire, Appendix C, designed for this study.

Questionnaires were dispatched by post as well as by means of electronic mail (cf. 5.3.2; 5.4.1). Respondents were granted three weeks to complete and return the questionnaires. There were four questionnaire rounds, i.e. four questionnaires were sent out over a period of 16 weeks. The questionnaire comprised six categories, divided into 77 subsections. A great many open-ended questions were included. The six categories were divided as follows:

- Category 1: Personal information.
- Category 2: Professional development.
- Category 3: Post-graduate/Post-diploma studies.
- Category 4: Further studies to obtain a formal qualification.
- Category 5: Detailed information on post-graduate/post-diploma programmes.
- Category 6: Awareness of the public need.

The number of questionnaires returned was 576, giving a response rate of 70.2%. Some exclusion criteria were applied, leaving a number of 397 fully

completed questionnaires which were then used for statistical analysis (cf. 5.5).

Open responses were recorded manually and grouped into categories. After extensive data checking, results were summarised by means of the percentages of respondents answering a specific question. Percentages were rounded off to one decimal, which may result in the fact that - when total percentages are added in a table - the total may not be exactly 100.0%. Such cases are indicated in the tables by means of an "(x)". Where the respondents could exercise more than one option, the percentages will also not give a total of 100.0%. Such cases are indicated by means of a "(y)". The data analysis was done by using the S.A.S. Programme by the Department of Biostatistics at the University of the Free State (cf. 5.7).

Descriptions and discussions of the data will now follow.

6.2 RESULTS OF CATEGORY 1: PERSONAL INFORMATION

The category "Personal information" is the first of six categories of information which was collected by means of a questionnaire (cf. Appendix C). Demographically determined variables, e.g. race, gender and age were taken into account. Information with regard to the qualifications of the respondents, the institutions where the qualifications had been obtained, the kind of practice in which optometrists worked, and the area in which the practice was located was recorded. In addition, respondents could also indicate whether they would be interested in obtaining a further (higher) qualification in optometry.

In each category, results were summarised by indicating the percentages of respondents answering a specific question. Open responses were

recorded manually and subsequently divided into subcategories. Note should be taken that this applied to each of the six categories. Tables were compiled to summarise or represent the data collected, while pie charts and bar codes were compiled to give a visual representation of some of the main findings. The pie charts and the bar codes will only be used as a summary of some of the main findings which had been summarised. These will, in other words, be provided at the end of each category.

The data in the first category, namely "Personal information", will now be presented and discussed. That will be followed by a description and a discussion of the data in the following category, namely "Professional development".

TABLE 6.1: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS
(Questions 1.3 – 1.5)

RACE	% OF RESPONDENTS (n=391)
White	54.7
Asian	19.7
Black	16.4
Coloured	1.0
No indication	8.2
GENDER	% OF RESPONDENTS (n=392)
Male	53.3
Female	46.7
AGE	% OF RESPONDENTS (n=395)
20 – 30 years	34.9
31 – 40 years	43.3
41- 50 years	15.2
51 – 60 years	6.6

DESCRIPTION

Table 6.1 indicates the demographic characteristic of the respondents.

The racial breakdown was as follows: 54.7% White, 19.7% Asian, 16.4% Black and 1.0% Coloured, while 8.2% of the respondents preferred not to indicate to which racial group they belonged.

The gender subcategory of the respondents indicated that 53.3% were male and 46.7% were female.

The age distribution was as follows: 43.3% fell into the 31-40-year-old age group, followed by 34.9% between the ages of 20-30 years. The older respondents were divided into two groups, namely 15.2% in the 41-50-year-old age group and 6.6% in the 51-60-year-old age group.

DISCUSSION

It appears from the data that the respondents were fairly evenly distributed between male and female. About half of the total were from the White race group, while more than 70.0% were between the ages of 20 and 40 years.

This is a fair reflection of the current overall demographics of the optometry profession in South Africa.

TABLE 6.2(a): QUALIFICATION PROFILE OF THE RESPONDENTS
(Question 1.6)

SOUTH AFRICAN QUALIFICATIONS			% OF RESPONDENTS (n=396) (y)
FORMAL QUALIFICATIONS	Optom. Applicable qualifications	Undergraduate	99.0
		Post-graduate (but not clinical)	15.9
	Other qualifications	Undergraduate	5.1
		Post-graduate	1.5
INFORMAL QUALIFICATIONS	Optom. Applicable qualifications		0.5
	Other qualifications		1.0
NON-SOUTH AFRICAN QUALIFICATIONS			
FORMAL QUALIFICATIONS	Optom. Applicable qualifications	Undergraduate	5.1
		Post-graduate	NA
	Other qualifications	Undergraduate	0.0
		Post-graduate	0.3
INFORMAL QUALIFICATIONS	Optom. Applicable qualifications		1.5

DESCRIPTION

In Table 6.2(a) the qualifications were divided into the categories of South African and non-South African qualifications and were then subdivided into formal and informal (undergraduate) qualifications. A further differentiation was made between undergraduate qualifications which are applicable to

the profession of optometry and those which are not. The same was done with regard to formal and informal post-graduate qualifications.

A formal South African undergraduate qualification was reported by 99.0% of the respondents. Non-clinical, formal post-graduate South African qualifications were reported by 15.9% of the respondents. Other formal South African qualifications were divided into 5.1% at undergraduate level and 1.5% at post-graduate level.

Informal South African qualifications applicable to optometry were reported by 0.5% and 1.0% related to non-applicable informal South African qualifications.

In the non-South African group, the undergraduate formal, applicable figure was 5.1%. Candidates who had obtained an applicable post-graduate clinical optometric qualification abroad, were excluded from the survey, since it would be unlikely that they would be interested in post-graduate optometry study in South Africa (cf. the exclusion criteria in 5.5). Only 0.3% achieved other post-graduate qualifications not in the field of optometry. In this latter field no one reported an undergraduate qualification. Some 1.5% reported an informal non-South African qualification applicable to optometry.

DISCUSSION

The data show that the majority of the respondents achieved a formal South African entry-level degree. The formal South African post-graduate optometry-related qualifications were all non-clinical, followed by a very limited group in the other formal South African post-graduate category. The non-South African qualifications lacked any applicable post-graduate representation. It therefore appears that optometry applicable, formal post-

graduate qualifications are very limited and that the greatest opportunity will be in the formal clinical post-graduate optometry qualification.

TABLE 6.2(b): PROFILE OF INSTITUTIONS (WHICH HAD BEEN ATTENDED BY THE RESPONDENTS) OFFERING QUALIFICATIONS

(Question 1.6)

SOUTH AFRICAN INSTITUTIONS			% OF RESP. (n=397) (y)
STATE EDUCATION AND TRAINING INSTITUTIONS	Institutions that offer optometric applicable qualifications	Only at undergraduate level	3.8
		Both at undergraduate and post-graduate level	93.7
	Institutions that offer other qualifications, but not directly applicable to optometry	Both at undergraduate and post-graduate level	4.5
PRIVATE INSTITUTIONS	Institutions that offer optometric applicable qualifications	Post-graduate level	1.5
NON-SOUTH AFRICAN INSTITUTIONS			
STATE EDUCATION AND TRAINING INSTITUTIONS AND PRIVATE INSTITUTIONS	Institutions that offer optometric applicable qualifications	Only at undergraduate level	2.0
		Only at post-graduate level	0.5
		Both undergraduate and post-graduate level	19.4
	Institutions that offer other qualifications, but not directly applicable to optometry	Undergraduate level	0.3

DESCRIPTION

Table 6.2(b) offers a profile of the institutions which had been attended by the respondents. It is divided into South African and non-South African institutions and then again subdivided into institutions which offer applicable education at undergraduate level only or at both undergraduate and post-graduate levels. The latter division also includes institutions which only offered or are still offering applicable education at a diploma level. A further division separated institutions that offer other qualifications at both levels. In the South African institutions differentiation was made between State and Private Institutions.

The results were as follows: The majority of the respondents (93.7%) qualified from South African institutions which offered both under- and post-graduate qualifications. Only 3.8% qualified from a South African institution that only offered undergraduate training. At the time some 4.5% of the qualifications were obtained at institutions offering non-applicable degrees at both levels. Only 1.5% of applicable post-graduate qualifications were obtained at private South African institutions.

At non-South African institutions, 2.0% received applicable qualifications from institutions that only offered undergraduate training; 0.5% where only post-graduate qualifications were offered; and 19.4% received qualifications from institutions that offered both levels of training. Non-applicable undergraduate qualifications represented a figure of 0.3%.

DISCUSSION

From this data it is clear that the majority of the respondents qualified from South African institutions that offered applicable under- and post-graduate qualifications. From Table 6.2(a) one will note that the post-graduate

South African qualifications were all of a non-clinical nature. A similar overall distribution is seen in the non-South African institutions and this again points to the fact that, although most South African institutions offer both levels, relevant clinical post-graduate optometry qualifications are lacking.

TABLE 6.3(a): TYPE OF PRACTICE
(Questions 1.7 and 1.8)

TYPE OF PRACTICE	TOTAL % OF RESPONDENTS (n=387) (x)
Private solo	49.6
Private group	39.8
Other	9.0
State	1.0
Solo and group	0.5

DESCRIPTION

Table 6.3(a) offers the following information on the type of practice: The respondents reported that 49.6% of them were in private solo practice; 39.8% in private group; 9.0% in other types of practices; 0.5% within solo and group practice; and 1.0% worked for the State.

DISCUSSION

99.0% of the respondents were from the private sector with about half in solo practice. The balance was made up of group practice, locum or consultant work and some in a combination of solo and group settings.

From this data it became clear that the State employed 1.0% of the respondents, which reflects a lack of commitment from the State to the delivery of comprehensive eye care services.

TABLE 6.3(b): LOCALITY OF THE PRACTICE
[Questions 1.9(a) and (b)]

LOCALITY	% OF RESPONDENTS (n=355)
Commercial district	52.4
Residential	42.8
Both commercial district and residential	4.2
Semi-residential/community	0.3
NA (e.g. university staff, etc.)	0.3
AREA	% OF RESPONDENTS (n=294) (x)
City area	64.3
Rural area	34.7
Township	0.3
Both city and rural areas	0.3
NA (e.g. university staff, etc.)	0.3

DESCRIPTION

Table 6.3(b) reflects the location of the practices where the respondents worked. The commercial district setting was most popular (52.4%), followed by residential areas (42.8%). A combination of the first two

indicated 4.2%; semi-residence/community 0.3%; and 0.3% did not fit into any profile offered.

The table further differentiates between practice locations in a city (64.3%); rural locations (34.7%); township practice locations (0.3%); both city and rural settings (0.3%); while 0.3% did not fit into any of the settings offered.

DISCUSSION

The data reflect that most of the respondents were from practices located in the commercial district of a city. The locations of practices in residential areas is not to be ignored at 42.8%, as well as rural practice locations at 34.7%. It is likely that the residential and the rural practice locations will increase as competition increases and lower rentals are recognised. Township- and community-based practice locations were very low at 0.3% as a result of a previous policy of separate development in the apartheid era. The practice location that did not fit into any category represented locum/industrial consultancy and NGO work. The locality profile may also change as the effect of community-based education and compulsory community service takes effect, whereby the profession is forced to learn and work in the rural and suburban community.

**TABLE 6.4(a): RESPONDENTS WHO WOULD LIKE TO OBTAIN A
FURTHER (HIGHER) QUALIFICATION IN
OPTOMETRY**

(Question 1.10)

FURTHER (HIGHER) QUALIFICATION	% OF RESPONDENTS (n=380)
Yes	60.0
No	39.5
"Yes" and "No"	0.5

DESCRIPTION

The data in Table 6.4(a) confirm that 60.0% of the respondents would have liked to obtain a further qualification in optometry. A smaller group of 39.5% declined (higher) qualifications and 0.5% answered both "Yes" and "No".

DISCUSSION

The data clearly indicate that there is a strong positive attitude towards further (higher) qualifications in the field of optometry and again emphasise the need/opportunity that exists. The next two data tables offer the reasons for the positive and the negative responses respectively. [It should be noted that "further education" means "further/continuing" tertiary formal study and *not* "further education" as applicable on the NQF (i.e. not the so-called "FET"), in other words approximately standards 6-10 in the informal sector.]

**TABLE 6.4(b): MOTIVATION/REASONS OF RESPONDENTS WHO
WOULD LIKE TO OBTAIN A FURTHER (HIGHER)
QUALIFICATION IN OPTOMETRY**
(Question 1.11)

MOTIVATION/REASON	% OF RESPONDENTS (n=187)
For a broader scope, skills base, better, wider care	60.0
To update knowledge and skills, resulting in self-development/personal development	27.8
To enhance the importance of education	4.8
For international accreditation/degree	4.3
To meet CPD requirements	2.7
Development with a view to an academic career	0.5

DESCRIPTION

Table 6.4(b) reflects the motivation behind the positive answers in Table 6.4(a). Here, 60.0% of the respondents reasoned that further qualifications would assist them in a broader, better skills and care base. A smaller group of 27.8% gave reasons of a more personal, self-developmental nature. This was followed by 4.8% of the respondents who felt that it would enhance the importance of education. A slightly smaller group of 4.3% gave the main reason as international accreditation, while 2.7% felt it was the way in which they preferred to meet CPD requirements. The last group of 0.5% wanted further qualifications in order to develop an academic career.

DISCUSSION

The data confirm that most of the respondents who answered affirmatively in Table 6.4(a), felt that a broader scope (skills base) should be preceded by formal (higher) qualifications. About a third felt the need to develop more on a personal level, but did link it to up-to-date skills and knowledge and may indicate to a broader scope as well. The recognition of the importance of education in the third group relates to the first group as well, while international recognition and an academic career in this context did not rate high.

From this data it is clear that, for higher educational optometric programmes to be popular and successful, they will need to be aimed at broadening the scope of the profession. The challenge for providers would be to address this need by providing appropriate education and training matching the needs of the public and the work place.

Scope should be based on the public need, while competency should not be determined by what medicine wants to allow on "their" turf.

TABLE 6.4(c): MOTIVATION/REASONS GIVEN BY RESPONDENTS WHO WOULD NOT LIKE TO OBTAIN A FURTHER (HIGHER) QUALIFICATION IN OPTOMETRY

(Question 1.12)

MOTIVATION/REASON	% OF RESPONDENTS (n=95)
No interest	29.5
Scope must be broader first	15.8
Too old	14.7
Would rather do short courses	10.5
Problem with logistics	8.4
No increase in remuneration	8.4
Adequately/over-qualified	6.3
Would rather do CPD	3.2
Looking for a new career	2.1
Only clinical training	1.1

DESCRIPTION

Of those who said "No" in Table 6.4(a), Table 6.4(c) reflects a large group of 29.5% who were not interested in formal studies at all. Some 15.8% felt that broader scope parameters should be in place first, followed by 14.7% who felt that they were too old to study further. Short courses only were preferred by 10.5% and 8.4% indicated that logistics presented the biggest problem. The lack of increased remuneration was the main reason

provided by 8.4%, while 6.3% felt that they were adequately or over-qualified. A smaller group of 3.2% felt that they would rather do CPD courses, followed by 2.1% who were looking for a new career and 1.1% who only wanted clinical exposure.

DISCUSSION

The data indicate that almost 30.0% of the respondents who answered in the negative had no interest in a higher qualification. This was followed by a group who wanted legislation prior to education. These two reasons amounted to about half of the negative answers and the balance can be accounted for as follows: Some respondents showed a preference for short courses or they felt they were too old; logistics presented a problem; no increase in fees was a negative aspect; and, to a lesser extent, the reasons of adequate qualification; adequate CPD courses; a different career was sought; and only clinical exposure was needed.

Most of the reasoning behind the negative answers is of such a personal nature that institutions that wish to offer higher qualifications, cannot use this information to tailor post-graduate programmes. However, this group should be kept informed, as there are some obvious misconceptions about the process of education and scope reform.

It became clear that, for various reasons, there is resistance to change, e.g. general apathy, professional jealousy, comfort zones, fear of the future, etc.

6.3 SUMMATIVE CONCLUSION ON CATEGORY 1: PERSONAL INFORMATION

The demographic data confirm a modern trend in the gender representation, while data on race show a demographic shift towards the normalisation of South African society that is arguably the most advanced in all of the health professions. It is therefore ironic that the State employs such a small number of optometrists and that the State's sincerity in addressing the delivery of eye care to the broader population can be questioned. It is a fact that State policy in eye care was traditionally based on ophthalmology input and that ophthalmology obviously withheld motivation to include optometrists in the public sector. This history of reluctance on the side of the State, supported by ophthalmologists, indirectly limited optometry education and training in the public sector and the exposure to that sector, thereby increasingly driving optometrists into commercial activity hemmed in by a limited scope.

The above-mentioned factors, as well as the policy of separate development, are central to the lack of an economically viable middle class and resulted in the fact that about 75.0% (30 million) of the population cannot afford private care, thereby placing huge demands on inadequate and fragmented public care. From the researcher's personal experience as Chairman of the Professional Board for Optometry and Dispensing Opticians, it should be noted that the State employs only 40 to 50 ophthalmologists and 20 to 25 optometrists country-wide.

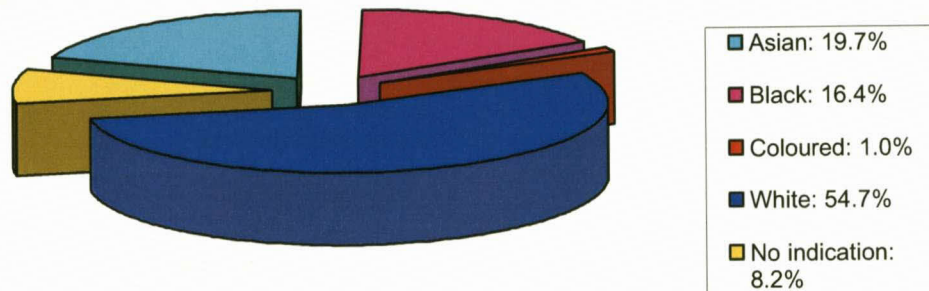
Although it is clear from the data that the majority wished for higher South African qualifications in clinical optometry, local schools have failed to address this need or to redress training to meet the needs of the public sector.

Figure 6.1 provides a graphic presentation of some of the aspects of the main findings on Category 1.

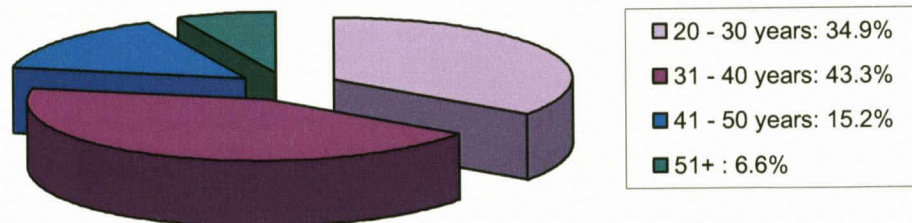
FIGURE 6.1: GRAPHIC PRESENTATION OF SOME OF THE ASPECTS OF THE MAIN FINDINGS ON CATEGORY 1: PERSONAL INFORMATION

a) Demographic characteristics of respondents with regard to:

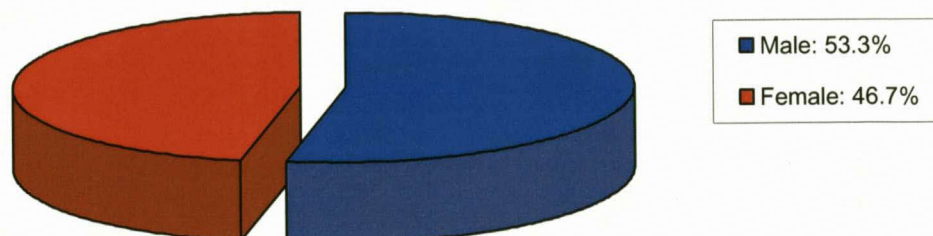
RACE (n=391)



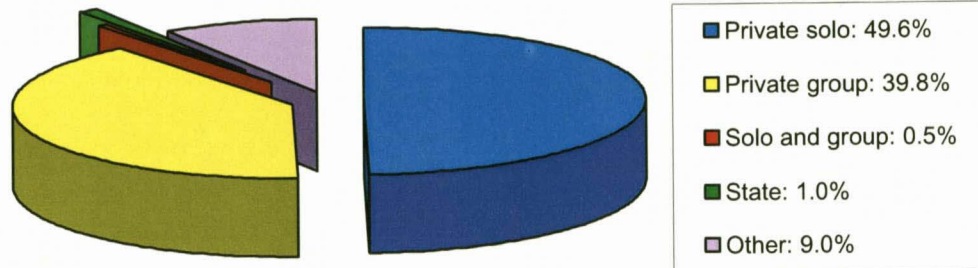
AGE (n=395)



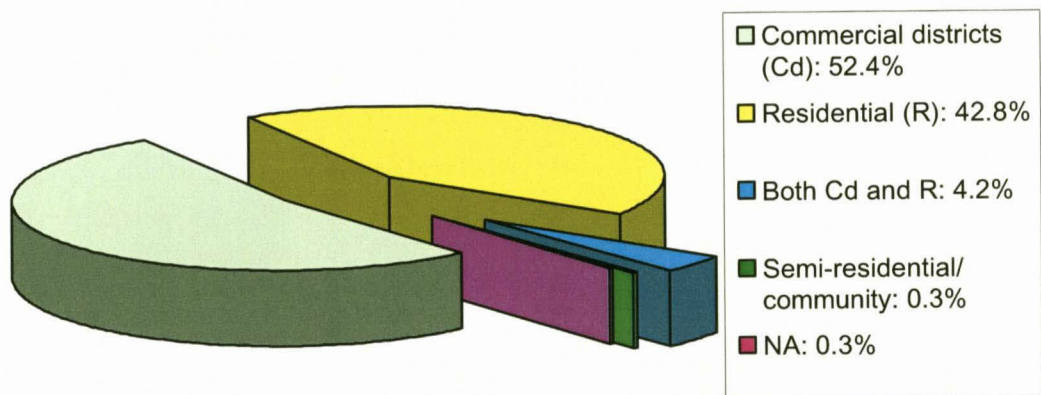
GENDER (n=392)



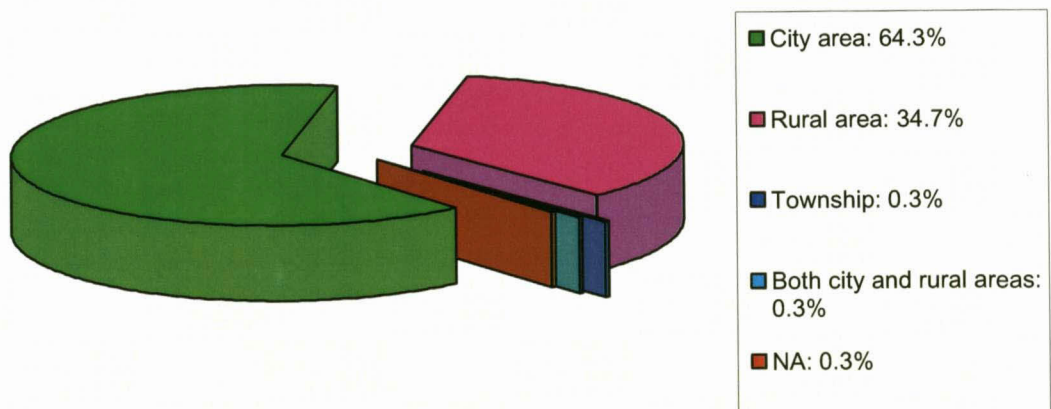
b) Type of practice (n=387)



c) Locality of practice (n=355)



d) Area where practice is situated (n=294)



6.4 MAIN FINDINGS OF THIS CATEGORY

The following are the main findings of this category:

- As a result of the researcher's experience as the Chairman of the Professional Board for Optometry and Dispensing Opticians, he reached the conclusion that the respondents' demographics are a fair reflection of the current demographics of the profession.
- The racial distribution is still not representative of society in general.
- 99.0% of the respondents achieved a South African undergraduate degree with no clinical post-graduate qualification. The opportunity for clinical post-graduate qualifications is therefore without question.
- Although most South African institutions do offer post-graduate qualifications, they are for the most non-clinical or research-based.
- Only 1.0% of the respondents were employed by the State. This fact correlates well with the ± 25 posts nationally.
- Almost 35.0% of the respondents practised in rural settings.
- 49.6% of the respondents practised private solo, while 60.0% of the respondents indicated that they wished to obtain a higher qualification. Of this group 60.0% reasoned that a broader scope would be their motivation for obtaining a higher qualification.
- About 20.0% of those who did not indicate a willingness to obtain a higher degree, had no interest.

6.5 RESULTS OF CATEGORY 2: PROFESSIONAL DEVELOPMENT

The category "Professional development" is the second of six categories of information which was collected by means of a questionnaire (cf. Appendix C).

Respondents were asked to express their opinion as to whether they were keeping abreast of changes in the field of optometry and in which way they were doing this. In addition, information was obtained to determine if there were enough opportunities to keep abreast and whether they were experiencing any problems. Respondents also had to indicate which factors were playing a role to motivate them to take part in CPD, as well as to whether the existing available CPD activities addressed their needs. Respondents' opinion was furthermore obtained as to how they were going to obtain the acquired points for CPD, especially with a view to maintain their registration as optometrists. They also had to give an indication as to what kind of CPD activities they preferred to take part in. Further information was collated with regard to whether respondents would be interested in specialising in the field of optometry; if they were of the opinion that formal post-graduate qualifications should form the basis of such a specialisation programme; and whether formal qualifications should represent the expanded scope of privileges which would recognise a broader skills base.

The data in the second category, namely "Professional development", will now be represented and discussed. That will be followed by the description and discussion of data in the following category, namely "Post-graduate/Post-diploma studies".

**TABLE 6.5(a): RESPONDENTS' OWN PERCEPTION AS TO
WHETHER THEY WERE KEEPING ABREAST OF
DEVELOPMENTS IN THE FIELD OF OPTOMETRY
PRACTICE**

(Question 2.1)

RESPONDENTS' PERCEPTION	% OF RESPONDENTS (n=393)
Yes	81.4
No	18.6

DESCRIPTION

Table 6.5(a) shows that 81.4% of the respondents felt that they were keeping abreast of developments in the field of optometry practice. The balance of 18.6% felt that that was not the case.

DISCUSSION

This data show a high level of positive self-opinion and can only be tested via a set of self-evaluation criteria still to be formulated. Such a system will make CPD with evaluation the more meaningful option in the future. The CRISIS model as discussed in Chapter 4 could form a basis for this. Few professionals will admit that they do not keep abreast. It is therefore important that the reasons for the affirmative answers are carefully evaluated.

**TABLE 6.5(b): RESPONDENTS' WAYS OF KEEPING ABREAST
OF DEVELOPMENTS IN THE FIELD OF
OPTOMETRY**

(Question 2.2)

REASONS	% OF RESPONDENTS (n=228) (y)
Reading magazines/newsletters	39.9
Reading journals/publications	31.6
Via short courses	25.4
Attending conferences/congresses	20.6
Via seminars/lectures	16.7
Attend meetings/discussion groups	14.0
Via electronic media/Internet/DSTV	12.7
Via general CPD	5.7
Further formal studies	4.8
By doing extra clinical work	1.8
Reading text books	0.9
By presenting lectures	0.9
Via the use of new technology in the field	0.4

DESCRIPTION

Table 6.5(b) shows the manner in which respondents, who answered affirmatively in Table 6.5(a), were keeping abreast of developments. The majority (39.9%) listed magazines and newsletters as the main medium

they used. This was followed by 31.6% who reported the reading of journals and publications to be the manner in which they kept up to date.

The next group consisted of those who indicated attending short courses (25.4%); conferences and congresses (20.6%); seminars and lectures (16.7%); and meetings and discussion groups (14.0%).

Electronic media/Internet/DSTV were reported by 12.7% of the respondents as their preferred medium. General CPD (5.7%) included responses like "All opportunities" and ensuring that care was up to date and of a clinical nature. Only 4.8% of the respondents used formal studies as a means to keep abreast. Extra clinical work (1.8%); reading textbooks (0.9%); presenting lectures (0.9%); and the use of new technology (0.4%) made up the rest of the responses.

DISCUSSION

The respondents favoured the use of printed media (71.5%) to keep up to date. By adding electronic media (12.7%) and other home-/practice-based activities such as reading textbooks and the use of new technology, it is clear that the vast majority preferred the convenience of their homes/practices and this is the area which the providers of CPD will have to concentrate on. It remains to be seen if the habit of flocking to a congress or a seminar will lose its appeal, as the exhibition of products and technology and social activity cannot be ignored.

However, without an evaluation instrument, the success of the informal CPD activities will remain vague.

TABLE 6.6(a): RESPONDENTS' VIEWS ON ADEQUATE OPPORTUNITIES TO STAY INFORMED IN THE FIELD OF OPTOMETRY

(Question 2.3)

OPPORTUNITIES AVAILABLE	% OF RESPONDENTS (n=389) (x)
Yes	64.3
No	35.0
"Yes" and "No"	0.8

DESCRIPTION

Of the total number of respondents, 64.3% felt that there were adequate opportunities to stay informed in the field of optometry. The total percentage of the respondents who answered in the negative amounted to 35.0%, while 0.8% were unsure.

DISCUSSION

A large group was of the opinion that there were adequate opportunities. However, the number of those who felt the opposite, was alarmingly high. This is perhaps because compulsory CPD is in its first five-year cycle and not all providers have formulated and communicated their programmes yet. The challenge would be to research why one-third felt negative and to address their reasons.

TABLE 6.6(b): RESPONDENTS' REASONS FOR CONFIRMING THAT THERE WERE SUFFICIENT OPPORTUNITIES TO KEEP INFORMED IN THE FIELD OF OPTOMETRY

(Question 2.4)

REASONS/MOTIVATION	% OF RESPONDENTS (n=100)
Easy access to magazines	21.0
Easy access to Internet	19.0
Attend seminars and conferences	14.0
Attend short courses	12.0
Easy access to local and international journals	10.0
Self-motivation	6.0
Sufficient opportunities, but lack of self-motivation	4.0
Attend product launches	3.0
Enough opportunities, but lack international exposure	3.0
Adequate opportunities, but mainly in major centres	2.0
Attend study groups	2.0
Sufficient opportunities, but there is a need for more formal post-graduate courses	2.0
Because the UFS is introducing optometry	1.0
Sufficient opportunities, but more clinical workshops are necessary	1.0

DESCRIPTION

In Table 6.6(b) the responses of those who felt that sufficient opportunities existed, are reflected. Easy access to magazines (21.0%), the Internet (19.0%) and journals (10.0%) was the main reason.

Attending seminars (14.0%), short courses (12.0%), study groups (2.0%) and product launches accounted for the second major grouping of reasons. Although they felt there were sufficient opportunities, 3.0% of the respondents felt that international exposure was lacking, while 2.0% also felt that opportunities were sufficient, but indicated that they were too far from major centres. A further 2.0% felt that, although there were sufficient opportunities, more formal courses were needed.

1.0% felt that the introduction of a new programme at the UFS would create more opportunities. A further 1.0% also felt that, although opportunities were sufficient, the content should be more clinical and more hands-on. 6.0% of the respondents felt that the main reason for them reporting adequate opportunities was the fact that they were self-motivated. However, 4.0% felt the same about the opportunities, but lacked the self-motivation to make use of them.

DISCUSSION

Of the 250 respondents who felt that opportunities were adequate, only 100 offered reasons for saying so. The respondents who felt there were sufficient opportunities, stated the main reason to be easy access, a willingness to attend congresses/seminars, etc., and their own self-motivation. There was also a group who felt that, although there were sufficient opportunities, they had problems with self-motivation, lack of clinical content, distance from the delivery site, and a lack of formal

courses. The providers of CPD need to take note of the reasons for the positive responses and expand on them.

TABLE 6.6(c): RESPONDENTS' REASONS FOR STATING THAT OPPORTUNITIES TO STAY INFORMED IN THE FIELD OF OPTOMETRY WERE NOT SUFFICIENT

(Question 2.4)

RESPONDENTS' REASONS	% OF RESPONDENTS (n=91) (x)
Poor communication	20.9
Too far from major centres	19.8
Lack of self-motivation	18.7
More clinical workshops	9.9
Poor journals locally	6.6
Not sufficient opportunities, currently prefer short courses	5.5
Need formal post-graduate courses	5.5
Not enough international exposure	4.4
Too expensive	3.3
Professional bodies disorganised	2.2
Self-motivation	1.1
Too scientific	1.1
Not sufficient opportunities, best option is on the Internet	1.1

DESCRIPTION

In this table, the reasons are reflected why respondents felt that opportunities were not sufficient. A major reason was poor communication (20.9%), followed by distance (19.8%), as well as a lack of self-motivation (18.7%).

Other reasons were the lack of clinical workshops (9.9%); poor local journals (6.6%); the need for formal post-graduate courses (5.5%); insufficient international exposure (4.4%); high costs (3.3%); while 2.2% felt that the professional bodies were disorganised. Although some respondents (5.5%) felt that the opportunities were insufficient, they preferred to attend current short courses. "Too scientific" was a reason provided by 1.1% of the respondents. A small group (1.1%) felt that there were insufficient opportunities, but it depended on their own self-motivation whether they could create their own. Another small group (1.1%) reported insufficient opportunities, but felt the Internet was the solution.

DISCUSSION

Of the 136 respondents who felt opportunities were inadequate, 91 offered reasons for saying so.

It is clear from the data that respondents who felt that there were insufficient opportunities, blamed it on facts like "Poor communication", "Not offered in smaller centres" and "A lack of self-motivation". Another factor which was highlighted, was that clinical workshops were lacking. Although there are short courses on offer, it is clear that the respondents wanted more international exposure and formal post-graduate course work. Other reasons were costs, poor organisation and content that were too scientific.

One may therefore assume that it will be fairly easy to remedy the major complaints, whilst others will be self-limiting. Providers of CPD need to concentrate on addressing these major reasons for not recognising opportunities when planning, promoting and delivering CPD activities.

TABLE 6.7(a): RESPONDENTS EXPERIENCING STUMBLING-BLOCKS IN PROFESSIONAL DEVELOPMENT
(Question 2.5)

RESPONDENTS' FEEDBACK	% OF RESPONDENTS (n=392)
Yes	51.5
No	48.0
"Yes" and "No"	0.5

DESCRIPTION

When replying to the question whether respondents experienced stumbling-blocks in professional development, 51.5% answered in the affirmative, 48% in the negative, while 0.5% were unsure.

DISCUSSION

The reasons for the high positive ("Yes") responses are explored in Table 6.7(b), as it is clearly of concern that more than half of the respondents felt that this concept, core to lifelong learning, presents stumbling-blocks.

**TABLE 6.7(b): STUMBLING-BLOCKS EXPERIENCED BY
RESPONDENTS IN TERMS OF THEIR
PROFESSIONAL DEVELOPMENT**
(Question 2.6)

REASONS PROVIDED	% OF RESPONDENTS (n=184) (y)
Cost	28.8
Loss of income	26.6
Distance	22.3
Poor scheduling	9.3
No broader scope privileges	9.2
Lack of self-motivation	8.2
No formal post-graduate courses	7.1
Disagree with course content	4.4
Opposition from Ophthalmology	4.4
Poorly structured	3.3
Commercial/franchises unethical	2.2
Not enough international input	1.6

DESCRIPTION

Table 6.7(b) offers information with regard to the reasons why respondents felt they were experiencing stumbling-blocks in their professional development. Cost at 28.8%; loss of income at 26.6%; and distance at 23.3% all relate to a negative financial impact. Poor scheduling (9.3%);

lack of scope privileges (9.2%); and a lack of self-motivation (8.2%) carried a similar weight as the first reason.

Lack of formal post-graduate courses were provided as a reason by 7.2% of the respondents; 4.4% disagreed with the current course content of short courses; while opposition from Ophthalmology was given as a reason by another 4.4%.

Some 3.3% felt that courses were poorly structured and 1.6% felt that these courses needed more international input. The final grouping of 2.2% felt that the commercialisation of the profession made professional development irrelevant.

DISCUSSION

The financial implications were raised by 77.7% of the respondents. The second-largest problem was due to organisational issues and the balance due to regulatory matters.

The challenge for providers would be to reduce costs or add value to CPD, organise better and make the profession aware of the regulatory process. This, in other words, entails addressing the "What's in it for me?" concept.

TABLE 6.8: FACTORS WHICH MOTIVATE RESPONDENTS TO ENGAGE IN CONTINUING PROFESSIONAL DEVELOPMENT (CPD)

(Question 2.7)

FACTORS	% OF RESPONDENTS (n=259) (y)
To offer better standard of care	33.6
To acquire a broader scope	27.8
If there is sponsorship	11.6
If there is regulation making it compulsory	10.8
If there is financial reimbursement for new skills	9.7
If there is variety	8.9
If there is recognition internationally	6.2
Self-motivation	2.7
If there is introduction of new technology	2.7
If it is part of an academic career	1.9
If it creates public sector posts	1.5
If there is recognition via certification/qualification	1.2
If you punish those who contravene advertising laws	0.8

DESCRIPTION

The respondents felt that the major motivating factor to engage in CPD was to be able to offer a better standard of care (33.6%). To acquire a broader scope was a factor reported by 27.8%. Respondents felt that if the following needs/conditions were addressed, they would be more inclined to engage in CPD activities, namely sponsorship to attend (11.6%); compulsion (10.8%); remuneration for new skills (9.7%); variety in content (8.9%); international recognition (6.2%); self-motivation (2.7%); furthering an academic career (1.9%); creation of public sector posts (1.5%); recognition via certification/qualification (1.2%); and punishment of unethical behaviour (0.8%).

DISCUSSION

From the data it is clear that about 60.0% of the respondents saw broader scope and better standards of care as being of paramount importance. Financial factors related to higher fees for broader skills, as well as sponsorship to reduce the cost of CPD, were also regarded as being important. Most of the remaining factors echoed the previous opinion. From this and other related responses to questions, it is clear that the challenge for CPD providers would be to reduce costs and address the other concerns for CPD to be judged meaningful and of value to the respondents.

**TABLE 6.9(a): RESPONDENTS' PERCEPTION AS TO WHETHER
CURRENT CPD ACTIVITIES MET THEIR NEEDS**
(Question 2.8)

RESPONDENTS' PERCEPTION	% OF RESPONDENTS (n=374)
Yes	64.4
No	33.7
"Yes" and "No"	1.9

DESCRIPTION

A majority (64.4%) of the respondents felt that current CPD activities met their needs. A total of 33.7% felt their needs were not met and 1.9% were not sure.

DISCUSSION

Although close to two-thirds of the respondents indicated that current CPD activities met their needs, more than a third felt that their needs were not met at all. The reasons for their responses are reflected in Tables 9(b) and 9(c). It is important to note that many of the reasons had specific conditions attached to the original "Yes" answer. With that in mind, one may assume that the response is actually an overwhelming "No".

**TABLE 6.9(b): RESPONDENTS' REASONS FOR STATING THAT
CURRENT PROFESSIONAL DEVELOPMENT
ACTIVITIES MET THEIR NEEDS**
(Question 2.9)

REASONS	% OF RESPONDENTS (n=93) (x)
Activities offered during CAS courses are sufficient	25.8
In general, current activities on offer are sufficient	25.8
Yes, but actually too soon to comment	10.8
Yes, but content must be more relevant	10.8
Yes, but content must be more practical/clinical	5.4
Yes, but content must lead to broader scope	5.4
Yes, but must have better scheduling	5.4
Working at or situated near an academic institution	3.2
Yes, but more international content must be included	2.2
Yes, but the distance to centres offering CPD is inconvenient	2.2
Help to give better care (improvement of care)	2.2
Yes, but content must be compiled in such a way that it will make specialisation possible	1.1

DESCRIPTION

This table offers information regarding the main reasons for the affirmative responses in Table 6.9(a). A fairly large group (25.8%) felt that activities offered during CAS courses fulfilled their needs. A group similar in size did not indicate a specific course, but also felt current activities which were offered, fulfilled their needs. Those who felt it was too soon to express an

opinion amounted to 10.8%, while 24.9% indicated that their affirmative responses were conditional to the following: 10.8% wanted content to be more practical; 5.4% wanted the content to lead to a broader scope; 2.2% wanted more international participation; and 1.1% preferred content to be structured in such a way that it would lead to specialisation.

More than 7.0% indicated that current CPD activities met their needs, but that certain logistics could be improved by way of better scheduling of opportunities (5.4%) and by reducing the distance (2.2%) from where the activities were being offered. A group of 3.2% provided involvement with an academic institution or that they lived/practised near an academic institution as a reason. A smaller group of 2.2% felt that their needs were met because it helped them improve patient care.

DISCUSSION

The data in the above table indicate that respondents were generally satisfied that current activities met their needs. Providers need to expand on the activities preferred most, but need to note the conditions that were raised regarding content, end goal and logistics. Ideally, all CPD should have a positive impact on patient care.

**TABLE 6.9(c): RESPONDENTS' REASONS FOR STATING THAT
CURRENT PROFESSIONAL DEVELOPMENT
ACTIVITIES DID NOT MEET THEIR NEEDS**
(Question 2.9)

REASONS	% OF RESPONDENTS (n=108)
Programme content not relevant	23.2
Not enough clinical training is on offer	12.0
Too soon to comment	12.0
Distance to venues too far	11.1
Too costly	9.3
Poor scheduling of activities	9.3
CPD activities on offer do not lead to broader scope	5.6
Although activities on offer did not meet needs, respondents were enrolled for CAS courses	5.5
CPD activities on offer do not lead to specialisation	3.7
In need of distance education programmes	3.7
Programmes do not have international recognition	2.8
Do not receive enough information	0.9
Activities on offer did not meet needs, but Internet, SAOA information and reading helped	0.9

DESCRIPTION

The fact that current CPD activities did not meet respondents' needs is presented in this table. More relevant programme content topped the list with 23.2%, followed by 12.0% who reasoned that a more clinical orientation was required. Some 5.6% felt that CPD activities did not lead to

a broader scope; 3.7% reasoned that CPD did not offer opportunities to specialise; 2.8% argued the fact that there was not sufficient international content; and 3.7% would rather take part in distance education.

Organisational and logistical stumbling-blocks were given as reasons by 30.6% of the respondents who felt current CPD activities did not meet their needs. This particular group was divided into 11.1% who reported distance to be the main reason; 9.3% blamed poor scheduling; and 0.9% the lack of information received.

Although 6.4% of the respondents were not satisfied with current CPD opportunities, 5.5% did enrol for the CAS courses and 0.9% made use of the SAOA, the Internet and journals, as they needed to earn CPD points. 12.0% of the respondents felt it was too early to express a reason, but did indicate that current opportunities did not meet their needs.

DISCUSSION

Although the reasons motivating both the "Yes" and the "No" responses are remarkably similar, the only difference is that some of the affirmative responses contain reasons which are conditional. However, respondents felt that the CAS type course was the strongest reason for saying "Yes". This would indicate that the provider should consider this type of CPD as the anchor "tenant" of CPD; act on the criticism; and offer other activities of a different nature peripherally to the anchor programme.

It is interesting to note that CAS courses all require the candidates to be evaluated prior to qualification. In the USA moves are afoot to bring this kind of CPD to continuing education (CE), namely CE square (CE²) where

the second "E" stands for evaluation. This is also an element in the CRISIS model.

**TABLE 6.10: RESPONDENTS' WAYS OF ACQUIRING CPD
POINTS IN ORDER TO MAINTAIN A LICENCE TO
PRACTISE**

(Question 2.10)

WAYS OF ACQUIRING POINTS	% OF RESPONDENTS (n=369) (y)
Attending conferences/seminars	51.5
Short courses (CAS)	36.3
Articles/journals/Internet	35.2
All opportunities	11.7
Practical sessions	8.7
Study groups	7.9
No idea	5.4
Community clinics	5.4
Lecturing	3.8
Formal study	1.1
Disagree with concept	0.8
Articles on CD	0.3

DESCRIPTION

The way in which respondents aimed to acquire CPD points varied, but more than half (51.5%) felt they would attend conferences and seminars; 36.3% would attend short courses like the CAS; and 35.2% would read articles, journals or make use of the Internet. A smaller group of 11.7% felt they would use all opportunities; 8.7% would attend practical workshops; 7.9 % chose study groups; 5.4% had no idea; 5.4% reported that they would work in clinics; 3.8% would lecture; 1.1% would take part in formal studies; 0.8% disagreed with the concept; and 0.3% indicated that they would make use of articles on CDs.

DISCUSSION

The responses indicate a traditional trend, possibly because CPD is new and all avenues had not yet been explored and experienced by the respondents. Regulators and providers will need to spend more time on developing and promoting all spheres of CPD. It is interesting to note that, according to Table 6.5(b), 71.5% of the respondents preferred printed media, yet here their main intention was to attend congresses/seminars (51.5 %).

TABLE 6.11(a): CPD ACTIVITIES PREFERRED BY RESPONDENTS
(Question 2.11)

ACTIVITY	% PREFERRED (n=397) (y)
Informal activities to acquire points (e.g. study groups, reading professional journals)	46.6
Formal activities which do not necessarily lead to a formal qualification (e.g. seminars, congresses)	40.6
Formal activities which lead to a formal qualification	19.4
All of the above	34.3

DESCRIPTION

Table 6.11(a) reflects the CPD activities which respondents indicated they preferred best. These were divided into "Informal activities" (46.6%); "Formal activities" (40.6%); "Formal activities which lead to formal qualifications" (19.4%); and "All of the above" (34.3%).

DISCUSSION

The first group obviously preferred the convenience and low cost of informal activities, whilst the second group preferred a more traditional form of CPD. Although the third option was only preferred by about 20.0%, one could argue that those in the last group could easily be persuaded to elect a formal qualification if it met certain criteria that would be attractive to them, such as the reasons given to questions probing the shortcomings of short courses and CPD.

The challenge for providers will be to balance formal and informal activities in a manner that will satisfy all the different groups by providing relevant activities that could form part of formal studies and could be presented in an educational model which could be evaluated for the different competencies and criteria to satisfy regulations at institutions.

This response stands in contrast to the previous table where the preferred intention to earn points would be to attend congresses and seminars. It is therefore indicative that something is either wrong with current informal CPD activities on offer or that the social attraction of congresses and trade exhibitions is stronger than the respondents wished to admit.

TABLE 6.11(b): RESPONDENTS' REASONS WHY THEY PREFERRED TO PARTICIPATE IN CERTAIN CPD ACTIVITIES

(Question 2.12)

REASONS	% OF RESPONDENTS (n=175)
Want informal activities (study groups/journals), because they are home-based/attract people who think in a similar manner; variation	29.7
Formal qualifications require commitment; recognise specialisation; more employable	21.7
Want formal activities (seminars/congresses) because they are structured/shorter time span	12.6
All of the above (with conditions)	36.0

DESCRIPTION

According to this table, 29.7% of the respondents preferred informal activities, as they are home-based, inexpensive and convenient; bring similar thinking persons together; and provide for variation. Formal qualifications were preferred by 21.7%, as they require commitment, recognise speciality skills and make the individual more employable. Some 12.6% preferred formal activities, as they are more structured and happen over a shorter period of time, while 36.0% did not indicate any specific preference.

DISCUSSION

This discussion will cover the reasons as reflected in Table 6.11(b) as to why respondents chose the activities in Table 6.11(a).

From the data it is clear that respondents preferred informal activities mainly because they are home-based/inexpensive, convenient, etc.

In general, it is evident that the respondents would have preferred to exercise personal options without being reminded of the formal or informal nature of a course. It remains the challenge for providers to offer courses in such a way that practitioners may choose to make it part of a formal qualification.

The concept of creating "currency" that could be used at any stage to "buy into" a formal qualification is in line with the current principles of higher education.

TABLE 6.12(a): RESPONDENTS' DESIRE TO SPECIALISE IN AN OPTOMETRY FIELD

(Question 2.13)

RESPONDENTS' DESIRES	% OF RESPONDENTS (n=387) (x)
Yes	53.5
No	46.3
"Yes" and "No"	0.3

DESCRIPTION

In this table 53.5% of the respondents indicated that they wished to specialise in a field in optometry. A small number of 0.3% were unsure and 46.3% answered negatively.

DISCUSSION

It is clear from the data that there is a strong desire for specialisation and it would be interesting to measure this desire in other Health Professions. It also indicates that undergraduate training may be so broad that speciality skills cannot be mastered in four years' time and respondents felt that different niche markets existed in the field of optometry. This response dictates the major type of post-graduate qualification which institutions may wish to offer.

TABLE 6.12(b): THE EXTENT TO WHICH RESPONDENTS AGREED THAT FORMAL POST-GRADUATE QUALIFICATIONS SHOULD FORM THE BASIS OF SUCH SPECIALISATION

(Question 2.14)

RESPONDENTS' ANSWERS	% OF RESPONDENTS (n=202)
Yes	92.6
No	7.4

DESCRIPTION

According to this table respondents agreed by a vast majority (92.6%) that formal post-graduate qualifications should form the basis of specialisation. Only 7.4% disagreed.

DISCUSSION

The large positive response in Table 6.12(a) indicates a specific direction with regard to the nature of post-graduate qualifications, which will recognise specialisation.

It is a well-known fact that the public often have to visit several practitioners when they experience a particular problem before they reach someone with the necessary skills. This is wasteful and the public should be afforded the opportunity to identify practitioners with speciality skills. The post-graduate route which institutions may wish to follow is clear.

TABLE 6.12(c): RESPONDENTS' REASONS WHY THEY FELT THAT A FORMAL POST-GRADUATE QUALIFICATION SHOULD FORM THE BASIS OF SPECIALISATION

(Question 2.15)

REASONS	% OF RESPONDENTS (n=111) (x)
Need to differentiate skills in specific fields	33.3
Undergraduate not sufficient	27.0
Ensures a certain standard of education and care	20.7
The only option	9.0
Yes, but not to Ph.D. level	5.4
An international trend	2.7
Yes, but broader scope parameters needed first	1.8

DESCRIPTION

More than 75.0% of the responses could be divided into three categories, namely a need to differentiate skills in specific fields (33.3%); undergraduate education not being sufficient (27.0%); and ensuring a certain standard of education and care (20.7%). 9.0% of the respondents felt it was the only option. An international trend was provided as a reason by 2.7% and 1.8% felt that legislation should first be in place. Although 5.4% were in agreement with the concept, they were against specialisation at the Ph.D. level.

DISCUSSION

From the data it is clear that the respondents favoured formal qualifications. Those who mentioned legislation as a negative factor, did not understand that one needs to educate before one can legislate. Similarly, new trends and structures in higher education can address the Ph.D. fear and will assure quality.

TABLE 6.12(d): RESPONDENTS' VIEW THAT A FORMAL POST-GRADUATE QUALIFICATION SHOULD NOT FORM THE BASIS OF SPECIALISATION

(Question 2.15)

REASONS	% OF RESPONDENTS (n=13) (x)
Experience/knowledge more important than a piece of paper	46.2
We need to refer to one another	15.4
Broader scope parameters needed first	15.4
Undergraduate qualification not sufficient/first expand	7.7
Rather develop better clinical guidelines	7.7
Field much too narrow/too much overlap	7.7

DESCRIPTION

In this table the reasons for not electing post-graduate training as a basis for speciality are reflected. 46.2 % felt that experience was more important than a piece of paper; 15.4 % wanted a broader scope prior to education;

and 7.7% felt the field was too narrow or that there was too much overlapping to separate a speciality. Another 7.7% suggested that the undergraduate programme should rather be expanded and the same number would rather see better clinical guidelines being developed.

DISCUSSION

In response to the reasons, it is important to note the following: It is a fact that "practice makes perfect" and any speciality course without clinical modules will fail to deliver the career outcomes required. Qualification-based recognition will facilitate inter-professional referrals and education will always precede expansion. The introduction of appropriate post-graduate training will indirectly allow the undergraduate programme to be reviewed in order to provide a better base for specialisation, whilst more attention is given to the immediate needs such as public sector employment and primary health care requirements. Clinical guidelines have the desired effect when integrated during formal qualifications and serve as a reminder/reference thereafter.

TABLE 6.13(a): RESPONDENTS' AGREEMENT THAT FORMAL QUALIFICATIONS SHOULD REPRESENT EXPANDED SCOPE PRIVILEGES

(Question 2.16)

RESPONDENTS' ANSWERS	% OF RESPONDENTS (n=375)
Yes	93.6
No	6.4

DESCRIPTION

The vast majority of the respondents (93.6%) agreed that formal qualifications should present an expanded scope. A small minority of 6.4% disagreed.

DISCUSSION

This response is more or less in line with the responses to higher qualification and specialisation. However, this stronger positive response indicates that an expanded scope needs to be underpinned by accredited and recognised education and training.

Educators and regulators will need to co-ordinate their efforts, in addition to recognising the needs of the profession, the public and the workplace.

TABLE 6.13(b): RESPONDENTS' MOTIVATION AS TO WHY FORMAL QUALIFICATIONS SHOULD REPRESENT EXPANDED SCOPE PRIVILEGES, WHICH RECOGNISE A BROADER SKILLS BASE

(Question 2.17)

MOTIVATION	% OF RESPONDENTS (n=177)
Post-graduate qualifications serve no purpose otherwise	48.0
As a public need will be addressed	11.3
Public recognition will be ensured	10.2
For primary care disease management	9.6
Control over competency will be ensured	7.3
There must be financial benefits	4.5
Need to recognise medical skills	2.3
To bring us in line with international skill levels	1.7
Will allow for diversity	1.7
Not sure what "scope privileges" means	1.1
As long as clinical exposure is included	1.1
Practice management skills are needed	0.6
However, Ophthalmology will be upset	0.6

DESCRIPTION

Nearly half (48.0%) of the respondents felt that a higher formal qualification would serve no purpose if there was no scope broadening accompanying it. Addressing a public need (11.3%) and recognition by the public of the broader skills (10.2%), were placed in second and third positions. Primary management of eye disease was reported by 9.6% of the respondents and 7.3% felt it would ensure competency. A smaller group of 4.5% felt positive, but required financial reward for the new skill while 2.3% felt it should be aimed at recognising medical skills. Other reasons were: "International standard" (1.7%); another 1.7% felt that it would allow for diversity; 1.1% were not familiar with the term "scope privileges"; another 1.1% agreed, provided that clinical exposure was included; 0.6% indicated "Agree, but more management skills are needed"; while 0.6% were of the opinion "However, Ophthalmology will be upset".

DISCUSSION

The first five subcategories, totalling 86.4% of the responses, related to expanding the formal educational base of the profession, the care it mobilises and the increased respect from the public. The other responses entailed conditional approval for the concept, ranging from financial rewards, shortfalls in current programmes, and political differences based on ignorance of the public need.

From the data, one may assume that almost half of the respondents would not have embarked on post-graduate training unless it recognised a broader scope. If one adds related reasons such as "address a public need", "ensure public recognition", "primary care management" and "international skills level", this scope-based motivation increases. It follows

that post-graduate courses will need to include a broader skills base if they are to attract 93.0% of the respondents.

TABLE 6.13(c): RESPONDENTS' MOTIVATION AS TO WHY FORMAL QUALIFICATIONS SHOULD NOT REPRESENT EXPANDED SCOPE PRIVILEGES WHICH RECOGNISE A BROADER SKILLS BASE

(Question 2.17)

MOTIVATION	% OF RESPONDENTS (n=16) (x)
Must be CPD-based	25.0
Must have financial benefits	18.8
Will divide the profession	12.5
Rather extend undergraduate course	12.5
Rather co-manage with Ophthalmology	6.3
Only if recognised overseas	6.3
Will be too exclusive	6.3
Will not ensure control over competency	6.3
Will ignore experience	6.3

DESCRIPTION

This table (n=16) represents the group who felt formal qualifications were not required as a basis for an expanded scope. A quarter (25.0%) felt they could be CPD-based; 18.8% required that there had to be financial benefits before embarking on this "formal" route; 12.5% felt it would divide

the profession; and the same number felt the undergraduate course should rather be extended. All the other categories measured 6.3%. These categories were: "Rather co-manage with Ophthalmology"; "Only if recognised overseas"; "Will be too exclusive"; "Will not guarantee competency" and "Will ignore experience".

DISCUSSION

The majority of this relatively small group of respondents were of the opinion that CPD-based activities were sufficient to propose a broader scope. This might be the case in acquiring new skills, but care should be taken that the necessary background is present so that splinter skills are avoided. Once the background is in place, new technology will drive new skills via a suitable CPD category. The reason which requires "Tariffs first" does not recognise that one needs the competencies first. By the nature of the new direction in higher and health education, the undergraduate programmes will be "extended" but priorities like clinical and community-based training will have to be addressed first. None of the reasons address a structured way by which the 2000 current practitioners can be reskilled.

Division in the profession is currently present, but mainly based on commercial activity. The need for the recognition of a skills level is evident from the data in this study. Although the balance of the responses were initially negative, the reasons given were in fact more positive than negative. These respondents may also not be aware of the various post-graduate exits (qualifications) which are available and may well change their opinion once this aspect has been explained to them.

6.6 SUMMATIVE CONCLUSION ON CATEGORY 2: PROFESSIONAL DEVELOPMENT

It is encouraging that the data in this category favour the formal post-graduate route with strong CPD links, which will underpin an expanded scope and standard of care for the profession. Constructive criticism of CPD content, as well as stumbling-blocks in practice and in achieving CPD points, has been highlighted and should be taken note of by those delivering CPD as well as formal qualifications.

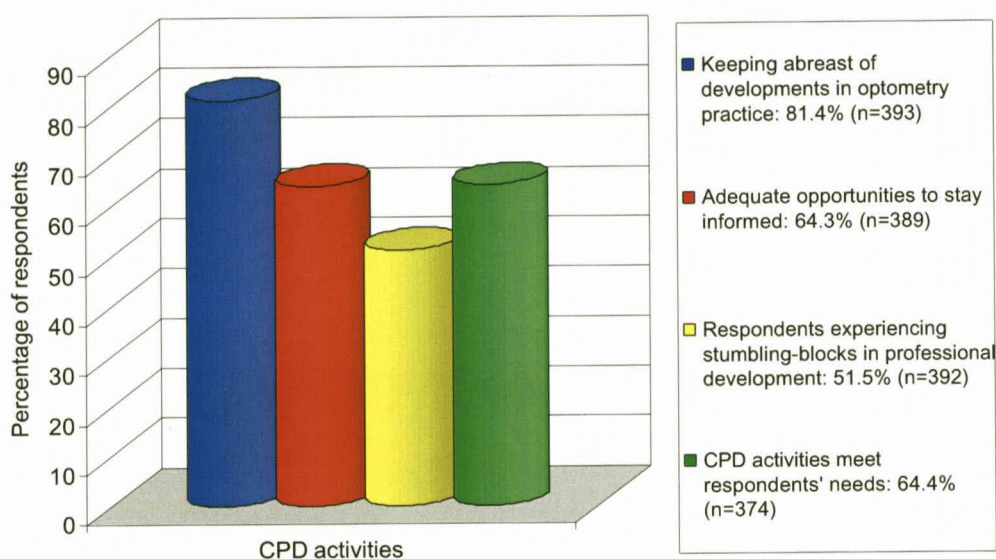
The fact that there are currently very few plans afoot to address the appropriate need for formal recognition of speciality skills or an expanded scope, should receive serious attention by the teaching institutions and is indicative of a wrong direction or a comfort zone, which reflects a certain degree of apathy not warranted in a post-apartheid South Africa.

Communication links between teaching institutions and the profession are obviously not what they should be.

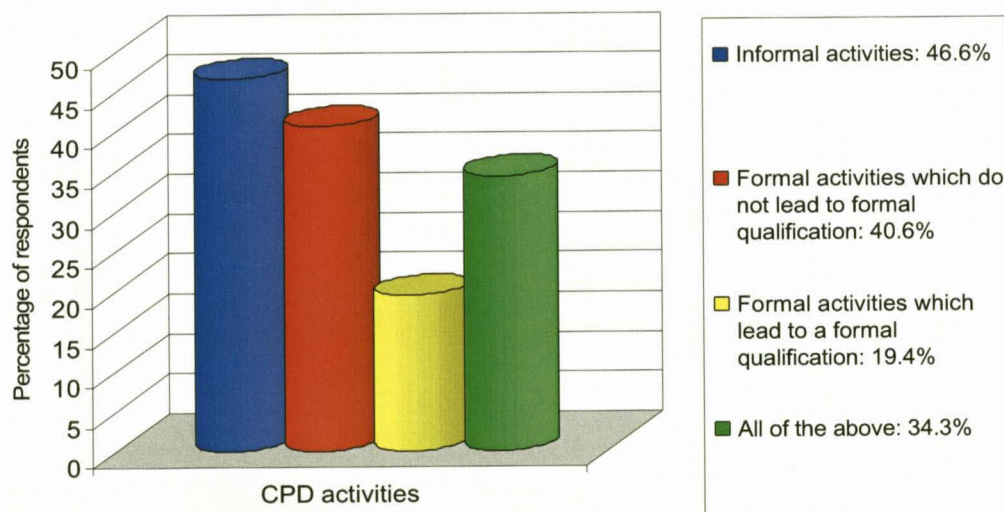
Figure 6.2 provides a graphic presentation of some of the aspects of the main findings on Category 2.

FIGURE 6.2: A GRAPHIC PRESENTATION OF SOME OF THE ASPECTS OF THE MAIN FINDINGS ON CATEGORY 2: PROFESSIONAL DEVELOPMENT

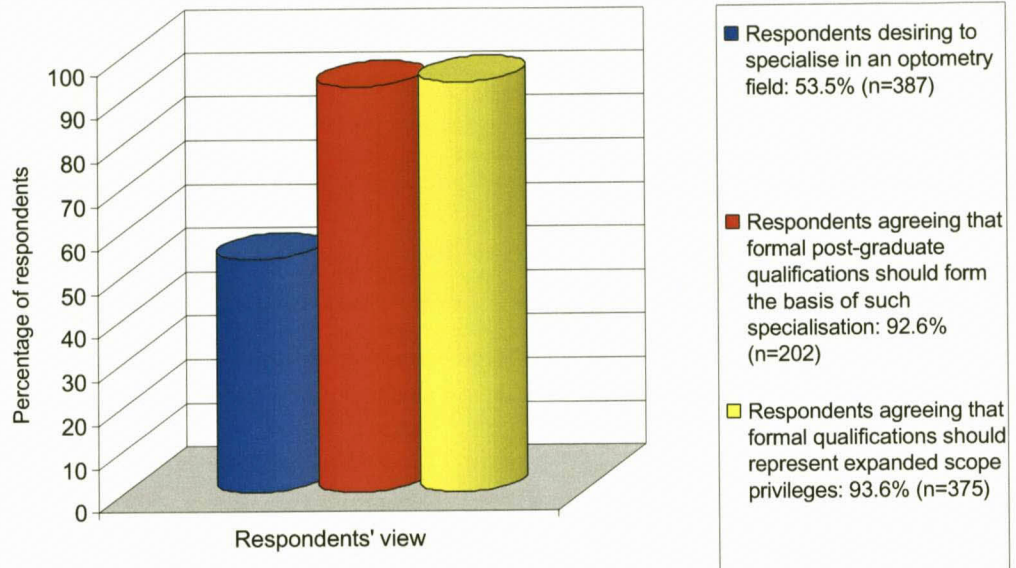
a) Respondents' perceptions with regard to professional development



b) Type of CPD activities preferred by respondents (n=397)



c) Respondents' view with regard to specialisation in the field of optometry



6.7 MAIN FINDINGS OF THIS CATEGORY

The following are the main findings of this category:

- A large group of respondents ($\pm 81.0\%$) were of the opinion that they were keeping abreast of developments in the field of optometry. Of these respondents, $\pm 70.0\%$ favoured reading materials.
- 64.0% of the respondents were of the opinion that there are adequate opportunities to stay informed. Only 2.0% of this group identified the fact that there is no formal post-graduate courses. This is due to the fact that applicable clinical post-graduate courses have not been successfully developed.
- From the reasons offered by respondents it is clear that content and the logistics of CPD needs attention.
- As half of the respondents experienced stumbling-blocks in professional development, it is important to address the main reasons for this, i.e. costs and logistics.
- About 60.0% of the respondents saw a broader scope and better standards as the main motivation for engaging in CPD.
- Two out of every three respondents were of the opinion that activities offered during CPD opportunities met their needs.
- Of those who felt that activities offered did not meet their needs, the main reasons provided were irrelevant content and lack of clinical training.
- From the responses in this category it appears that there is a golden thread between all different forms of activities which will make CPD relevant.
- The respondents wanted freedom of choice as far as formal vs. informal activities were concerned.
- More than half of the respondents wished to specialise and 90.0% of them agreed that a sound post-graduate qualification should form the

educational basis. The main reasons for these answers are those of recognition of competency and the lack in undergraduate training.

- ± 94.0% of the respondents agreed that a formal qualification should represent broader a scope.

6.8 RESULTS OF CATEGORY 3: POST-GRADUATE/POST-DIPLOMA STUDIES

The category "Post-graduate/Post-diploma studies" is the third of six categories of information that was collected by means of a questionnaire (cf. Appendix C).

In this category respondents had to indicate whether they had investigated post-graduate possibilities in the field of optometry in South Africa and, should the opportunity arise, whether they would embark on post-graduate studies. If the respondents answered this question in the negative, they were asked to ignore questions 3.3 to 5.8 and continue with question 6.1. If their answers were positive, the next question required a reason to be provided for not pursuing post-graduate studies at present. Respondents also had to provide a reason for wishing to pursue post-graduate studies and were asked whether they would like to receive information or enrol for the programme, should a formal post-graduate programme meet their needs. Information was also requested as to the field of optometry in which they would prefer to acquire a post-graduate qualification, as well as an explanation for their answers. In the last place, respondents were asked whether they were experiencing any inadequacies or shortcomings in their current practice of the profession.

The data in the third category, namely "Post-graduate/Post-diploma studies", will now be represented and discussed. That will be followed by the description and discussion of the data in the following category, namely "Further studies to obtain a formal qualification".

TABLE 6.14: RESPONDENTS WHO DID INVESTIGATE POST-GRADUATE POSSIBILITIES IN OPTOMETRY IN SOUTH AFRICA

(Question 3.1)

RESPONDENTS' MOTIVATION	% OF RESPONDENTS (n=393)
Yes	63.6
No	36.4

DESCRIPTION

In this table 63.6% of the respondents reported that they had investigated post-graduate possibilities in South Africa. The balance of 36.4% had not.

DISCUSSION

The higher number (250 individuals) who did investigate, indicates a high level of interest in South African post-graduate opportunities without much marketing/communication promoting the subject. It is therefore clear that a well-motivated market, which is currently not catered for, exists.

**TABLE 6.15(a): RESPONDENTS WHO WISHED TO EMBARK ON
POST-GRADUATE/POST-DIPLOMA STUDIES IF
THE OPPORTUNITY AROSE**

(Question 3.2)

ANSWERS	% OF RESPONDENTS (n=393)
Yes	65.4
No	34.6

DESCRIPTION

This response reflects that 65.4% of the respondents would like to take part in post-graduate studies should the opportunity arose. The balance of 34.6% did not wish to do so.

DISCUSSION

This information correlates well with Table 6.14 and indicates a high level of motivation to look for opportunities, as well as the desire to take part in those opportunities should they arise. Thus the stage is clearly set for the right kind of programmes.

TABLE 6.15(b): RESPONDENTS' MOTIVATION/REASONS WHY THEY DID NOT PURSUE POST-GRADUATE/POST-DIPLOMA STUDIES AT PRESENT

(Question 3.3)

MOTIVATION/REASONS	% OF RESPONDENTS (n=180) (x)
Time constraints/distance	26.7
Were doing/had done CAS/OD	26.7
None available/not informed	15.6
Financial constraints	10.6
Not motivated	9.4
Not internationally recognised	5.0
Programme not suitable/accredited/too much research	3.9
No broader scope opportunities	1.7
Correspondence	0.6

DESCRIPTION

This table reports the reasons why the respondents were currently not engaging in post-graduate studies.

The first group (26.7%) felt time and travel constraints were their biggest problem. The same number (26.7%) reported that they had in the recent past pursued or were at that stage pursuing formal studies offered by a private institution. Those who felt they were uninformed, came to 15.6% and the cost factor was a problem for 10.6% of the respondents. "No

motivation" was reported by 9.4%, while 5.0% felt all such qualifications had to be internationally recognised. Content not to their liking or too much research was offered as a reason by 3.9%. Legislation must first be in place was offered as a reason by 1.7% and 0.6% wanted courses to be of a correspondence nature.

DISCUSSION

The fact that 48 of the respondents (26.7%) had in the recent past or were at that stage engaged in some form of study, is encouraging and minimises the other reasons of time/travel constraints; not being interested; high costs; and lack of motivation. Careful planning with regard to the nature and the structure of post-graduate qualifications should, however, address all these concerns.

TABLE 6.16: RESPONDENTS' REASONS WHY THEY WISHED TO PURSUE FORMAL POST-GRADUATE STUDIES IN THE FUTURE

(Question 3.4)

REASONS	% OF RESPONDENTS (n=203) (x)
Broaden skills base	56.2
Self-developing/academic career	22.7
Specialisation	9.4
International recognition	9.4
Research/develop new products	2.0
Undecided	0.5

DESCRIPTION

This table reflects that 56.2% of the respondents wanted to increase their skills base via formal post-graduate studies. Self-development and an academic career were mentioned as a reason by 22.7%, whilst 9.4% wanted to specialise and a similar group wanted international recognition. Only 2.0% were interested in research and the development of new products, while 0.5% were undecided.

DISCUSSION

This data confirm the clinical reasons behind the desire to engage in formal post-graduate education. The fact is also confirmed that a vast majority had at that stage placed broader skills; self- and academic development; specialisation; and international recognition far above

research and the development of new products. This is of concern, but may only reflect a development phase in the profession in South Africa whereby a broader skills base will stimulate research and new solutions to problems in the field. Providers should concentrate on the initial need and evaluate its changes, but build in the basic element of research as well.

TABLE 6.17: POSITIVE RESPONSES TO THE OFFERING OF A POST-GRADUATE PROGRAMME

(Question 3.5)

RESPONSE GIVEN	% OF RESPONDENTS (n=244)
Would like to receive information	59.0
Would like to enrol for the programme	12.3
Would like both options	28.7

DESCRIPTION

Table 6.17 reports that 59.0% of the respondents would like to receive information about the offering of a post-graduate programme; 12.3% would enrol; while 28.7% would like both options.

DISCUSSION

This data confirm the high level of interest in post-graduate programmes. Careful thought should, however, go into the marketing of post-graduate programmes. It is clear that the majority would first like to receive information in order to study the content carefully. According to Prof. L. Botes, the Head of Developmental Studies at the UFS, the ratio information: enrolment is very much in line with other post-graduate training programmes at this university. (Written communication from Botes dated 7 May 2003.)

**TABLE 6.18: RESPONDENTS' PREFERRED AREA TO OBTAIN
A POST-GRADUATE QUALIFICATION IN THE
FIELD OF OPTOMETRY**

(Question 3.6)

AREA OF SPECIALISATION	% OF RESPONDENTS (n=181) (x)
Primary care (diagnosis and treatment)	42.5
Contact lenses	17.1
Paediatrics	13.8
Vision therapy and sport vision and binocular vision	12.2
Low vision	6.1
All of the above	3.3
Iridology	2.2
Do not know	1.7
Myopia control	0.6
Management	0.6

DESCRIPTION

Table 6.18 represents details of the areas in the field of optometry in which respondents would prefer to acquire a post-graduate qualification. The diagnosis and treatment of disease led the field with 42.5%. This was followed by contact lenses (17.1%); paediatrics (13.8%); vision therapy, sports vision, binocular vision (12.2%); low vision (6.1%); all areas (3.3%); Iridology (2.2%); uncertainty (1.7%); myopia control (0.6%); and management (0.6%).

DISCUSSION

The data reflect the similar trend in other questions exploring the priorities of the respondents. The area of the diagnosis and management of ocular disease was by far the most important area preferred for post-graduate qualification. This, as well as the other areas, indicates a need as well as an opportunity for teaching institutions. However, it also reflects shortfalls in the undergraduate training and the reasons for that should be analysed.

TABLE 6.19: THE INADEQUACIES/SHORTFALLS IN THE PROFESSIONAL PRACTICE ENVIRONMENT WHICH RESPONDENTS EXPERIENCED

(Question 3.7)

INADEQUACIES/SHORTFALLS	% OF RESPONDENTS (n=144) (x)
Diagnose and treat disease	38.9
No areas of concern	20.1
Practice management/ethics	9.0
Binocular vision/paediatrics/sport vision	7.6
General problems	7.6
Contact lens skills	6.9
Low vision	5.6
No recognition for post-graduate qualification (re-imbursements)	4.2

DESCRIPTION

The diagnosis and treatment of ocular disease ranked as the biggest (38.9%) inadequacy experienced by the respondents. This was followed by practice management/ethics (9.0%); binocular vision/paediatrics/sport vision (7.6%); general problems (7.6%); contact lens skills (6.9%); low vision (5.6%); and no reimbursement for new skills (4.2%). The balance (20.1%) of the responses reported no areas of concern.

DISCUSSION

The data in Table 6.19 are not only representative of the shortfalls in professional practice, but also indicate the same in undergraduate training, as well as opportunities in speciality post-graduate training.

6.9 SUMMATIVE CONCLUSION ON CATEGORY 3: POST-GRADUATE/POST-DIPLOMA STUDIES

The data collated in this category clearly indicate a willingness to embark on post-graduate studies. The reason for wanting to do so, as well as reasons for not being engaged in such studies, is also earmarked. What is furthermore clear, is that certain specific areas of post-graduate study were identified by respondents as being of paramount importance, which more or less corresponds with the problems which they experienced in practice.

The evidence mounts against an undergraduate programme which is not measured against the needs of the workplace or the public. It might be that the undergraduate programme is overcrowded with areas which require more clinical exposure, areas which may be obsolete, or which may need to be dealt with at a post-graduate level.

A remedy that follows the guidelines of Health and Higher Education Policy will need to be looked at if these needs/shortfalls are to be addressed.

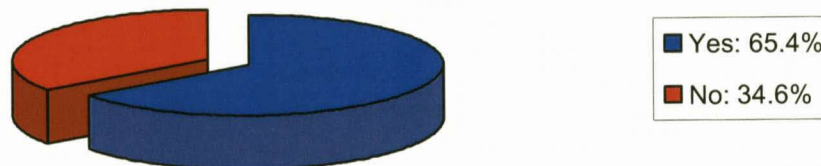
Figure 6.3 provides a graphic presentation of some of the aspects of the main findings on Category 3.

FIGURE 6.3: A GRAPHIC PRESENTATION OF SOME OF THE ASPECTS OF THE FINDINGS ON CATEGORY 3: POST-GRADUATE/POST-DIPLOMA STUDIES

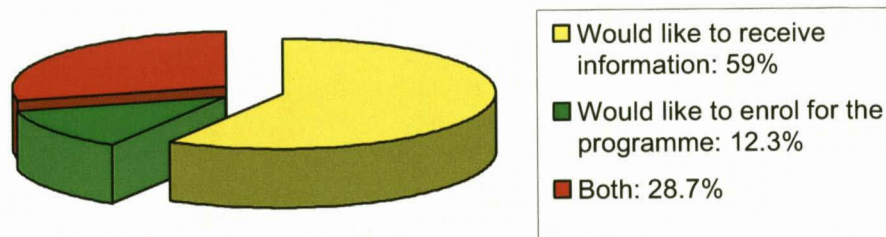
- a) Respondents who did investigate post-graduate possibilities in optometry in South Africa (n=393)



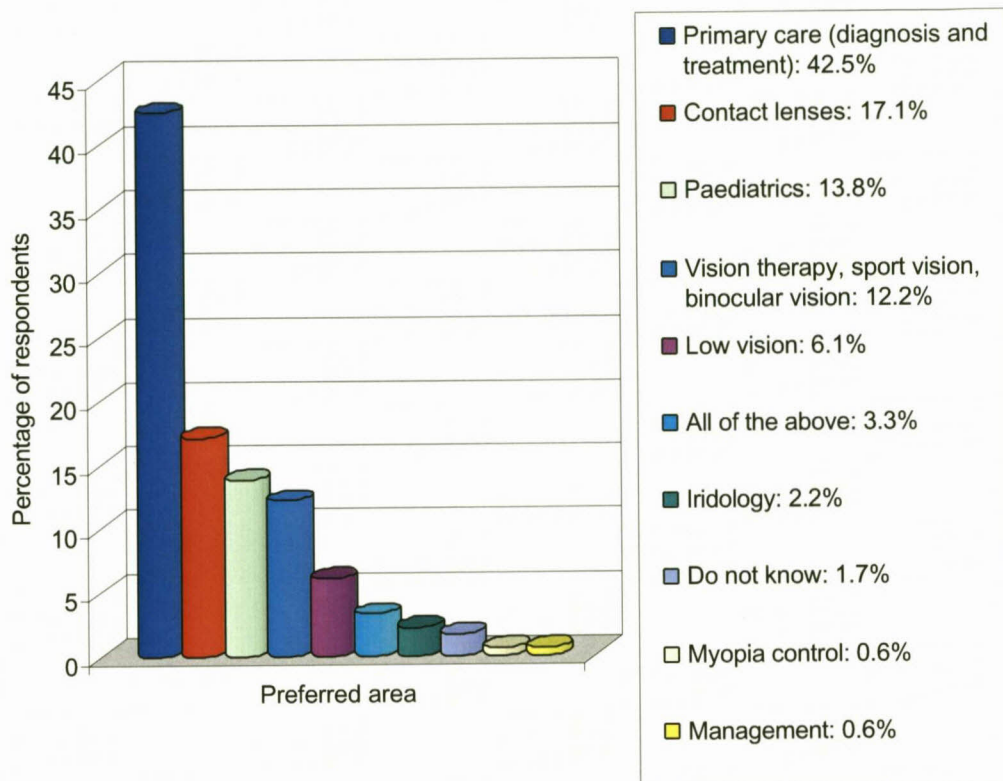
- b) Respondents who wished to embark on post-graduate/post-diploma studies (n=393)



- c) Positive responses to the offering of a post-graduate programme (n=244)



d) Respondents' preferred area to obtain a post-graduate qualification in the field of optometry (n=181)



6.10 MAIN FINDINGS OF THIS CATEGORY

The following are the main findings of this category:

- Two out of three respondents were interested in post-graduate studies. Their main reasons were a broader skill base and self-development or an academic career.
- The preferred areas to obtain a post-graduate qualification are diagnosis and treatment of ocular disease, contact lenses, paediatrics, binocular/sport vision and low vision.
- The biggest shortfall experienced in practice is the diagnosis and treatment of ocular disease.

6.11 RESULTS OF CATEGORY 4: FURTHER STUDIES TO OBTAIN A FORMAL QUALIFICATION

The category "Further studies to obtain a formal qualification" is the fourth of six categories of information that was collected by means of a questionnaire (cf. Appendix C).

Respondents had to indicate how they would like to study (i.e. full-time or part-time); what form of study they would prefer (i.e. a lectured course, a research course or a combination); whether they would be able to make use of online technology for part of their course work; whether they would be able to attend lectures or modules on campus for a short period of time and, if so, how often. Respondents had to indicate where they would prefer to do the practical (clinical) sessions of the course and they were requested to provide an explanation for their answers. They also had to indicate which qualification they would like to obtain and provide reasons for their answers. In addition, respondents had to indicate if they were aware of any post-graduate opportunities in South Africa and, if so, they were asked to indicate if such opportunities fulfilled their needs, motivating their replies. Related to this question, they were required to state if they were aware of post-graduate programmes available in other countries. If they answered in the affirmative, they had to indicate if these fulfilled their needs and motivate their responses. In the last question respondents were asked if they would prefer the programme they had enrolled for in South Africa to have international recognition.

The data in the fourth category, namely "Further studies to obtain a formal qualification", will now be represented and discussed. That will be followed by the description and discussion of data in the following category, namely "Detailed Information on Post-graduate/Post-diploma programmes".

TABLE 6.20: FORMAL STUDY TIME SCHEDULES PREFERRED BY THE RESPONDENTS

(Question 4.1)

TYPE OF STUDIES	% OF RESPONDENTS (n=250)
Part-time studies	97.2
Full-time studies	2.8

DESCRIPTION

In Table 6.20 the respondents indicated that 97.2% would prefer part-time study when attempting formal post-graduate studies. Only 2.8% preferred full-time studies.

DISCUSSION

The responses are indicative of the fact that the majority were practising full-time and possibly had families - a fact which would make full-time studies impossible. Time and financial constraints will therefore need to be recognised by providers.

**TABLE 6.21: COURSE-STRUCTURE (COURSE TYPE)
PREFERRED BY THE RESPONDENTS**

(Question 4.2)

COURSE TYPE PREFERRED	% OF RESPONDENTS (n=249)
Combination of a modular-lectured course and a research study	50.6
Modular-lectured course	46.6
Research study	2.8

DESCRIPTION

The above table reflects the preference for course structure. Most of the respondents (50.6%) preferred a combination of what was offered. This was closely followed by a modular-lectured course (46.6%). Only 2.8% preferred a research study.

DISCUSSION

Although about half of the respondents indicated that a combination of modular lectures and research would be preferred, a very similar number excluded research by preferring lectures only. The balance was made up of those who wanted research only and what appears to be a preference for a correspondence course. Providers should therefore tailor post-graduate studies to offer lectured modules - whereafter the respondents may exit and then attend a combination of lectures and research.

TABLE 6.22: THE RESPONDENTS' ABILITY TO USE ONLINE TECHNOLOGY AS PART OF THE COURSEWORK DELIVERY

(Question 4.3)

RESPONDENTS' ABILITY	% OF RESPONDENTS (n=245)
Yes	89.4
No	10.2
Not sure	0.4

DESCRIPTION

Table 6.22 reflects that 89.4% of the respondents were able to receive part instruction via the Internet. A small group of 10.2% indicated that they would not be able to do this and 0.4% were unsure.

DISCUSSION

With a total response of n=245 one can assume that only about two-thirds of the respondents were connected to the Internet at the time. This number will grow with the general trend, but may remain a problem for some and needs to be considered in any planning.

**TABLE 6.23: RESPONDENTS' AVAILABILITY TO ATTEND
LECTURES ON CAMPUS FOR A SHORT PERIOD
OF TIME**

(Question 4.4)

AVAILABILITY	% OF RESPONDENTS (n=246)
Yes	92.3
No	7.3
Not more than two days in three months	0.4

DESCRIPTION

According to this table, most of the respondents (92.3%) indicated that they could spend short periods on campus. Only 7.3% felt that it was impossible and 0.4% mentioned that this period had to be limited to not more than two days in a three-month period.

DISCUSSION

It is interesting that this figure is only slightly higher than the number with Internet access, but clearly indicates that respondents were not against attending short lecture periods on campus. It is also noticeable that the difference between those who were able to use online technology and those who could come to the campus for short periods, is small, i.e. 3.0%. One may assume that the negative answers came from those in very remote parts of the country. A more precise timeframe was explored in the question which followed. Providers should note this.

TABLE 6.24: FREQUENCY OF RESPONDENTS' ABILITY TO ATTEND LECTURES

(Question 4.5)

FREQUENCY	% OF RESPONDENTS (n=241) (x)
1x year	10.0
2x year	32.0
3x year	22.0
4x year	24.9
2 – 4 weeks continuously per year	11.2

DESCRIPTION

According to this table, most of the respondents (32.0%) indicated that they could attend a short period, i.e. a maximum of four days twice a year on campus. This was followed by 24.9% who saw four times per year as reasonable, whilst 22.0% felt they could attend three times per year. The once a year option was preferred by 10.0%, while 11.2% preferred two to four weeks continuously once a year.

DISCUSSION

It is clear from the responses that a short period on campus up to three times a year was not a problem for about half of the respondents. Providers may therefore tailor post-graduate programmes accordingly.

TABLE 6.25(a): INDICATION OF THE RESPONDENTS' PREFERENCE WITH REGARD TO THE PLACE WHERE THE PRACTICAL/CLINICAL SESSIONS OF THE POST-GRADUATE COURSE SHOULD TAKE PLACE

(Question 4.6)

LOCATION	% OF RESPONDENTS (n=188)
Teaching institutions	40.4
Hospital	29.8
Accredited site/practice	29.8

DESCRIPTION

This table indicates that 40.4% of the respondents would prefer clinical sessions to be offered at teaching institutions; 29.8% preferred hospital sites; and a similar number preferred any accredited site or practice.

DISCUSSION

Respondents' reasons for this preference are accounted for in Table 6.25(b), but it is clear that all the options carry sufficient weight and should therefore be explored.

TABLE 6.25(b): RESPONDENTS' MOTIVATION/REASONS WHY THE PRACTICAL/CLINICAL SESSIONS SHOULD BE HELD IN THESE LOCATIONS

(Question 4.7)

MOTIVATION/REASONS	% OF RESPONDENTS (n=138)
Convenience/cost containment	58.7
Public sector patient base	23.9
Supervision	17.4

DESCRIPTION

Here the respondents (58.7%) reported convenience and costs as their main reasons for choosing the site they did. It was followed by the public sector patient base (23.9%) and supervision that would be available (17.4%).

DISCUSSION

Although teaching institutions were preferred, respondents saw the expanded clinical opportunities that the other sites would offer. One of their concerns might be that adequate supervision would not be available outside the teaching institution, as hardly any such site is currently used for optometry training. However, they had therefore not been exposed to the wealth of experience that can be shared by clinically-orientated teachers who might have experienced clinical cases never seen in teaching institutions. This negative perception can be addressed by accrediting protocols and criteria – then all sites could be developed.

**TABLE 6.26(a): THE PERCENTAGE OF RESPONDENTS WHO
PREFERRED A CERTAIN TYPE/TYPES OR A
COMBINATION OF POST-GRADUATE
QUALIFICATIONS**

(Question 4.8)

TYPE OF QUALIFICATION	% OF RESPONDENTS (n=245) (y)
Master's degree	34.7
Certificated short courses	31.0
Post-graduate diploma	28.6
Ph.D.	26.5
Advanced diploma	20.0
OD	0.8

DESCRIPTION

Table 6.26(a) offers information about the type of post-graduate qualification that respondents would prefer. A Master's degree was on top of the list with 34.7%; followed by certificated short courses at 31%; a Post-graduate diploma at 28.6%; a Ph.D. at 26.5%; an Advanced diploma at 20%; and the Doctor of Optometry degree at 0.8%.

DISCUSSION

If one looks back at the course structure which was preferred by the respondents in question 4.2, it is clear that the structured M. degree with a research component would be the most favoured post-graduate qualification. However, one should be mindful that respondents might not have known the difference between post-graduate and advanced diplomas and if one adds these two groups, it will be the most favoured qualification. This should not necessarily impact negatively on the Master's degree, as a post-graduate diploma exit is possible as part of structured Master's programmes. Providers should therefore ensure that post-graduate programmes are structured in this way.

TABLE 6.26(b): OTHER TYPES OF POST-GRADUATE QUALIFICATIONS THAT RESPONDENTS WOULD LIKE TO OBTAIN

(Question 4.9)

TYPE OF QUALIFICATION	% OF RESPONDENTS (n=18)
Internationally recognised qualification	38.9
Clinically-based qualification rather than research	22.2
Applicable qualifications which recognise specialisation	22.2
Separate qualifications which offer structured or research degrees	16.7

DESCRIPTION

This table reflects the small number (18) of respondents who indicated that they would prefer a qualification not offered as indicated in the previous table. Here the majority (38.9%) preferred a qualification which would have international recognition, followed by a clinical qualification which excluded research (22.2%). A similar figure represents those who wanted a qualification which recognised a speciality, while 16.7% wanted to be sure that structured and research qualifications were offered separately.

DISCUSSION

It is interesting to note that only seven individuals placed international recognition as a priority, which indicates that most respondents favoured a South African qualification. Speciality recognition should evolve from the proposed structures and should therefore not be a concern. However, it remains evident that respondents wanted to make sure they would not be forced to do research as part of the qualification. This was also clear from the responses in the previous table.

It should be noted that the principles of the NQF also state that South African education should be of an international standard.

TABLE 6.27(a): RESPONDENTS' AWARENESS OF POST-GRADUATE OPPORTUNITIES IN SOUTH AFRICA

(Question 4.10)

AWARENESS	% OF RESPONDENTS (n=248)
Yes	77.8
No	22.2

DESCRIPTION

This table indicates an awareness of post-graduate opportunities in South Africa. Those who answered affirmatively amounted to 77.8%, with the balance of 22.2% not being aware.

DISCUSSION

The positive figure is relatively high, as the opportunities were few. It is also proven, however, that the respondents had taken the time to investigate this, as the dissemination of information had been limited. Providers should be encouraged by this trend.

TABLE 6.27(b): RESPONDENTS' VIEWS WITH REGARD TO POST-GRADUATE OPPORTUNITIES IN SOUTH AFRICA WHICH FULFILLED THEIR NEEDS

(Question 4.11)

RESPONDENTS' VIEWS	% OF RESPONDENTS (n=187)
Yes	32.1
No	65.2
Have not really gone into the course work	1.6
"Yes" and "No"	1.1

DESCRIPTION

Those who answered "Yes" to the previous question were asked if the opportunities had fulfilled their needs. An affirmative response was reported by 32.1%; a negative response by 65.2%; a small number of 6.0% had not looked at the content of courses; and 1.1% were not sure.

DISCUSSION

The high number of respondents who recorded a negative response indicates that post-graduate qualifications to date have failed to address their needs. The reasons for a positive response were further explored in the next question. The providers should, however, be concerned and use the information in this study to tailor post-graduate programmes.

TABLE 6.27(c): RESPONDENTS' REASONS AS TO WHY POST-GRADUATE OPPORTUNITIES IN SOUTH AFRICA FULFILLED THEIR NEEDS

(Question 4.12)

REASONS	% OF RESPONDENTS (n=28) (x)
CAS adequate	39.3
Research-based important	28.6
Do not know	10.7
Not appropriate to personal needs	10.7
Yes, but inadequate information/poor organisation	3.6
Yes, but too much research	3.6
Offering what I need	3.6

DESCRIPTION

28 individuals responded to this question. The main reason why the respondents felt the current opportunities fulfilled their needs, was the fact that they had completed or were taking part in a Certificate of Advanced Study course. This first subgroup represents 39.3% of the responses. The next subgroup (28.6%) felt that the research-based nature of the opportunities was most important. This was followed by a subgroup of 10.7% who did not know why they felt fulfilled. A similar group felt that these opportunities fulfilled their needs, but not a personal need. Although 3.6% responded positively, they had some criticism in that they felt the opportunities did not provide them with enough information or were poorly organised. A similar number were positive, but felt there was too much

research, while the last subgroup of 3.6% reasoned that opportunities in general met their needs.

DISCUSSION

It is obvious that the two major subgroups represented respondents who were involved in a formal post-graduate modular programme and who were involved in a research programme.

The relatively small response is indicative of the plateau phase which the profession is experiencing. Only when one or two institutions have established an example of successful clinical post-graduate studies, will the true meaning of post-graduate qualifications become apparent and allow the profession to question whether such examples meet their needs.

TABLE 6.27(d): RESPONDENTS' REASONS WHY POST-GRADUATE OPPORTUNITIES IN SOUTH AFRICA DID NOT FULFIL THEIR NEEDS

(Question 4.12)

REASONS	% OF RESPONDENTS (n=85) (x)
Not appropriate to personal needs	28.3
Inadequate information/ poor organisation	14.1
Do not know	12.9
Not recognised internationally	11.8
Research-based important	11.8
CAS standard too high	7.1
No, but CAS adequate	4.7
Not practical enough	4.7
Too much research	4.7

DESCRIPTION

The reasons why the 85 respondents (n=85) were not satisfied with current post-graduate opportunities are reflected here. The biggest group of 28.3% felt that the opportunities did not fulfil their personal needs; 14.1% felt it was due to poor communication and organisation; 12.9% did not know; 11.8% felt international recognition was needed; a similar group felt the importance of research was ignored; 7.1% felt the standard of the CAS was too high; 4.7% indicated that the CAS was adequate, although they had initially answered in the negative; 4.7% felt there were not

enough practical sessions; and a similar group reported too much research.

DISCUSSION

Not all the respondents referred to the same course and it was therefore difficult to link the reasons to a specific opportunity on offer. These responses will therefore have to be viewed in a general context as represented in Tables 6.27(a) through to 6.27(d).

The overall impression is that, although respondents were for the most aware of post-graduate opportunities, the latter were for various reasons not aimed at their needs. This is an aspect which will need to be taken into account when designing a post-graduate programme and which need further evaluation.

TABLE 6.28(a): RESPONDENTS' AWARENESS OF POST-GRADUATE STUDIES IN OTHER COUNTRIES

(Question 4.13)

AWARENESS	% OF RESPONDENTS (n=243)
Yes	63.4
No	36.6

DESCRIPTION

According to this table, 63.4% felt they were aware of post-graduate studies in other countries. Those who were not, amounted to 36.6%.

DISCUSSION

These responses were similar to the responses to the awareness of South African opportunities, indicating that respondents had taken the time to investigate opportunities further afield, as South African opportunities did not fulfil their needs or vice versa.

TABLE 6.28(b): RESPONDENTS' VIEWS AS TO WHETHER POST-GRADUATE PROGRAMMES IN OTHER COUNTRIES FULFILLED THEIR NEEDS

(Question 4.14)

RESPONDENTS' VIEWS	% OF RESPONDENTS (n=145)
No	66.9
Yes	29.9
Uncertain	3.2

DESCRIPTION

A large subgroup of 66.9% felt that post-graduate programmes in other countries did not fulfil their needs; 29.9% felt they did; and 3.2% were unsure.

DISCUSSION

These answers followed a similar trend to the responses regarding South African programmes and indicated that institutions in other countries seemed to fail as badly as South African institutions in offering appropriate

post-graduate programmes. However, the effect of cost cannot be ignored in the international context.

TABLE 6.28(c): RESPONDENTS' VIEWS AS TO WHY POST-GRADUATE PROGRAMMES IN OTHER COUNTRIES FULFILLED THEIR NEEDS

(Question 4.15)

RESPONDENTS' VIEWS	% OF RESPONDENTS (n=25)
International recognition	48.0
Variety of CAS programmes	20.0
Only M. or Ph.D. degrees available in South Africa	12.0
Not sure	12.0
Costs	8.0

DESCRIPTION

Almost half (i.e. 48.0%) gave the main reason for being satisfied with opportunities in other countries as being that of international recognition. The next most popular reason was that 20.0% of the NEWENCO-accredited CAS courses had enough variety; followed by the fact that only M. and Ph.D. degrees are available in South Africa (12.0%). A similar number were not sure and 8.0% felt that, although their needs were fulfilled, the cost aspect was the major problem.

DISCUSSION

It is clear that the respondents preferred courses to have international recognition and one can place 68.0% of the responses under this heading. It is also clear that non-clinical M. and Ph.D. degrees offered at the time were forcing a certain group to look elsewhere for post-graduate opportunities.

TABLE 6.28(d): RESPONDENTS' VIEWS AS TO WHY POST-GRADUATE PROGRAMMES IN OTHER COUNTRIES DID NOT FULFIL THEIR NEEDS

(Question 4.15)

RESPONDENTS' VIEWS	% OF RESPONDENTS (n=47) (x)
Costs	66.0
M. degree or Ph.D. available in South Africa	12.8
Not interested	12.8
International recognition limited	6.4
Variety of CAS programmes not sufficient	2.1

DESCRIPTION

A group of 66.0% felt that the cost of post-graduate programmes in other countries was the main reason why such programmes could not fulfil their needs. The availability of M. and Ph.D. degrees in South Africa was a reason offered by 12.8%. A similar group indicated "Not interested"; 6.4% felt that the international recognition was too limited; and 2.1% wanted more variety in the CAS programmes.

DISCUSSION

Cost remains the major factor that detracts from international programmes. This is particularly true after the recent fall in the value of the South African Rand.

**TABLE 6.29: RESPONDENTS' DESIRE FOR INTERNATIONAL
 RECOGNITION OF SOUTH AFRICAN
 PROGRAMMES**

(Question 4.16)

RESPONDENTS' NEED FOR INTERNATIONAL RECOGNITION	% OF RESPONDENTS (n=241)
Yes	97.1
No	2.5
"Yes" and "No"	0.4

DESCRIPTION

The vast majority (97.1%) of the respondents felt that South African programmes should be recognised internationally. A small subgroup of 2.5% did not concur, while 0.4% did not know.

DISCUSSION

From the data it is clear that the respondents wished for South African programmes to enjoy reciprocity at institutions in other countries. The responses in addition indicate a desire to be educated at an international

level, which is also one of the objectives of higher education in South Africa.

Providers should therefore ensure that standards are of an international level and reciprocity is sought with the countries of choice. It may even encourage other African students to enrol for programmes in South Africa.

6.12 SUMMATIVE CONCLUSION ON CATEGORY 4: FURTHER STUDIES TO OBTAIN A FORMAL QUALIFICATION

From the data collated in Category 4, it is evident that the respondents were willing to pursue post-graduate studies on a part-time basis by attending four-day modules three to four times a year and that they wished to attend clinical training at a convenient site where there would be sufficient supervision. Most of the respondents had explored local and international post-graduate opportunities, but found them to be mostly unacceptable. Most of the reasons related to the cost of international qualifications and the fact that local qualifications were not tailored to the personal needs of the respondents.

Most of the respondents would prefer a South African Diploma or Master's degree of a clinical nature should they acquire a post-graduate qualification. Such a local qualification had to have international recognition.

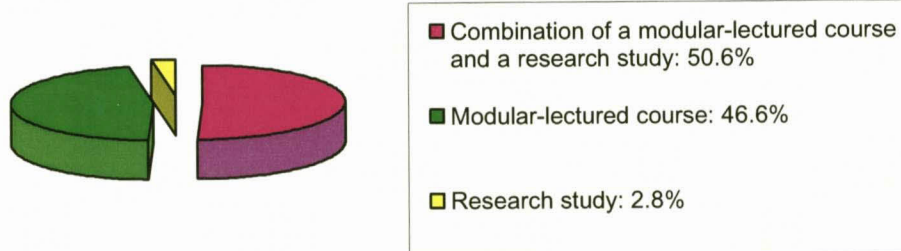
Figure 6.4 provides a graphic presentation of some of the aspects of the main findings on Category 4.

FIGURE 6.4: A GRAPHIC PRESENTATION OF SOME OF THE ASPECTS OF THE FINDINGS ON CATEGORY 4: FURTHER STUDIES TO OBTAIN A FORMAL QUALIFICATION

a) Time schedules preferred by respondents for formal study (n=250)



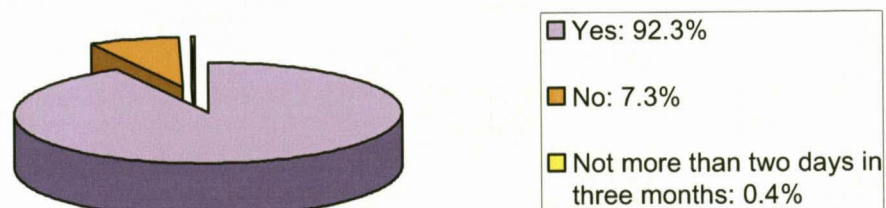
b) Course structure (course type) preferred by the respondents (n=249)



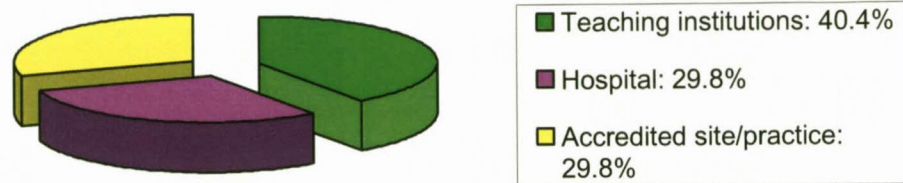
c) Respondents' ability to utilise online technology as part of coursework delivery (n=245)



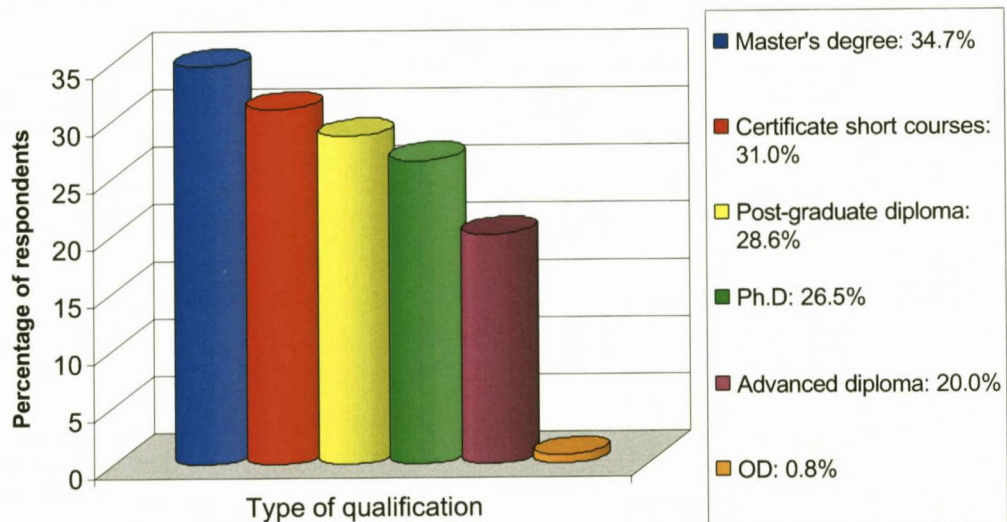
d) Respondents' availability to attend lectures on campus for a short period of time (n=246)



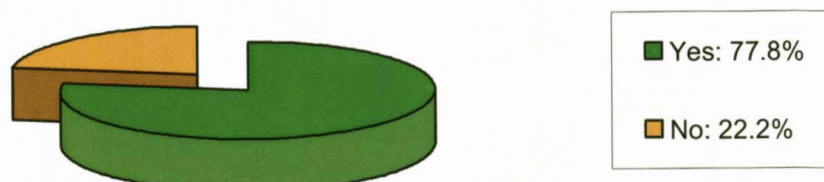
- e) Respondents' preference with regard to the place where the practical/clinical sessions of the post-graduate course should take place (n=188)



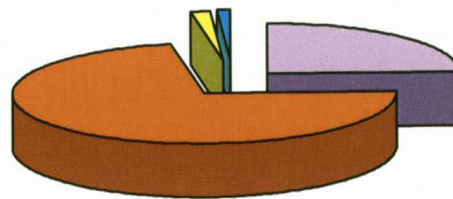
- f) The percentage of respondents who preferred a certain type/types or a combination of post-graduate qualifications (respondents could choose more than one option) (n=245)



- g) Respondents' awareness of post-graduate opportunities in South Africa (n= 248)

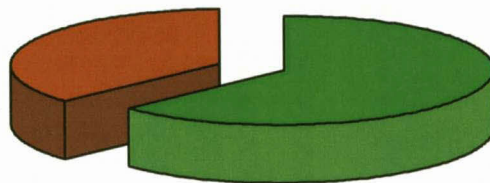


- h) Post-graduate opportunities in South Africa which fulfil the respondents' needs (n=187)



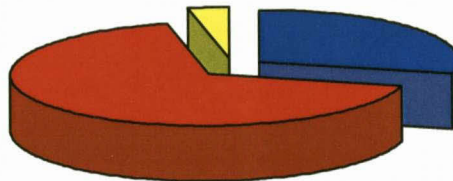
■ Yes: 24.4%
 ■ No: 72.0%
 ■ Have not gone into course work: 1.6%
 ■ "Yes" and "No": 1.1%

- i) Respondents' awareness of post-graduate studies in other countries (n=243)



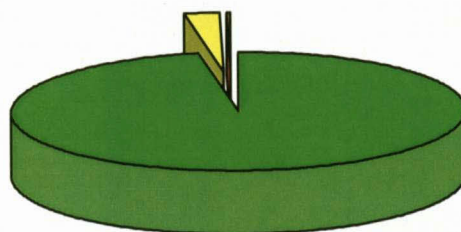
■ Yes: 63.4%
 ■ No: 36.6%

- j) Post-graduate programmes in other countries which fulfil the respondents' needs (n=145)



■ Yes: 29.0%
 ■ No: 66.9%
 ■ Uncertain: 3.2%

- k) Respondents' desire for international recognition of South African programmes (n=241)



■ Yes: 97.1%
 ■ No: 2.5%
 ■ "Yes" and "No": 0.4%

6.13 MAIN FINDINGS OF THIS CATEGORY

The following are the main findings of this category:

- Almost all the respondents preferred part-time post-graduate time schedules.
- Only 2.8% preferred a research only study.
- 89.4% of the respondents were able to take part in the electronic delivery of lectured modules. At the same time they were willing to attend lectures on campus for short periods of four days, two to four times per annum.
- Clinical training within institutions, hospitals or other accredited sites are all possibilities.
- An optional series of qualifications are preferred.
- Eight out of 10 were aware of post-graduate opportunities in South Africa. However, two-thirds were of the opinion that the opportunities did not fulfil their needs.
- Almost all the respondents wanted international recognition for their post-graduate studies. However, the cost factor of courses in other countries is a negative factor.

6.14 RESULTS OF CATEGORY 5: DETAILED INFORMATION ON POST-GRADUATE/POST-DIPLOMA PROGRAMMES

The category "Detailed Information on Post-graduate/Post-diploma programmes" is the fifth of six categories of information which was collected by means of a questionnaire (cf. Appendix C).

In this category a list of some of the programmes was provided and respondents had to indicate their personal preference of the programme they would like to follow. They were also given the opportunity to indicate programme content that was not on the list provided and were then asked to elaborate on their answers. Subsequently the respondents were asked to specify the duration of a specialisation programme. In addition, they were asked to indicate what the nature of such a programme should be (e.g. practical/clinical work, theory, etc.); whether it should include elective modules for enrichment in related fields; and if it should be aimed at broadening the respondents' scope of practice. Finally, the respondents were requested to elaborate on their answers.

The data in the fifth category, namely "Detailed Information on Post-graduate/Post-diploma programmes", will now be represented and discussed. That will be followed by the description and discussion of data in the following category, namely "Awareness of the public need".

TABLE 6.30(a): RESPONDENTS' PREFERENCE WITH REGARD TO THE CONTENT OF A POST-GRADUATE PROGRAMME

(Question 5.1)

CONTENT FIELD	% OF RESPONDENTS WHO ANSWERED "YES" TO 3.2 (n=257) (y)
Diagnostic agent privileges	82.1
Therapeutic agents	61.9
Contact lenses	60.3
Surgical co-management	56.8
Business management skills	50.6
Binocular vision	50.2
Public health	43.2
Low vision	39.7
Industrial/environmental optometry	31.9
Sports vision	31.1
Other	8.2

DESCRIPTION

The respondents indicated the popularity of specific fields that they would like to see in post-graduate programmes. Diagnostic agents (82.1%) and therapeutic agents (61.9%) occupied the first and the second positions. These were followed by contact lenses (60.3%); surgical co-management (56.8%); business management (50.6%); and binocular vision (50.2%). Topics that scored less than 50.0% were public health (43.2%); low vision

(39.7%); industrial/environmental optometry (31.9%); sports vision (31.1%); and other topics not listed (8.2%).

DISCUSSION

The respondents clearly favoured topics which were aimed at improving clinical skills such as the diagnosis and treatment of ocular disease; better skills in contact lens practice; surgical co-management; and business management skills. In a simplistic way the list prioritises the needs in the profession, in addition to identifying the shortcomings of undergraduate programmes. Providers should therefore evaluate these topics at both under- and post-graduate level.

TABLE 6.30(b): OTHER CONTENT SUGGESTIONS WITH REGARD TO POST-GRADUATE PROGRAMMES

(Question 5.2)

OTHER CONTENT/FIELD	% OF RESPONDENTS (n=43)
Diagnose and treat ocular disease	44.2
Paediatrics	23.3
Nutrition/Iridology	9.3
Ethics/practice management	9.3
HIV/AIDS	7.0
Neurology of vision	2.3
Contact lenses	2.3
All of the above/a combination of topics	2.3

DESCRIPTION

Topics which were described under "Other" featured as follows: The diagnosis and treatment of ocular disease at 44.2%; paediatrics at 23.3%; nutrition and Iridology at 9.3%; ethics and practice management also at 9.3%; HIV/AIDS was next with 7.0%; neurology of vision at 2.3%; and contact lenses at 2.3%. A similar number, namely 2.3%, chose a combination of all the topics in Table 6.30(a).

DISCUSSION

Most of the suggested topics would by nature fall into one of the fields in the previous table, i.e. diagnose and treat ocular disease; paediatrics;

practice management; neurology of vision; and contact lenses. One can therefore assume that only nutrition, Iridology and HIV/AIDS would be offered in addition to the initial topics. Iridology, on the other hand, is not a proven scientific practice and will need objective evaluation. This data again call for introspection at undergraduate level and will help in the planning of post-graduate levels.

TABLE 6.31: RESPONDENTS' RECOMMENDATIONS ON THE DURATION OF A SPECIALISATION PROGRAMME
(Question 5.3)

DURATION OF PROGRAMME	% OF RESPONDENTS (n=193)
Maximum two years	39.9
One year or less	29.5
Do not know/as long as it takes	12.4
One week per category	6.2
Two to four years	5.2
Four years	3.1
Two to three days per category	1.6
Two to four weeks per category	1.6
Two months per category	0.5

DESCRIPTION

In the above table the respondents indicated the time they would be willing to devote to a post-graduate programme. A maximum of two years was preferred by 39.9%. This was followed by 29.5% who felt it should be no longer than one year; 12.4% had no specific timeframe; 6.2% chose one week per category; 5.2% indicated two to four years; 3.1% indicated four years; 1.6% indicated only two to three days per category; a similar number felt two to three weeks per category was sufficient; and 0.5% chose two months per category.

DISCUSSION

Most of the responses could be catered for within the structure of a two-year 240-credit modular course work M. degree with the possibility of a diploma exit after one year of 120 credits.

This structure was proposed by the University of the Free State and approved by SAQA.

TABLE 6.32: RESPONDENTS' PREFERRED STUDY MODE
(Question 5.4)

STUDY MODE	% OF RESPONDENTS (n=251) (x)
Contact sessions (including different activities)	28.3
Self-study	23.5
Lectured sessions	21.9
Self-study and lectured sessions	7.6
Self-study and contact sessions	6.4
Contact sessions and lectured sessions	5.6
All the above combinations	6.8

DESCRIPTION

Table 6.32 reflects the study mode the respondents preferred. Contact sessions led the field with 28.3%. This was followed by self-study with 23.5%; lectured sessions with 21.9%; self-study and lectured sessions with 7.6%; self-study and contact sessions with 6.4%; contact and lectured sessions with 0.8%; and a combination of all the above with 4.8%.

DISCUSSION

It is not clear if the respondents confused lectured and contact sessions as they might include practical demonstrations and research guidance sessions. One may assume that the contact and the lectured sessions were seen to be more or less the same and if these two responses are combined, one looks at a total of 50.2%. This will then be followed by self-study (23.5%) and the rest of the combinations. The table which follows, provides more information.

The final structure of a post-graduate programme will depend on how these combinations can be implemented in a practical way.

TABLE 6.33: CLINICAL/THEORY/RESEARCH PREFERENCE OF THE RESPONDENTS

(Question 5.5)

RESPONDENTS' PREFERENCE	% OF RESPONDENTS (n=251) (x)
Combination of practical/clinical; theory and research	67.1
Combination of practical/clinical and theory	21.1
Practical/clinical work	9.5
Research	1.2
Combination of theory and research	0.8
Combination of practical/clinical and research	0.4
Theory	0.0

DESCRIPTION

This table offers information on the "blend" of clinical/theory/research preference reported by the respondents. Theory received no response; a combination of practical/clinical and research received 0.4%; theory and research received 0.8%; research only received 1.2%; practical/clinical only received 9.5%; practical/clinical and theory received 21.1%; and practical/clinical, theory and research received 67.1%.

DISCUSSION

The combination with the strongest support matches the structure of the proposed M. Optometry degree at the UFS. It also indicates that research

is not excluded if it forms part of a combination and should be encouraged by providers.

TABLE 6.34: PREFERENCE FOR THE INCLUSION OF ELECTIVE MODULES

(Question 5.6)

INCLUSION OF ELECTIVE MODULES	% OF RESPONDENTS (n=249)
Yes	94.0
No	6.0

DESCRIPTION

94.0% of the respondents felt that elective modules had to be included in post-graduate programmes, while 6.0% did not feel that it was of paramount importance.

DISCUSSION

It is clear that the respondents wanted an "own choice" module as a part of post-graduate studies. This makes sense, especially in the light of a research dissertation that will be required in a structured Master's programme. This will also match the clinical/theory/research blend they preferred according to Table 6.33.

**TABLE 6.35(a): RESPONSES TO THE BROADENING OF SCOPE
 OF PRACTICE**

(Question 5.7)

COMMENTS/RESPONSES	% OF RESPONDENTS (n=246)
Yes	98.4
Both "Yes" and "No"	1.2
No	0.4

DESCRIPTION

According to this table, 98.4% of the respondents felt that post-graduate programmes should be aimed at broadening the scope of the profession. Only 1.2% were unsure and 0.4% were negative about this.

DISCUSSION

The respondents were convinced that education should underpin new skills and that the main reason for post-graduate studies in optometry should be aimed at an expanded skills base. Providers need to co-ordinate their educational efforts with other stakeholders in the field, such as Ophthalmology and the regulatory bodies.

Their reasons for making this statement are depicted in the next table:

TABLE 6.35(b): RESPONDENTS' REASONS/MOTIVATION AS TO WHY A POST-GRADUATE PROGRAMME SHOULD BE AIMED AT BROADENING THE SCOPE OF PRACTICE

(Question 5.8)

REASONS/MOTIVATION	% OF RESPONDENTS (n=122)
Reduce costs to patient/increase care	33.6
Speciality skills recognised	29.5
Only reason for post-graduate studies	10.7
Bring primary care to areas Ophthalmology cannot cover	9.8
Understanding of multi-system abnormality	6.6
Scope needs to grow with new advances	4.9
Create employment opportunities	2.5
Bring financial reward	1.6
Do not know	0.8

DESCRIPTION

The respondents reasoned that a post-graduate qualification should underpin a broader scope in the following order of importance: It will reduce costs to patient and increase care (33.6%); it will recognise speciality skills (29.5%); it is the only reason for post-graduate studies (10.7%); it brings primary care to areas that Ophthalmology cannot cover (9.8%); it will help in the understanding of multi-system abnormality (6.6%); scope needs to grow with new advances (4.9%); creating

employment opportunities (2.5%); bringing financial reward (1.6%); and do not know (0.8%).

DISCUSSION

The responses were realistic and focused on better, expanded and affordable care backed by education and new technology/procedures. Financial reward and employment would be spin-offs which would naturally follow the expanded scope and were clearly not the priority.

Providers should be encouraged by this response, which is also of great value to professional associations and regulatory bodies, as it gives insight into the motivation for a broader scope and higher clinical standards.

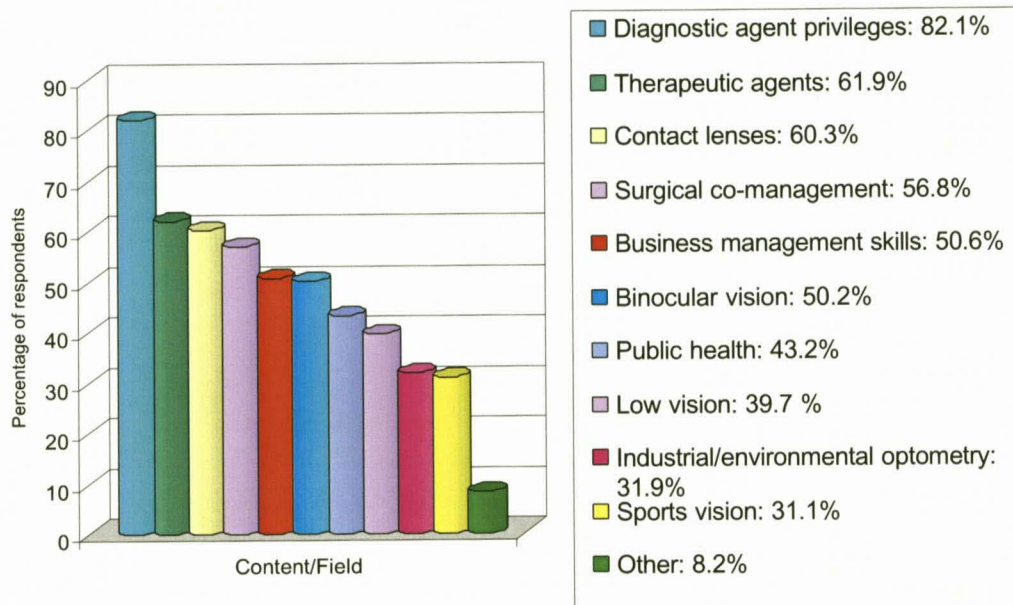
6.15 SUMMATIVE CONCLUSION ON CATEGORY 5: DETAILED INFORMATION ON POST-GRADUATE/POST-DIPLOMA PROGRAMMES

Data collated in this category pinpointed the areas in which the respondents wished for post-graduate training. One obtains a good perception with regard to timeframes, modes of study and combinations of lectures, self-study, theory, as well as clinical and research content which were preferred. The importance of the inclusion of elective modules as well as the educational basis for scope expansion was highlighted. The reasons for scope expansion concentrated on Public Health issues, which cannot be argued against.

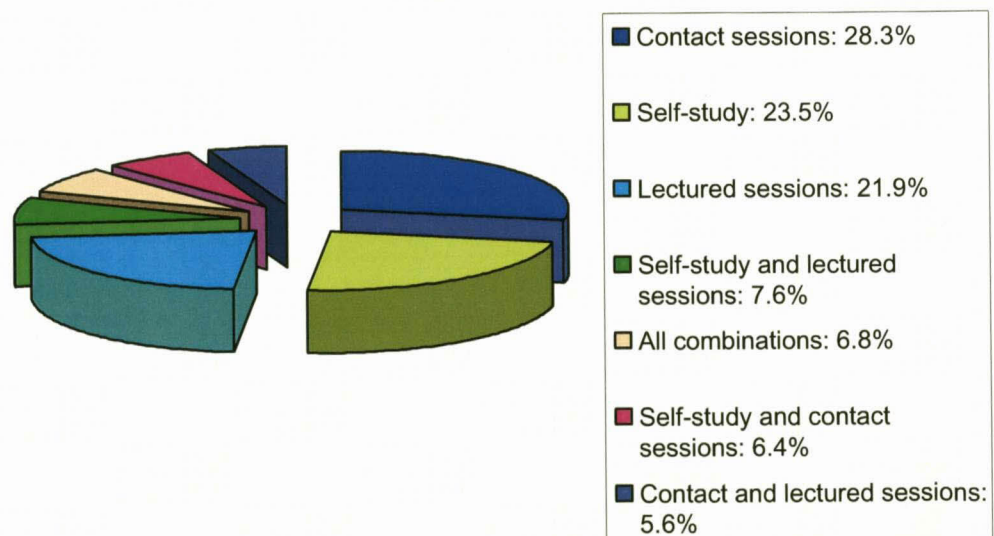
Figure 6.5 provides a graphic presentation of some of the aspects of the main findings on Category 5.

FIGURE 6.5: A GRAPHIC PRESENTATION OF SOME OF THE ASPECTS OF THE FINDINGS ON CATEGORY 5: DETAILED INFORMATION ON POST-GRADUATE/POST-DIPLOMA PROGRAMMES

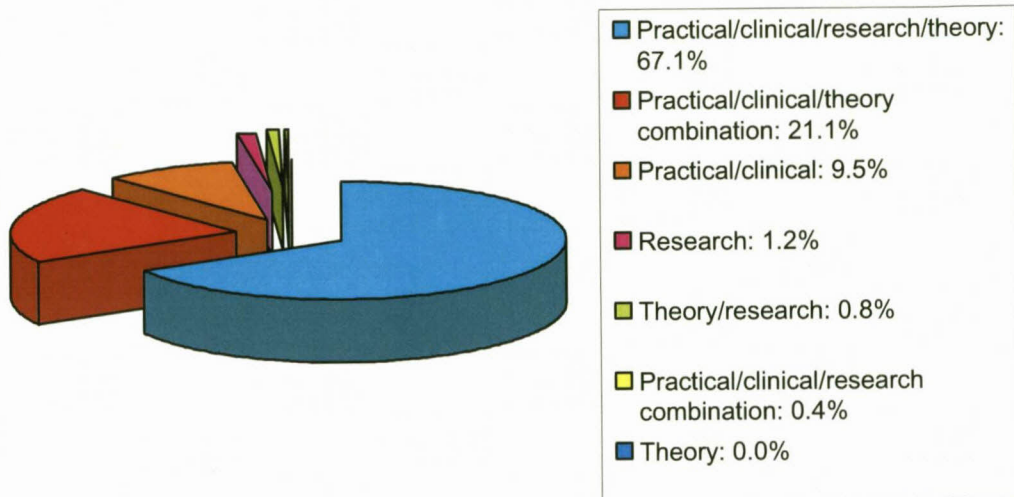
- a) Respondents' preferred content of a post-graduate programme (more than one option could be chosen) (n=257)



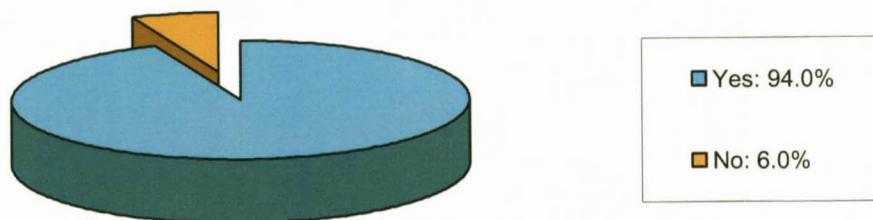
- b) Preferred study mode by respondents (n=251)



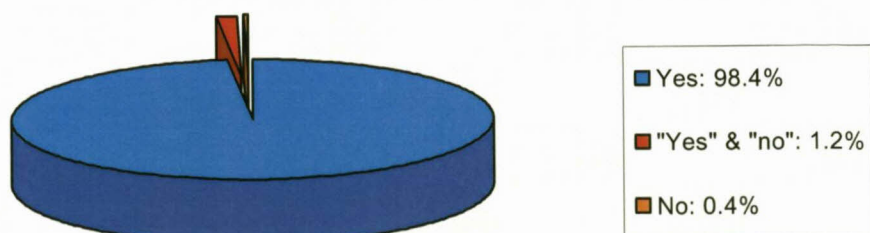
c) Clinical/theory/research preference of the respondents (n=251)



d) Preference for the inclusion of elective mode (n=249)



e) Responses to the broadening of scope of practice (n=246)



6.16 MAIN FINDINGS OF THIS CATEGORY

The following main findings are present in the category:

- Respondents have a clear opinion on the content of a post-graduate programme.
- Duration of qualifications must relate to the type of qualification.
- A combination of educational strategies is preferred.
- Post-graduate studies must include a combination of practical / clinical training, theory and research.
- Most respondents prefer the inclusion of electives in post-graduate studies.
- Virtually all the respondents required that post-graduate studies should be aimed at a broader scope.

6.17 RESULTS OF CATEGORY 6: AWARENESS OF THE PUBLIC NEED

The category "Awareness of the public need" is the last of the six categories of information that was collected by means of a questionnaire (cf. Appendix C). It is by far the most comprehensive category of the questionnaire.

This category started off by requesting the respondents' detailed opinion concerning the public need with regard to aspects like accessibility, affordability and equity in eye care, as well as the public's current need regarding eye care with specific reference to the management of ocular disease in, for example, glaucoma, diabetes, cataract, etc. The respondents furthermore had to indicate which role, in their opinion, the optometrist could play in the standard of care, as well as the role post-graduate education can play in the improvement in eye care delivery and standard of care. They had to indicate if they saw themselves as part of the community they served; the role the State should play in the provision of eye care; as well as the number of optometrists the State should employ. In both these cases the respondents were asked to substantiate and motivate their answers. Subsequently the issue regarding whether the profession should develop a Private/Public Sector Partnership was broached and the respondents' opinion regarding compulsory community service for optometry graduates, which is earmarked for 2007, was requested. Respondents furthermore had to indicate if they thought the latter should be implemented sooner; if in their opinion a National Health Service was an option for South Africa; and, in the last instance, they had to indicate if they thought post-graduate education and training would have a positive impact on addressing the needs of the public. It has to be emphasised that the respondents were not merely asked to exercise a

choice, but in all the instances they had to elucidate, define and motivate their answers.

The data in the sixth category, namely "Awareness of the public need", will now be represented and discussed.

TABLE 6.36(a): RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S NEEDS REGARDING ACCESSIBILITY
(Question 6.1a)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=180) (x)
Distribution problem	55.0
Do not know	15.0
Too little government responsibility	10.6
Generally not catered for	3.9
Current specialised care not accessible	3.3
Too little health promotion	3.3
Great need	2.8
Depends on income	2.8
Must be more convenient	2.2
Optometry more in rural areas than Ophthalmology	0.6
More accent on disease management needed	0.6

DESCRIPTION

Accessibility of eye care by the public was judged by respondents to be a problem, as the distribution of practitioners was to blame (55.0%). 15.0% offered no opinion; 10.6% felt the government did not recognise its responsibility; 3.9% felt that the poor was generally not catered for; 3.3% felt it was due to insufficient health promotion; 2.8% indicated that there was a great need; 2.8% focused on those who could pay vs. those who could not; 2.2% felt that access had to be more convenient; 0.6% felt that optometry was more accessible than Ophthalmology in rural settings; and a similar number felt that disease management should receive more attention.

DISCUSSION

In a sense all responses recognised a problem with regard to the accessibility of eye care. The major reason for this was that they felt practitioners were too concentrated in the urban setting. It is also clear from the other responses that the respondents felt that, coupled with government initiatives and a redistribution of optometrists, the problem could be addressed.

Suggestions regarding the siting or location of practices were put forward, but may clash with constitutional rights. The answer lies in the government taking more responsibility for eye care by employing optometrists. At the same time undergraduate education needs to be structured so that graduates are prepared for the public sector.

Community-based education and public sector clinical rotations are vital elements prior to the effective implementation of community service. The aforementioned educational and service delivery structures will expose practitioners to rural settings and will hopefully prompt some of them to

consider private practices in these settings, especially if incentives are provided.

TABLE 6.36(b): THE RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S NEEDS REGARDING AFFORDABILITY
(Question 6.1b)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=176) (x)
Too expensive/commercial	30.1
<i>Right to Sight</i> more affordable	20.5
State aid needed	16.5
Most important	11.4
Full range possible	9.7
Optometry more affordable than Ophthalmology	4.6
Medical aid benefits too low	2.8
Do not know	2.3
Suppliers too expensive	2.3

DESCRIPTION

This table reflects the respondents' opinion regarding the affordability of eye care. At the top of the list was the statement that it was too expensive and commercial (30.1%). The next group of 20.5% felt that current efforts such as the *Right to Sight* campaign made a positive difference, while 16.5% felt the State needed to contribute more. A group of 11.4% felt that this was a most important area, while 9.7% felt that it was possible to

deliver care to all income groups. A smaller group of 4.6% highlighted the fact that optometry is more affordable than Ophthalmology; 2.8% felt medical aid benefits were too low; 2.3% did not know; and the same number blamed suppliers who were too expensive.

DISCUSSION

It is clear from the responses that something needs to be done to make eye care more affordable to the majority of South Africans, whether it be via subsidisation, multi-skilling or by offering clinic options in private practice.

The Professional Board may have to revisit advertising rules in order to increase public awareness of basic eye care and the cost thereof. Similarly the Optometry Association may wish to expand its efforts to make the *Right to Sight* available in each and every practice. The government cannot continue to ignore its responsibility to provide basic optometry services. Although this is part of the primary care package, very little has been done to implement this service.

It is clear that a national campaign - approved by the Professional Board, the SAOA and the Minister of Health - should be launched in order to make eye care more affordable and to drive commercialism out of eye care so that the neglected majority may benefit.

TABLE 6.36(c): RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S NEEDS REGARDING EQUITY

(Question 6.1c)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=109)
Standard of care must be equitable	33.9
Gross disparities exist	26.6
Do not know	24.8
Price drives this	6.4
Good equity	4.6
State aid needed	2.8
Misleading advertising causes the public to have misconceptions	0.9

DESCRIPTION

In reply to the question whether respondents felt eye care was equitable, 33.9% agreed that the standard of care had to be equitable between all sectors of society; 26.6% recognised gross disparities; 24.8% did not know; 6.4% felt that you get what you pay for; 4.6% felt there was good equity; 2.8% indicated that State aid was needed; and 0.9% felt that misleading advertising caused the public to believe that all eye care was equal.

DISCUSSION

The declining number of responses between Tables 36(a) to 36(c) indicates a lack of information on this subject, as the public health issues are not a priority as far as the profession is concerned. Until recently, Public Health has hardly been taught at undergraduate level. This void is made worse by the fact that there is very little public sector exposure in training and very few public sector posts. However, it is clear that the respondents were aware, like the first two indicators, that eye care is not equitable.

Only through a partnership among the leading institutions, the profession and the government will the building-blocks be put into place for more equity in eye care delivery.

TABLE 6.37(a): RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S CURRENT NEEDS REGARDING EYE CARE WITH SPECIFIC REFERENCE TO THE MANAGEMENT OF OCULAR DISEASE IN DIABETES

(Question 6.2a)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=177) (x)
Heath promotion/optometry education lacking	37.3
Mandatory six to 12 months examinations by optometrists	13.6
Dire need	12.4
Under-diagnosed/-treated: Optometrists to diagnose	11.9
Need for co-management interdisciplinary	11.3
Not in optometry field	5.1
Do not know	5.1
Hospital/State responsibility	2.8
People are well informed	0.6

DESCRIPTION

This table describes the respondents' views regarding the public need in the management of diabetic eye care. The majority (37.3%) felt that the public as well as the profession lack knowledge. Mandatory examinations by optometrists every six to 12 months was the suggestion of 13.6%. A further 12.4% felt there was a dire need; 11.9% felt that it was mainly under-diagnosed and treated; 5.1% felt it was not in the field of optometry;

the same number did not know; 2.8% felt it was a State/hospital responsibility; and 0.6% felt people were well informed.

DISCUSSION

The overall impression one formed from the data was that the respondents felt that there was a great need and that the profession could play a bigger role. The need to educate the profession as well as the public was accentuated. This again points to the shared responsibility that rests on the shoulders of teaching institutions, the government and the profession.

TABLE 6.37(b): RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S CURRENT NEEDS REGARDING EYE CARE WITH SPECIFIC REFERENCE TO THE MANAGEMENT OF OCULAR DISEASE IN RETINOPATHY

(Question 6.2b)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=143) (x)
Regular dilated examinations	25.2
Public ignorant/GPs not aware	18.9
Do not know enough about the disease	15.4
Co-management	14.7
Immense need but poorly managed	11.2
Do not know the need	5.6
Not in optometry field	4.2
Nutritional issue	2.1
State hospitals slow to respond to help offered by optometrists	2.1
Specialists unaffordable	0.7

DESCRIPTION

This table depicts the respondents' opinion regarding the public need with specific reference to diabetic retinopathy. The biggest group (25.5%) felt that the standard of care to follow is regular dilated examinations; 18.9% felt that the public were ignorant and general practitioners unaware; 15.4% indicated they did not know enough about the disease; 14.7% felt it should

be co-managed; 5.6% could not express an opinion; 4.2% felt it was not in the field of optometry; 2.1% felt it was a nutritional issue; and 0.7% mentioned that specialists were unaffordable.

DISCUSSION

Although the majority of the respondents were aware of a need and felt that optometrists should play a bigger role, an unacceptable number showed little insight into the disease and the threat it poses. Its prevalence makes it a primary care issue that needs to be diagnosed, monitored and co-managed by an optometrist if blindness is to be avoided.

Countries like the UK and the USA have specific policies on eye examinations of diabetics. Regulation with regard to health promotion, education and training, as well as clinical care is required in this regard.

TABLE 6.37(c): RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S CURRENT NEEDS REGARDING EYE CARE WITH SPECIFIC REFERENCE TO THE MANAGEMENT OF OCULAR DISEASE IN GLAUCOMA

(Question 6.2c)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=157) (x)
Co-management	28.7
Immense need but poorly managed	22.3
Public ignorance	21.0
Do not know enough about disease – optometry education required	9.6
More regular follow-up gonioscopy	7.0
Average need	3.2
State hospital service poor	3.2
Not in optometry field	2.6
Financial re-imbursement needed	1.9
Do not know the need	0.6

DESCRIPTION

This table reflects the responses with regard to the management of glaucoma. 28.7% of the respondents felt that the answer to the problem lay in co-management. The next group (22.3%) felt that the disease was a big problem and was being poorly managed. Public ignorance was reported to be the biggest problem by 21.0%; 9.2% felt they did not know

enough about the disease; 7.0% sited regular follow-up and gonioscopy to be the answer to the problem; 3.2% felt that there was an average need; a similar group mentioned that the State hospital service was poor; 2.6% felt it was not in the field of optometry; 1.9% would like financial reward before they became involved; and 0.6% did not know.

DISCUSSION

The reduced number of responses throughout these questions is indicative of the lack in training, especially in the public sector where these diseases are so destructive and where they cause blindness. The responsibility for this needless blindness rests on the shoulders of society in general and its instruments of governance.

The professions of ophthalmology and optometry are to blame for the fact that 14.0% of blindness is due to this disease (RSA DoH 2000:4).

TABLE 6.37(d): RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S CURRENT NEEDS REGARDING EYE CARE WITH SPECIFIC REFERENCE TO THE MANAGEMENT OF OCULAR DISEASE IN CATARACT

(Question 6.2d)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=155)
Huge surgery backlogs in state hospitals	29.0
Affordable via co-management	23.9
Optometry gatekeeper role important; immense need in detection	17.4
Too many misconceptions on the side of the public	11.6
No big need/do not know	5.8
Not optometry field	5.2
<i>Right to Sight</i> project helps	3.9
Not enough research on causes	1.9
Cataract technicians required	1.3

DESCRIPTION

The respondents recognised the surgical backlog in hospitals, as 29.0% sited this as the biggest problem. Co-management to reduce costs and an increase in the surgery rate were suggested by 23.9%, while 17.4% felt that the gatekeeper role of optometry was of major importance. A group of 11.6% felt that there were too many misconceptions by the public with regard to this disease; 5.8% felt there was no big need or they were not

sure; 5.2% indicated that it did not fall in the field of optometry; 3.9% felt that the *Right to Sight* surgery project did help; 1.9% would like to see more research into the causes and 1.3% felt that technicians should be trained to do cataract extractions.

DISCUSSION

Cataract is a relatively easy abnormality to diagnose and manage. It appears from the data that the majority of the respondents were well aware of the need in this regard and the reasons for the dire surgical need. Human and financial resources are required to address this need, but public misconceptions about the outcome of modern surgery remain a problem which needs to be addressed as well.

Although various remedies are proposed for Africa, the most obvious approach is that of the effective use of an eye team, which can result in surgeons being free to do what they are good at. The starting point would be in the public sector where nurses, optometrists and surgeons must function as a team guided by the Prevention of Blindness Policy. In South Africa 66.0% of blindness is caused by cataract (i.e. 5 000 people for a population of one million) (RSA DoH 2000:4).

TABLE 6.37(e): RESPONDENTS' DETAILED OPINION ON THE PUBLIC'S CURRENT NEEDS REGARDING EYE CARE WITH SPECIFIC REFERENCE TO THE MANAGEMENT OF OCULAR DISEASE IN IMPAIRED (LOW) VISION

(Question 6.2e)

OPINION OF RESPONDENTS	% OF RESPONDENTS (n=151) (x)
Do not know enough to offer service	33.1
Needs not addressed	24.5
Must be more affordable	20.5
Public awareness of services lacking	11.9
Average need	4.0
No not know	2.7
State assistance needed	2.7
Medical aid benefits too low	0.7

DESCRIPTION

The respondents' opinion on the need for low vision care is reflected in this table. A third (33.1%) felt they did not know enough to offer a service; 24.5% recognised that the needs of the low vision patient are not addressed; 20.5% felt that such care had to be made affordable; 11.9% were of the opinion that the public were unaware of help that could be provided; 4.0% reported an average need; 2.7% did not know; a similar number felt the State should provide financial assistance; and 0.7% indicated that medical aid benefits were too low.

DISCUSSION

Attending to the needs of the visually impaired is often time-consuming and carries little financial reward. The respondents felt that they were ill equipped to offer this service, which is financially not viable unless more training, financial aid and promotion of the service were offered.

It is clear that more education and research are needed in this field and, to be effective, a certain level of specialisation would be required. The literature in Chapter 1 provides evidence that millions world-wide are suffering from low vision.

TABLE 6.38: RESPONDENTS' VIEWS ON THE ROLE THE OPTOMETRIST CAN PLAY IN THE IMPROVEMENT OF THE STANDARD OF CARE

(Question 6.3)

ROLE WHICH OPTOMETRIST CAN PLAY	% OF RESPONDENTS (n=285) (y)
Important role but no clear standards/clinical guidelines	28.4
Improve role through education/research	19.3
Broader scope needed in order to play bigger role	17.5
Improved standards via public sector posts/clinics for the indigent	15.8
Preventative role to play	10.2
Marketing and information role	10.2
Need to be more passionate about profession	7.0
Improved standards via co-management	4.2
Unlikely to improve with so many chain stores around	2.8
Correction of refractive errors only	0.7
Improved role if medical aids are done away with	0.7
Improved standards when medical aids pay more	0.7
Improved standards via more commercial activity	0.4
Improve standards by seeing representatives to keep up to date	0.4

DESCRIPTION

Table 6.38 reflects the respondents' opinion on how optometrists can play a role in the improvement of the standard of eye care. The biggest group (28.4%) felt that optometrists can play an important role, but that they lacked clear clinical guidelines; 19.3% felt that standards of care would improve via education and research; 17.5% indicated that optometrists can only improve standards via a broader scope; 15.8% felt this could be achieved via public sector posts and indigent clinics; 10.2% felt that the profession had a preventative role to play; a similar number saw the improvement in standards of care made possible via marketing and promotion; and 7.0% merely wanted optometrists to be more passionate about their profession. Improvement of standards via co-management was the answer offered by 4.2%, while 2.8% felt that too many chain stores prevented improvement in standards. A small group of 0.7% felt that optometrists should see to refractive errors only; the same number felt that standards would only improve if medical aids were done away with; while a similar number of 0.7% felt that standards would improve when medical aids paid more! A very small number of 0.4% felt that more commercial activity would improve standards and a similar number indicated that standards would be improved by seeing representatives.

DISCUSSION

The majority of the respondents (85.2%) expressed the opinion that optometry could play an important role in the improvement of eye care standards via improved clinical training, guidelines, skills, co-management, and public sector involvement. Although the other comments should also be noted, it is clear that the educational backbone of care improvement through self-improvement is of paramount importance.

TABLE 39: RESPONDENTS' VIEW ON THE ROLE POST-GRADUATE EDUCATION CAN PLAY IN EYE CARE DELIVERY AND STANDARDS

(Question 6.4)

ROLE WHICH POST-GRADUATE EDUCATION CAN PLAY	% OF RESPONDENTS (n=237)
Will improve both delivery and standards	88.6
Do not care/too old to give an opinion	3.4
Experience more important/no role	3.4
Too concentrated in urban settings – not much effort	1.3
Will upset Ophthalmology	1.3
Will drive the profession	0.8
Will be too costly	0.4
Should be aimed at closing gaps in undergraduate education	0.4
Must first be promoted with the public	0.4

DESCRIPTION

A vast majority (88.6%) of the respondents felt that post-graduate education would improve both service delivery, as well as standards of care. Some 3.4% of the respondents felt they were too old or did not care about the subject; the same number felt that experience was more important; 1.3% felt that post-graduate education would be too much effort; or that the competition/concentration of optometrists in urban areas would increase and enhance the effect of post-graduate education. 1.3%

also indicated that post-graduate education would upset Ophthalmology, as it would threaten their turf.

A smaller group of 0.8% indicated that post-graduate education would drive the profession; 0.4% felt the undergraduate programmes should accommodate what is currently seen as post-graduate education; and 0.4% felt it should be promoted with the public or it would not have the desired effect. A similar group felt that post-graduate education would be too costly.

DISCUSSION

This data correlate well with the data of Table 6.38 where one could assume that 85.2% based their responses on educational enhancement and that they almost stated the obvious, namely that improvement in standards of care and delivery of service can only be achieved by the expansion of undergraduate training via post-graduate programmes.

**TABLE 6.40(a): RESPONDENTS' PERCEPTION OF BEING PART
OF THE COMMUNITY THEY SERVED**

(Question 6.5)

RESPONDENTS' PERCEPTION	% OF RESPONDENTS (n= 366)
Yes	93.4
No	6.6

DESCRIPTION

The majority (93.4%) of the respondents felt that they were part of the community they served. The balance (6.6%) did not.

DISCUSSION

This is a very high positive response and about half of the respondents practise in urban, commercial settings. The reasons for their responses are reflected in Table 6.40(b).

TABLE 6.40(b): RESPONDENTS' REASON/MOTIVATION WHY THEY SAW THEMSELVES AS PART OF THE COMMUNITY THEY SERVED

(Question 6.5)

REASON/MOTIVATION	% OF RESPONDENTS (n=156) (x)
Live in, involved with and socialise in the community	39.9
Take part in and contribute to community projects	15.4
Do more than just refractive work	12.2
Visit rural clinics/schools	11.5
Not a commercial practice	5.1
Serve the entire community at affordable levels	4.5
Highly respected for my opinion	1.9
First contact with those who seek help	1.9
Work for NGO	1.9
Live in small town	1.3
Patient/practitioner relationship continues beyond practice visit	1.3
Cannot isolate yourself	1.3
Does not matter where you live	0.6
Live in different town	0.6
Employed by group/locum	0.6

DESCRIPTION

The main reason why respondents saw themselves as part of the community they served was the fact that they lived, were involved and socialised in the community (39.9%). The next most popular reason was that they took part in community projects (15.4%). This was followed by 12.2% who reported that they did more than just refractive work; 11.5% reported that they visited clinics and schools; and 5.1% reasoned that they were not a commercial practice.

Other reasons were the following: 4.5% helped patients budget and saw those who could not afford to pay. "First contact with those who seek eye care" was provided as a reason by 1.9%; 1.3% provided the reason of a small town; 1.3% reported that their patient/practitioner relationship continued beyond the practice visits; and 1.3% reasoned that no-one was an island and they therefore naturally formed a part of the community they served. 1.9% reasoned that they were highly respected for their opinion, and the same number worked for an NGO. Although they lived in a different town, 0.6% saw themselves as part of the community they served, while the same number felt it does not matter where you live. 0.6% also reasoned that working as a locum or for a group made them feel part of the community.

DISCUSSION

The majority of the reasons centre around the fact that human relationships and attitudes which are structured in the practice continue beyond professional contact. The respondents therefore felt they were more sensitive to the needs of the community and how to address those.

Although a large percentage answered "Yes" in the previous table, Table 6.40(a), a much smaller group offered reasons for saying so.

TABLE 6.40(c): RESPONDENTS' REASONS/MOTIVATION WHY THEY DID NOT SEE THEMSELVES AS PART OF THE COMMUNITY THEY SERVED

(Question 6.5)

REASONS/MOTIVATION	% OF RESPONDENTS (n=17) (x)
Have little non-professional contact	41.2
See only those who can afford to pay	17.7
Live in different town	11.8
Employed by group/locum	11.8
Work in town	5.9
Do not wish to share personal issues	5.9
Background differs	5.9

DESCRIPTION

This table reflects the reasons why the respondents did not see themselves as part of the community they served. 41.2% reported that they had little non-professional contact; 17.7% saw only patients who could afford the service; 11.8% lived in a different town; and 11.8% were employed by a group or did locum work. Although 5.9% lived and socialised in the community, they did not see themselves as part of that community. As they "worked in town", 5.9% similarly indicated that they did

not wish to share personal issues. A final group of 5.9% felt that their backgrounds were different.

DISCUSSION

The reasons why the respondents did not feel part of the community they served, mainly focus on little non-professional contact for either personal reasons, logistical reasons, cultural reasons or temporary employment.

**TABLE 6.41: RESPONDENTS' VIEWS ON THE ROLE THAT THE
STATE SHOULD PLAY IN THE PROVISION OF EYE
CARE**

(Question 6.6)

RESPONDENTS' VIEWS	% OF RESPONDENTS (n=260) (x)
Improve current service	31.9
Employ optometrists/broaden scope	25.8
Subside spectacles at clinics/hospitals	19.2
Pay/endorse private practitioners for certain work	7.7
National health plan	6.2
Health/eye care promotion	3.9
State incapable of improving	3.1
Do not know	1.2
Stop listening to professors of Ophthalmology (barrier)	1.2

DESCRIPTION

Table 6.41 reflects respondents' views regarding the role they saw the State should play in the provision of eye care. A fairly large number (31.9%) argued that the State should improve the current services. The next group (25.8%) felt that the State should employ optometrists and/or broaden their scope. This was followed by the following answers: "Subsidise spectacles" (19.2%); "Pay private practitioners for certain work" (7.7%); "Implement a national health plan" (6.2%); and "Perform more health/eye care promotions" (3.9%).

A smaller group of 3.1% felt that the State was incapable of improving; 1.2% had no suggestions; and a similar group stated that the State should stop listening to the professors of Ophthalmology.

DISCUSSION

The first six subcategories dealt with more commitment by the State in the form of providing more resources (human and financial) and Health Promotion. Although small, the last group's comment is worth discerning, as the State historically based policy and designed policy around Ophthalmology departments within a system which supported separate development. Today the demographics of Ophthalmology do not reflect successful transformation and, although the argument is often used that apartheid no longer exists, the legacy of a 40-year old system may well take more than a decade to rectify.

TABLE 6.42(a): RESPONDENTS' VIEWS/RECOMMENDATIONS ON THE NUMBER OF OPTOMETRISTS THAT THE STATE SHOULD EMPLOY FOR THE (WHOLE) COUNTRY

(Question 6.7)

RESPONDENTS' VIEWS	% OF RESPONDENTS (n=262) (x)
100-250 optometrists	16.0
Enough to match need	14.5
Two per provincial hospital	11.1
Do not know	10.7
Every hospital	9.9
Four to seven optometrists per district	8.0
1000-1500 optometrists	7.6
None	4.6
All who qualify	3.4
1:20 000	3.4
As many as the State can afford	3.1
1:50 000	3.1
Five per province	2.3
150 per year	1.2
Five per hospital	0.8
1:6 000	0.4

DESCRIPTION

Table 6.42(a) reflects the number of optometrists that the respondents felt the State should employ. The most popular was a total of between 100 and 250 optometrists (16.0%). This was followed by "Enough to match the need" (14.5%); "Two per provincial hospital" (11.1%); while 10,7% did not know. "Every hospital" accounted for 9.9% of the responses; "Four to seven per district" (8.0%) followed; "1000-1500" followed (7.6%); while 4.6% elected none. "All that qualify" accounted for 3.4%, as did a ratio of one optometrist for every 20 000 members of the population. "As many as the State can afford" was next (3.1%), while a similar group elected a ratio of 1:50 000. 2.3% felt five per province was the ideal figure, followed by 150 per year at 1.2%. 0.8% recorded five per hospital and 0.4% a ratio of 1:6000.

DISCUSSION

This is clearly a subject which needs more research in order to get to the best ratio - a ratio that might vary in different parts of the country. However, the respondents did not shy away from this, as the majority felt that one should start somewhere. Although the ideal district should represent 250 000, there are much smaller districts in South Africa, as well as much larger ones (1.5 million).

The Prevention of Blindness Policy mentions a ratio of 1:250 000 (RSA DoH 2000:5). The logical route to follow is to train all optometrists via the public sector; create at least the ± 160 posts as per the 1:250 000 ratio; and rotate graduates through those posts within a community service structure, provided that sufficient supervisory posts are also in place.

Supervisor posts would be ophthalmologists or senior optometrists employed by the State and, if undergraduate training is in line with public sector needs, supervision may only be required for three months. Medical officers, nurses and voluntary community workers should make up the rest of the team.

TABLE 6.42(b): RESPONDENTS' REASONS FOR THE RECOMMENDED NUMBER OF STATE-EMPLOYED OPTOMETRISTS

(Question 6.8)

RESPONDENTS' REASON/MOTIVATION	% OF RESPONDENTS (n=146)
Current system cannot cope	49.3
Hospitals/clinics are widespread	12.3
Do not know/more research	11.0
Too many optometrists reduce standard of care/do not want to work in public sector	9.6
Need the correct ratio	5.5
We can do it without State	3.4
Graduates must do community service	3.4
Estimation probably not enough, but let's start somewhere	2.7
500 patients per annum per optometrist	2.1
Follow tender system	0.7

DESCRIPTION

The table reflects respondents' reasons for the recommended numbers of State-employed optometrists. About half (49.3%) felt that the current system could not cope. The geographic spread of hospitals and clinics was given as a reason by 12.3%; 11.0% felt that they could not comment as more research was needed; 9.6% reasoned that an oversupply reduced the standard of care and most optometrists did not want to work in the public sector.

5.5% suggested that the correct ratio would need to be formulated, while 3.4% reasoned that the profession could do it without the State. A further 3.4% mentioned compulsory community service as a solution, while 2.7% estimated a number that they felt might not be enough, but reasoned they just had to start somewhere. 2.1% motivated their answer by calculating that every employee should be able to see 500 patients per annum. Finally, 0.7% responded by saying that a tender system should be followed.

DISCUSSION

The wide range of responses in Table 6.42(a) forms a base for the wide range of responses in Table 6.42(b). However, most responses were based on the fact that the current public sector system cannot cope and that hospitals and clinics have a better geographical spread in terms of service delivery. A large group was realistic in that a correct ratio is required and this ratio may even change per district as the demographics, health needs and the socio-economic nature of a particular district change.

TABLE 6.43(a): RESPONSE TO THE SUGGESTION OF PRIVATE/PUBLIC SECTOR PARTNERSHIP TO ASSIST THE STATE IN ADDRESSING THE EYE CARE NEEDS IN SOUTH AFRICA

(Question 6.9)

RESPONSES	% OF RESPONDENTS (n= 366)
Yes	86.7
No	12.6
Do not know	0.8

DESCRIPTION

In response to the question as to whether a public/private sector partnership in eye care was needed, 86.7% of the respondents answered affirmatively; 12.6% were against such a suggestion and 0.8% were unsure.

DISCUSSION

Although there is policy with regard to this topic, few such partnerships have been formed in the Health Sector. The Professional Association, Regulatory Bodies and teaching institutions should investigate this option.

TABLE 6.43(b): RESPONDENTS' MOTIVATION FOR THEIR BELIEFS THAT THE PROFESSION SHOULD DEVELOP A PRIVATE/PUBLIC SECTOR PARTNERSHIP TO ASSIST THE STATE IN ADDRESSING THE EYE CARE NEEDS OF SOUTH AFRICANS

(Question 6.10)

REASONS/MOTIVATION	% OF RESPONDENTS (n=166)
Public sector needs too big/standards poor	28.9
A civil duty (better managed)	15.7
Few can afford medical aid/private care	12.7
Formalise employment on a sessional basis	11.5
Positive move by optometry	8.4
Private sector better equipped (organised)	7.2
Would not like to see profession as part of political turmoil in government (poor management)	5.4
Will assist in a better understanding of optometry	4.8
Will gain clinical experience	1.8
Private sector not aware of need	1.2
Competition will reduce high costs of optometry services	1.2
Create work for private sector	0.6
Build on existing projects like <i>Right to Sight</i>	0.6

DESCRIPTION

Table 6.43(b) reflects the reasons why respondents reacted positively to a public/private sector partnership. 28.9% reasoned that the public sector was too big with poor standards. 15.7% reasoned that it was a civil duty which would be better managed via this partnership.

12.7% focused on the fact that the majority could not afford medical aid or private care. 11.5% felt that such partnership would create formal employment, while 8.4% saw the positive public relations in such partnership. 7.2% felt that the private sector would be better equipped or organised; 5.4% mentioned poor management and that they would not like to see the profession as a part of political turmoil in the government; 4.8% felt it would assist in the better understanding of optometry; 1.8% felt that clinical experience would be gained; the same percentage, namely 1.2%, felt that the private sector were not aware of the need and that competition would reduce the high costs of optometry services. Likewise two groups (both 0.6%) expressed the opinion that it would create work for the private sector and that it would build on existing projects like *Right to Sight*.

DISCUSSION

Most of the respondents realised the shortfalls in the public sector; their own civil duty; the employment, educational and promotional opportunities; and the fact that the poor cannot afford care. Poor organisation and remuneration in the public sector and a fear of competition from the public sector were furthermore mentioned. The profession should see this as but one element in building a network of eye care services which will be available all over the country.

TABLE 6.43(c): RESPONDENTS' MOTIVATION FOR THEIR BELIEF THAT THE PROFESSION SHOULD NOT DEVELOP A PRIVATE/PUBLIC SECTOR PARTNERSHIP TO ASSIST THE STATE IN ADDRESSING THE EYE CARE NEEDS OF SOUTH AFRICANS

(Question 6.10)

REASONS/MOTIVATION	% OF RESPONDENTS (n=25)
Rather employ optometrists formally	36.0
Would not like to see profession as part of poor management in government	28.0
Competition will become greater	12.0
State remuneration poor	8.0
Do not know	8.0
No assurance of financial management	4.0
Should be part of clinical experience/training	4.0

DESCRIPTION

In this table the majority of the respondents (36.0%) expressed the opinion that optometrists should rather be employed formally; 28.0% indicated that they would not like to see the profession as part of poor management in the government; 12.0% felt that competition among optometrists would become greater; 8.0% indicated that State remuneration was poor; and the same percentage (8.0%) did not know. "No assurance of financial management" was indicated by 4.0% and the same number of respondents (4.0%) felt that it should be part of clinical experience/training.

DISCUSSION

The main reason why respondents felt anti-private/public sector partnership was that formal employment was preferred. However, a group about the same size did not want to have any part in what they perceived to be a chaotic structure. A few felt financially threatened, while others saw it as part of training anyway. Without involvement in the public sector the profession is incapable of constructive input.

**TABLE 6.44(a): RESPONSES TO THE INTRODUCTION OF
 COMPULSORY COMMUNITY SERVICE
 PROPOSED FOR 2007**

(Question 6.11)

RESPONSES	% OF RESPONDENTS (n=384)
Yes	85.7
No	12.5
"Yes" and "No"	1.8

DESCRIPTION

A large majority (85.7%) indicated that they were in favour of compulsory community service for optometrists. A small group of 1.8% were unsure, while 12.5% were against the concept.

DISCUSSION

The profession of optometry and its teaching institutions have been in favour of a type of internship for many years, but failed to come up with any proposal in this regard. Now that the State has started with its own initiatives, the profession as a whole should be proactive and make it happen. Such a proposal should include all elements, such as undergraduate training, post-graduate training, CPD, Public-Private-Partnerships, and voluntary and compulsory community service.

TABLE 6.44(b): RESPONDENTS' REASONS WHY THEY WERE OF THE OPINION THAT COMPULSORY COMMUNITY SERVICE IS A GOOD IDEA

(Question 6.12)

RESPONDENTS' REASONS	% OF RESPONDENTS (n=196)
A good way to gain experience/serve the community wider	77.6
To understand the diverse problems of the population/ part of training	15.3
A way to pay civil rent	3.6
Ensures that all optometrists take part/creates more possibilities/opportunities	2.0
Provided there is a public sector career path	1.0
As long as the State can pay/protect them	0.5

DESCRIPTION

An overwhelming majority (77.6%) of the respondents indicated that it would be a good way to gain experience or serve the broader community, while 15.3% felt that it would help to understand the diverse problems of the population or that it was a part of training. 3.6% indicated that it was a way to pay civil rent; 2.0% felt that it ensured that all optometrists took part or that it would create more possibilities or opportunities; 1.0% specified that there had to be a public sector career path; and 0.5% emphasised that the State had to pay and protect them.

DISCUSSION

The data confirm that most of the respondents understood the importance of clinical training for a clinical profession and the community-based learning that should take place.

It is obvious that the profession and the State will benefit by virtue of the fact that the broader population will be served; training opportunities will be expanded; and formal employment will create supervisory, managerial, research and service delivery opportunities for the profession.

**TABLE 6.44(c): RESPONDENTS' REASONS WHY THEY WERE OF
THE OPINION THAT COMPULSORY COMMUNITY
SERVICE IS NOT A GOOD IDEA**

(Question 6.12)

RESPONDENTS' REASONS	% OF RESPONDENTS (n=33)
Can do this in private practice	27.3
Must be voluntary	27.3
Rather focus on public sector during training	21.2
State cannot accommodate/pay/protect them	12.1
State must employ and pay permanent staff	12.1

DESCRIPTION

27.3% of the respondents felt that they could perform this service in private practice, while the same number (27.3%) expressed the opinion that it had to be voluntary. 21.2% indicated that the focus should rather be on the public sector during training, while two groups of the same size (12.1%) expressed a sentiment pertaining to the State, namely that the State cannot accommodate/pay/protect graduates and that the State should rather employ and pay permanent staff.

DISCUSSION

The majority of this group clearly did not grasp the importance of community-based education and training and obviously did not really want to become involved in the sustainable public sector role of the profession. Opinion should change once all optometrists have experienced Public Health as part of education and training.

TABLE 6.44(d): RESPONDENTS' REASONS WHY THEY WERE NOT SURE ("YES" AND "NO") AS TO WHETHER 2007 (EARMARKED FOR POSSIBLE COMPULSORY COMMUNITY SERVICE) WAS A GOOD IDEA

(Question 6.12)

RESPONDENTS' REASONS	% OF RESPONDENTS (n=7)
Can the State accommodate/pay/protect them?	57.1
A good way to gain experience/serve the community wider	28.6
State must employ and pay permanent staff	14.3

DESCRIPTION

The concern of a large group (57.1%) was whether the State could accommodate, pay or protect them, while 28.6% felt that it was in the interest of community service or a way of gaining experience. 14.3% indicated that the State had to employ and pay permanent staff.

DISCUSSION

A certain amount of uncertainty is understandable, but again - without involvement - the system can neither be implemented nor improved.

TABLE 6.45: RESPONDENTS' VIEWS ON THE EARLIER IMPLEMENTATION OF COMPULSORY COMMUNITY SERVICE (EARLIER THAN 2007)

(Question 6.13)

RESPONDENTS' VIEWS ON EARLIER IMPLEMENTATION	% OF RESPONDENTS (n=371) (x)
Positive	57.1
Negative	41.5
Do not know	0.8
Proper structures first	0.5

DESCRIPTION

More than half (57.1%) of the respondents felt that compulsory community service should be implemented prior to 2007, while 41.5% were against an earlier date. A small group of 0.8% were not sure and 0.5% indicated that they would like to see proper structures first.

DISCUSSION

The positive responses (57.1%) were fewer than those in Table 6.44(a), where 85.7% were in favour of compulsory community service. It is difficult to find any other reason for this other than a perception that the State would not be ready for this or that appropriate training was not in place.

It is clear that the Professional Bodies, the teaching institutions and the State need to plan together to ensure effective implementation.

TABLE 6.46(a): RESPONSES TO THE SUGGESTION THAT A NATIONAL HEALTH ASSURANCE SCHEME IS AN OPTION FOR SOUTH AFRICA

(Question 6.14)

RESPONDENTS' RESPONSES	% OF RESPONDENTS (n=325)
Positive	61.2
Negative	35.7
"Yes" and "No"	0.6
Do not know	2.2
Too complex	0.3

DESCRIPTION

According to this table, 61.2% were positive; 35.7% were negative; 0.6% harboured both positive and negative feelings; 2.2% were uncertain; and 0.3% felt the issue was too complex.

DISCUSSION

One would think that a National Health Plan would be to the benefit of everybody and it is therefore somewhat surprising that 35.7% of the responses were negative. This may be due to a fear that the current medical aid system is not satisfactory and that a national system may pay less and later. The profession should act proactively to design its own version of a plan which involves all in the profession and the optical industry.

TABLE 6.46(b): RESPONDENTS' MOTIVATION FOR THE IMPLEMENTATION OF A NATIONAL HEALTH INSURANCE SCHEME IN SOUTH AFRICA

(Question 6.15)

RESPONDENTS' REASONS	% OF RESPONDENTS (n=99) (x)
Majority cannot afford care or medical aid/system cumbersome	56.6
Current State efforts not adequate	12.1
Improved accessibility	9.1
Could work, doubt ability of the State	6.1
Yes, but we will end up indirectly paying for this	5.1
Yes, but need more information	5.1
Can incorporate a broader scope of treatment	3.0
Yes, but can be done on a private basis	2.0
Yes, but AIDS will deplete funds	1.0

DESCRIPTION

A very large percentage (56.6%) indicated that the majority could not afford care or a medical aid or felt that the current system was too cumbersome; 12.1% felt that current State efforts were not adequate, while - with reference to the State - 6.1% doubted the ability of the State. "Improved accessibility" was put forth as a reason by 9.1%; two groups of the same size (5.1%) felt positive, but had reservations, namely that the profession would end up paying for it and that they needed more information; 3.0% felt it could incorporate a broader scope of treatment; and another two groups were also positive. One of these two groups

(2.0%) said it could be done on a private basis, while the other one (1.0%) felt that AIDS would deplete funds.

DISCUSSION

The respondents realised that many individuals are so poor that not even the cheapest "clinic price" in private practice would be affordable, nor would a viable practice be sustained.

Although in favour of the implementation of a National Plan, many negative conditions were aired, most of them based on reasonable doubt. Proactive planning, design and creative thought need to come from the profession if it wishes to play a part in such a National Plan.

TABLE 6.46(c): RESPONDENTS' MOTIVATION AS TO WHY A NATIONAL HEALTH INSURANCE SCHEME SHOULD NOT BE IMPLEMENTED IN SOUTH AFRICA

(Question 6.15)

REASONS/MOTIVATION	% OF RESPONDENTS (n=73) (x)
Could work, doubt ability of State	31.5
Too expensive to run	15.1
Medical insurance fraught with problems	13.7
State cannot pay for this – we will have to	11.0
National Health plans standards usually poor world-wide	9.6
AIDS will deplete funds	9.6
Can be done on a private basis	5.5
No, do not believe it can work	2.7
Will reduce our income	1.4

DESCRIPTION

According to this table, the respondents did not have a great deal of confidence in the State, as 31.5% doubted the ability of the State and 11.0% felt that the State could not pay for this. 15.1% felt it would be too expensive to run; 13.7% pointed out the problems present within medical insurance; 9.6% indicated that National Health plans world-wide leave much to be desired; a group of a similar size (9.6%) reiterated that AIDS will deplete funds; 5.5% felt it could be done on a private basis; 2.7%

doubted its ability to work; and 1.4% were of the opinion that it would reduce their income.

DISCUSSION

A fairly large group doubted the capacity of the State to implement such a programme. Outsourcing is a possibility, but has also proved not to be without problems.

It is clear that the best system world-wide needs to be looked at and adapted to South Africa's needs and that the profession and the industry should plan upfront.

TABLE 6.47(a): RESPONSES TO THE QUESTION WHETHER POST-GRADUATE EDUCATION WOULD IMPACT POSITIVELY ON THE NEEDS OF THE PUBLIC
(Question 6.16)

RESPONSES	% OF RESPONDENTS (n=374)
Yes	86.4
No	12.8
Do not know	0.8

DESCRIPTION

In response to the question whether the respondents were of the opinion that post-graduate education would impact positively on the public's needs, 86.4% answered in the affirmative, 12.8% in the negative and 0.8% were not sure.

DISCUSSION

These affirmative responses correlate with those in Table 6.39, where 88.6% of the individuals responded positively to the question whether post-graduate education could play a role in eye care delivery and standards. Although this view on the public need is that of optometrists and might be biased, it remains a perception to value, as the respondents were convinced that new skills learned via post-graduate studies would help to address public needs, which they obviously encountered on a daily basis.

This should be viewed in a positive light by providers of education, the Professional Bodies and the DoH.

TABLE 6.47(b): RESPONDENTS' REASONS WHY A POST-GRADUATE EDUCATION WOULD HAVE A POSITIVE IMPACT ON THE NEEDS OF THE PUBLIC

(6.17)

RESPONDENTS' REASONS	% OF RESPONDENTS (n=197) (x)
Improved eye care standards and scope	50.8
Improved specialised care	9.6
Improved public image	8.6
Will make certain procedures more accessible and affordable	7.1
Only if it is needs-based	6.1
Knowledge = power + wisdom	4.6
Research brings development	4.5
Must have compulsory community (public sector) service as part of it	4.1
Specialised fields lacking	2.5
Yes, but only small positive impact	1.0
Will add to professionalism	0.5
Provided that not too many take part	0.5

DESCRIPTION

A large group (50.8%) indicated "Improved eye care standards and scope" as the reason; "Improved specialised care" was indicated by 9.6%; and "Improved public image" by 8.6%. 7.1% felt that certain procedures would

be more accessible/affordable; 6.1% expressed the reservation that only if it was needs-based; 4.6% indicated that "Knowledge = power + wisdom"; another reservation expressed was that compulsory community service should be a part thereof; 4.5% indicated "Research brings development"; 2.5% felt that specialised fields were lacking; 1.0% felt that it would only have a small positive impact; 0.5% were of the opinion that it would add to professionalism; and another group of the same size (0.5%) were reserved in that they felt not too many should take part.

DISCUSSION

This large group realised the needs and opportunities in primary eye care in South Africa and that education will play a major role in attending to these needs and utilising the opportunities. It also stands to reason that undergraduate training will ultimately benefit from prioritisation which will follow once higher qualifications are underway. In other words, a new focus will develop at undergraduate level aimed at public health care, immediate public needs and the public sector career path with managerial opportunities, as well as research possibilities. One could easily reason that everyone stands to gain from post-graduate studies, i.e. the public, the State, the profession and the industry.

TABLE 6.47(c): RESPONDENTS' REASONS WHY A POST-GRADUATE EDUCATION WOULD NOT HAVE A POSITIVE IMPACT ON THE NEEDS OF THE PUBLIC

(Question 6.17)

RESPONDENTS' REASONS	% OF RESPONDENTS (n=31)
Unless it has a compulsory community (public sector) service as part of it	19.4
Post-graduate education does not make you more accessible, affordable	19.4
Review undergraduate education and public sector partnerships	16.1
Will not maintain, standards not guaranteed	12.9
Speciality skills training often ignores basic needs	12.9
Preventative care more important	6.5
Speciality fields not yet recognised	3.2
Will impact positively more on education than training, not the need of the public	3.2
Majority will not benefit	3.2
More research needed	3.2

DESCRIPTION

According to this table, 19.4% specified that post-graduate education should have a compulsory community service as part of it; another 19.4% felt that this kind of education does not make the optometrist more accessible or affordable; 16.1% felt that undergraduate education and public sector partnerships should be reviewed; according to 12.9%

standards would not be guaranteed; and another 12.9% felt that speciality skills often ignore the basic needs. 6.5% felt that preventative care was more important; 3.2% indicated that speciality fields were not yet recognised; another 3.2% were of the opinion that it "Will impact positively more on education than training, not the need of the public"; a third group of 3.2% indicated that the majority would not benefit; and a fourth group of 3.2% felt that more research was needed.

DISCUSSION

It appears from the responses that this group was unaware of the changes that higher education will be undergoing in the coming years. Most of the concerns will be addressed via this new direction.

If the teaching institutions are serious about implementing the new Health and Higher Education Policies, every concern in the above table will be addressed. Understanding new Policies in Health and Education is vital, as some in leadership positions in the profession are still ignoring these Acts. The challenge is to first educate leadership, followed by informing the profession and ensuring that undergraduate programmes teach all the relevant concepts.

6.18 SUMMATIVE CONCLUSION ON CATEGORY 6: AWARENESS OF THE PUBLIC NEED

Measuring the public need from the perspective of the respondents gave the researcher an idea of the awareness of the public need. In some of the open-ended questions, fewer respondents provided an answer than in the other five categories. Although fewer answered, one still gains valuable perspectives which can be applied. What is encouraging is that the respondents believed that their profession can contribute to better eye care for all.

In order to put the major causes of blindness into context, it is important to note that over the age of 40 years, the prevalence of glaucoma is 1-2% (in Africa the prevalence could be double this rate) (Cook 2001). A recent study on a primarily Black population found that Black participants tended to have thinner corneas (Nemesure 2003:240-244). In the Ocular Hypertension Treatment Study (OHTS) it was confirmed that thinner corneas resulted in an error of intra-ocular pressure measurement that was lower than in "normal" corneas (Fingeret 2002). Although the Barbados study did not find a relationship between intra-ocular pressure and corneal thickness in that population, other studies have reported a positive relationship. These findings may therefore hold particular challenges for the management of the disease in Africa as "under-treatment" may be a significant factor.

It can be assumed that diabetic retinopathy will become the major cause of blindness in South Africa once current major causes have been addressed. The New Jersey 725 study enrolled 725 African Americans with Type 1 diabetes and concluded that diabetic retinopathy in African Americans with Type 1 diabetes is common, being found in almost two-thirds of the patients studied (Roy 2000:97-104).

The effect of cataract on blindness in developing countries is well known with up to 66.0% of blindness in South Africa due to this condition. A major contributing factor to the high percentage of blindness is the cataract surgical rate expressed in operations/million/year. The rate is about 200 in Africa, 500-1500 in Latin America, 2000 in India, 3000 in Europe and 5000 in the United States of America (Thylefors 1998:1 of 3). Many optometrists are not aware of these needs, as CPD, post-graduate programmes and the clinical exposure in the public sector have not been developed to serve as a conduit for optometrists' participation. The inherited fragmented health care system is slowly changing, but lack of innovative management in the public sector will make any sound policy implementation very difficult, with problems that range from infrastructure to financial management to service delivery. However, it is here where the greatest challenge and opportunities for the profession lie. In fact, the opportunities are so great that post-graduate education is but a small part thereof and would hopefully play a catalyst role in improved undergraduate training and service delivery to the majority. After all, it is for this majority that the profession is jointly responsible. This responsibility starts with the first year of training, extending to the last page of a Ph.D. thesis to every tax rand paid by those in private practice.

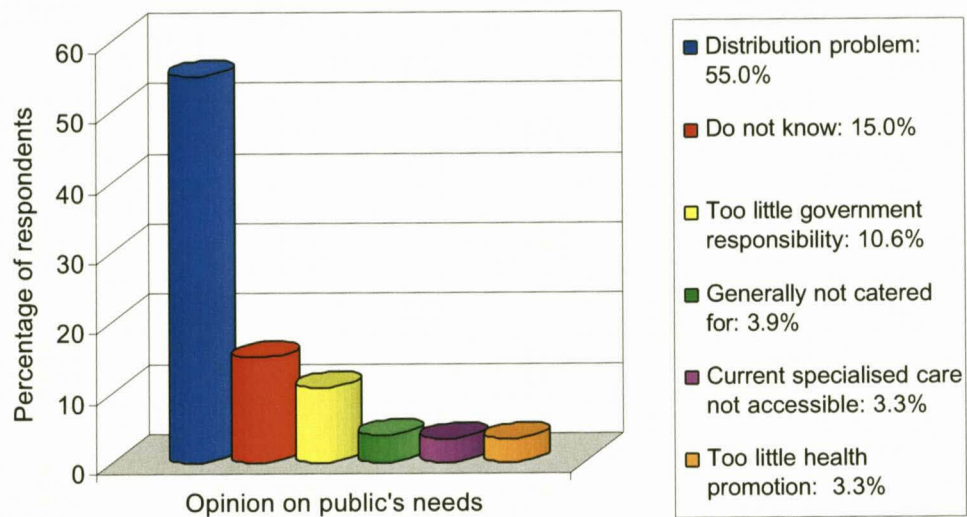
To conclude, what is needed is committed leadership within academia, the profession and the DoH to put all available resources together to understand the overall need; to design or alter current structures appropriately; and to implement a sustainable education- and training-based service which the public can utilise. Communicating a structure plan is of paramount importance.

Figure 6.6 provides a graphic presentation of some of the aspects of the main findings on Category 6.

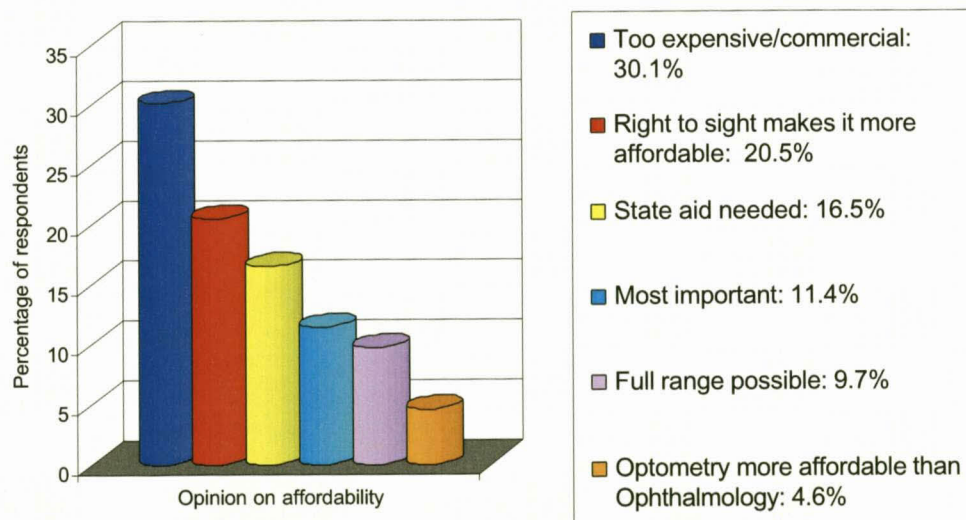
FIGURE 6.6: A GRAPHIC PRESENTATION OF SOME OF THE ASPECTS OF THE FINDINGS ON CATEGORY 6: AWARENESS OF PUBLIC NEED

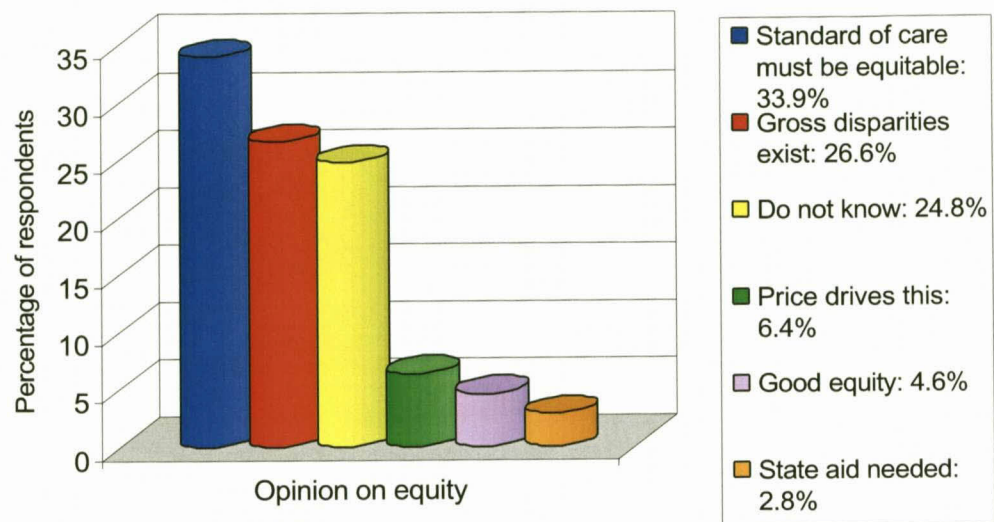
a) Respondents' detailed opinion on the public needs regarding accessibility, affordability and equity [Only the main opinions are provided – also see Tables 6.36 (a),(b),(c).]

Accessibility (n=180)

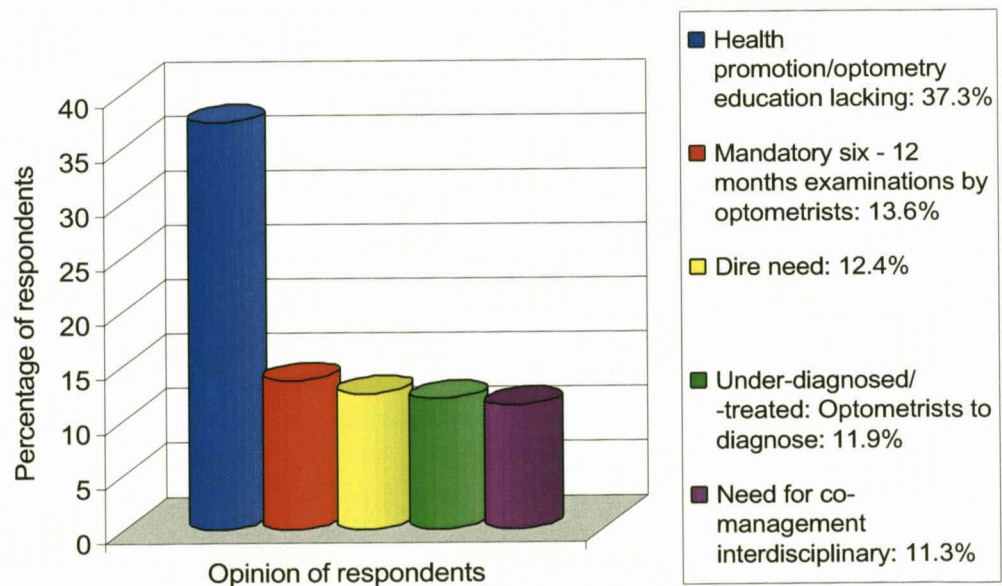


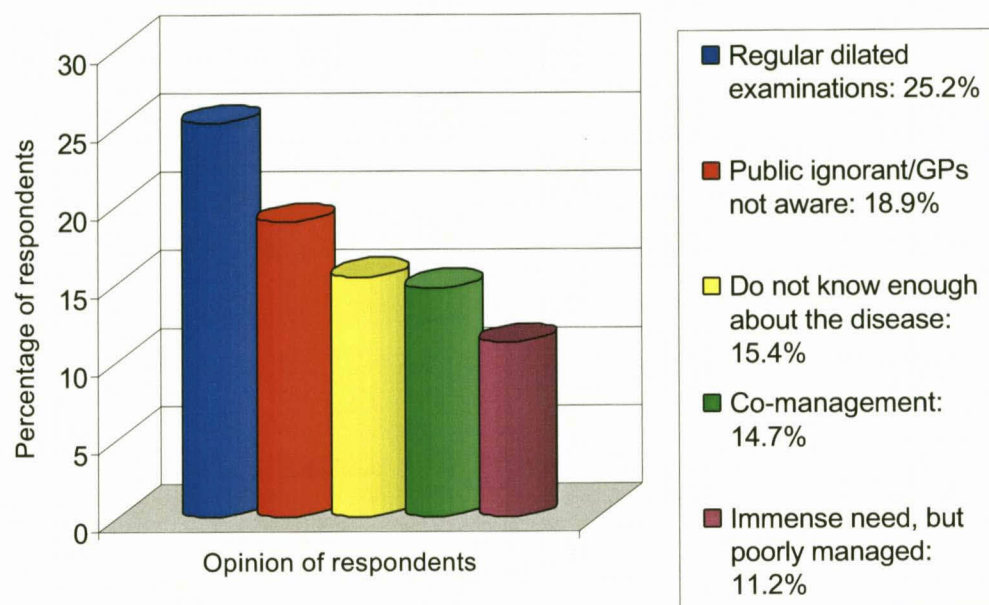
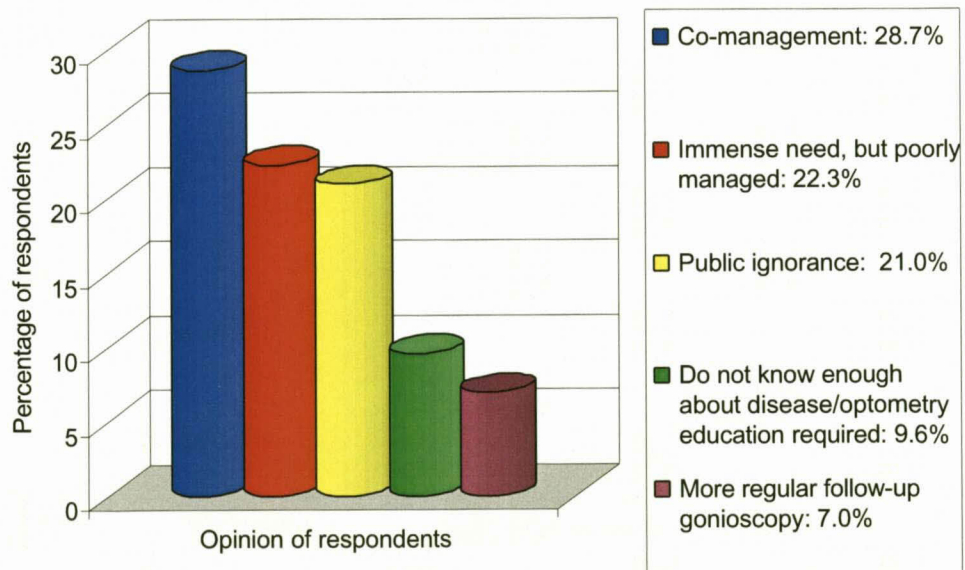
Affordability (n=176)

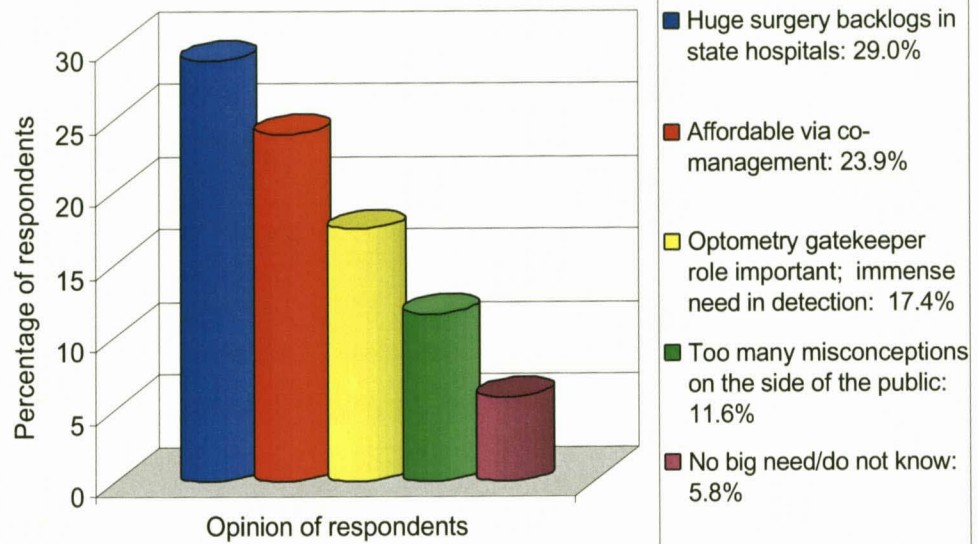
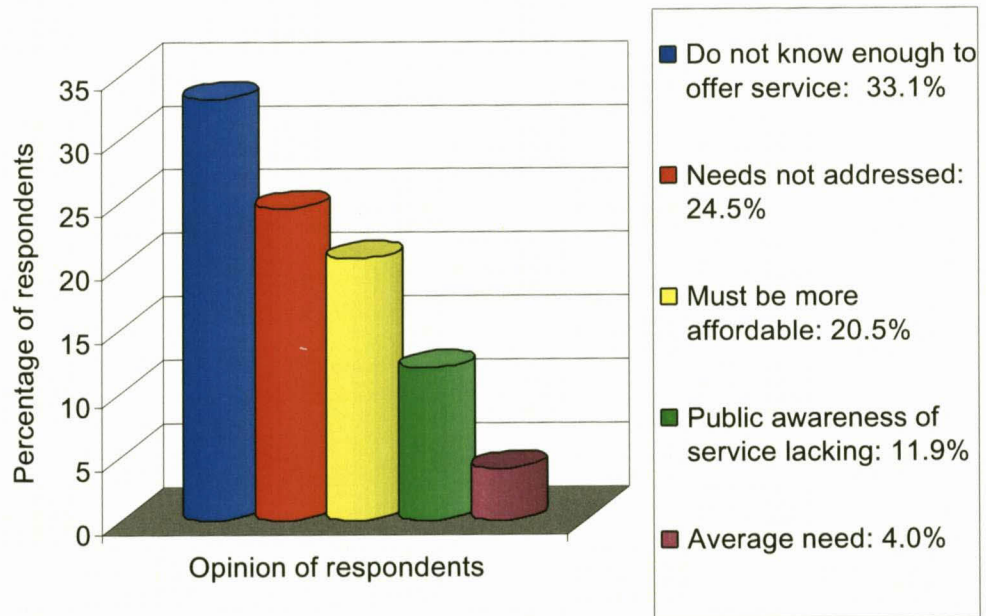


Equity (n=109)

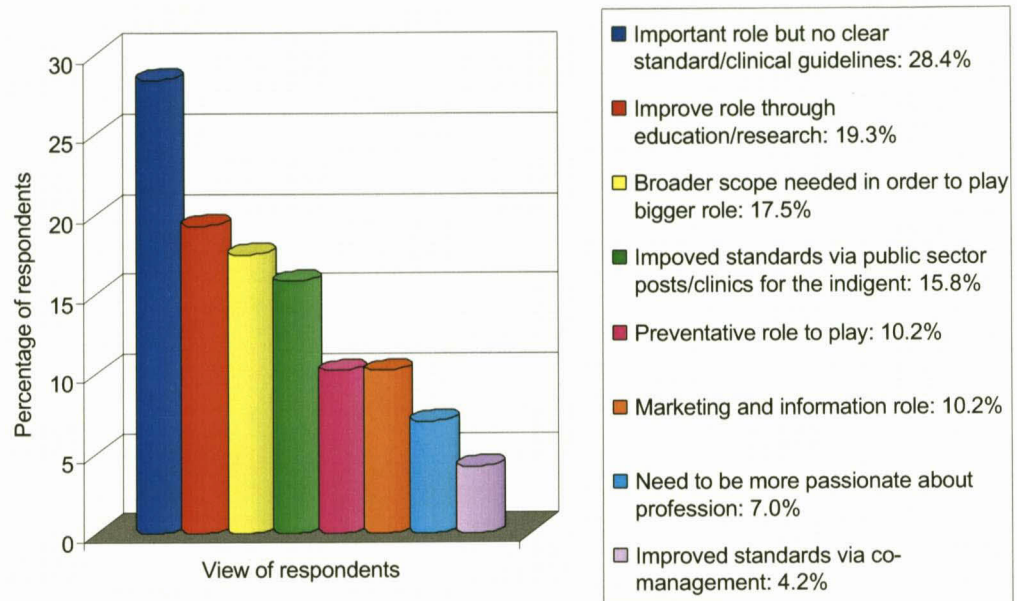
b) Respondents' detailed opinion on the public's current needs regarding eye care with specific reference to the management of ocular disease in diabetes, retinopathy, glaucoma, cataract, impaired (low) vision [Only the main opinions are provided – also see Tables 6.37 (a) – (e).]

Diabetes (n=177)

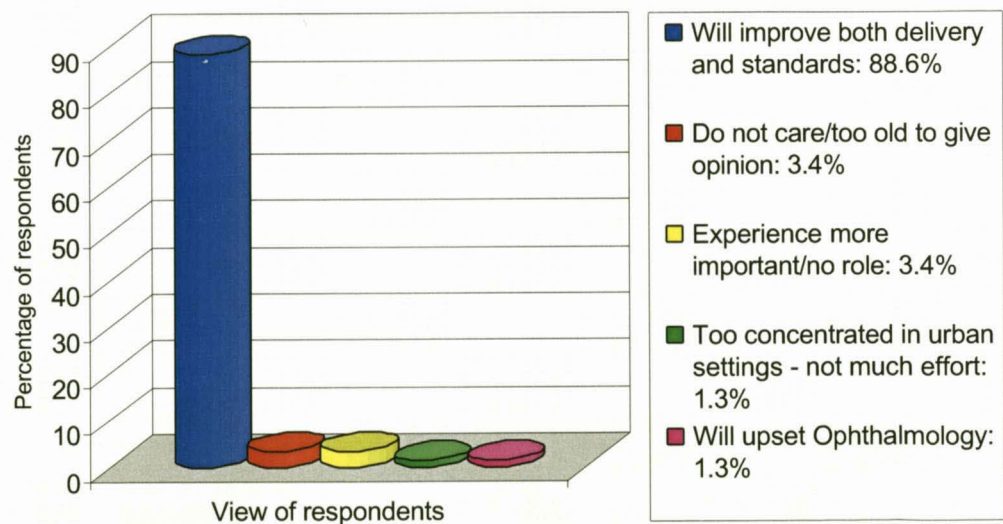
Retinopathy (n=143)**Glaucoma (n=157)**

Cataract (n=155)**Impaired (low) vision**

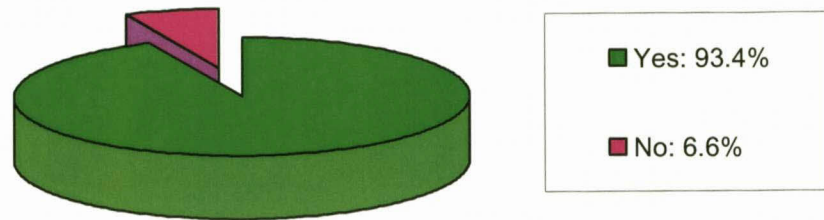
c) Respondents' view on the role the optometrist can play in the improvement of the standard of care [Only the main views are provided – also see Table 6.38 (n=285).]



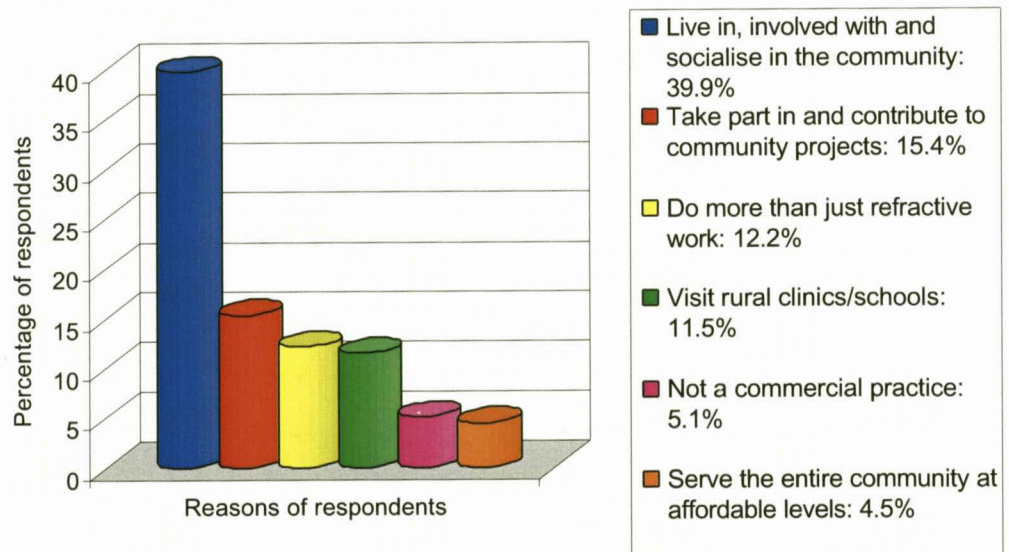
d) Respondents' view on the role post-graduate education can play in eye care delivery and standards [Only the main views are provided – also see Table 6.39 (n=237).]



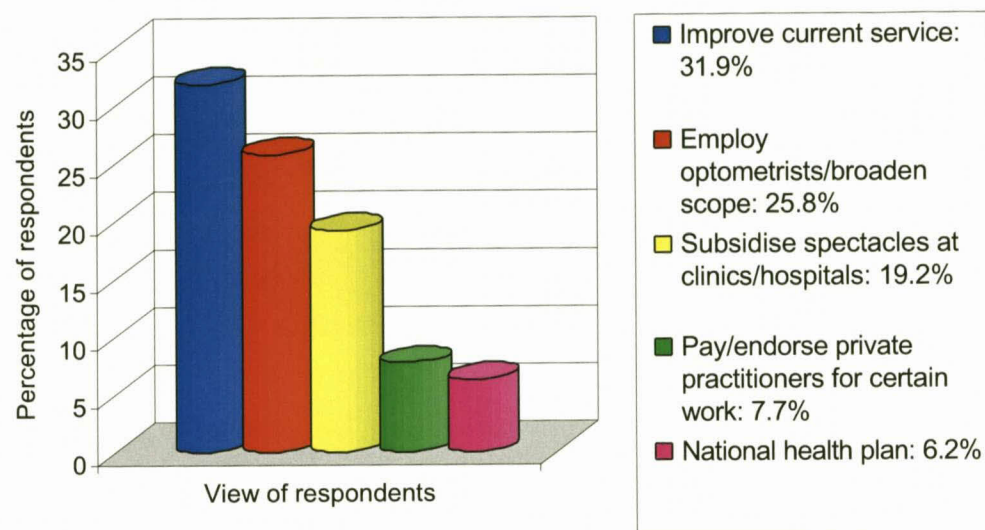
e) Respondents' perception of being part of the community they served (n=366)



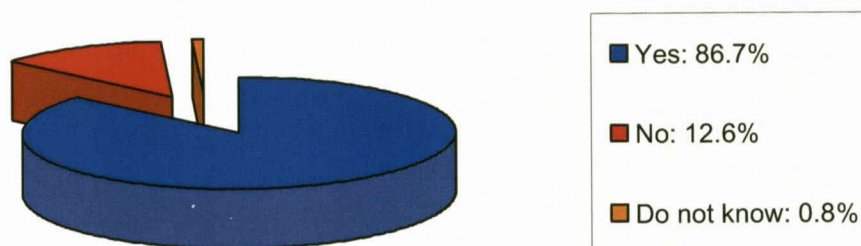
f) Respondents' reasons why they saw themselves as part of the community they served [Only the main reasons are given – also see Table 6.40 (b) (n=156).]



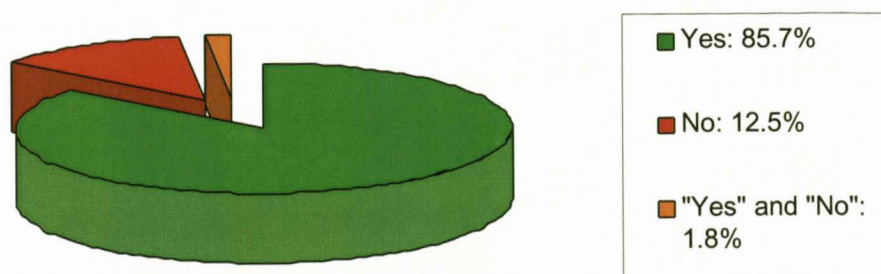
g) Respondents' view on the role that the State should play in the provision of eye care [Only the main views are given – also see Table 6.41(n=260).]



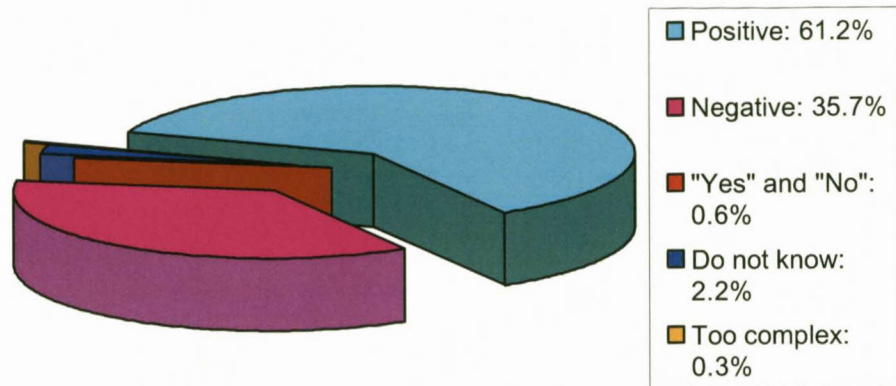
h) Response to the suggestion of private/public sector partnership to assist the state in addressing the eye care needs in South Africa (n=366)



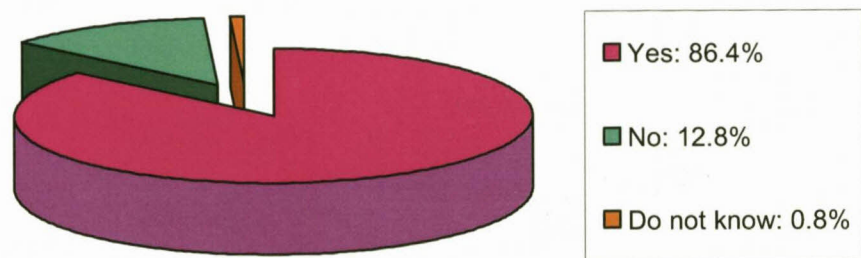
i) Responses to the introduction of compulsory community service proposed for 2007 (n=384)



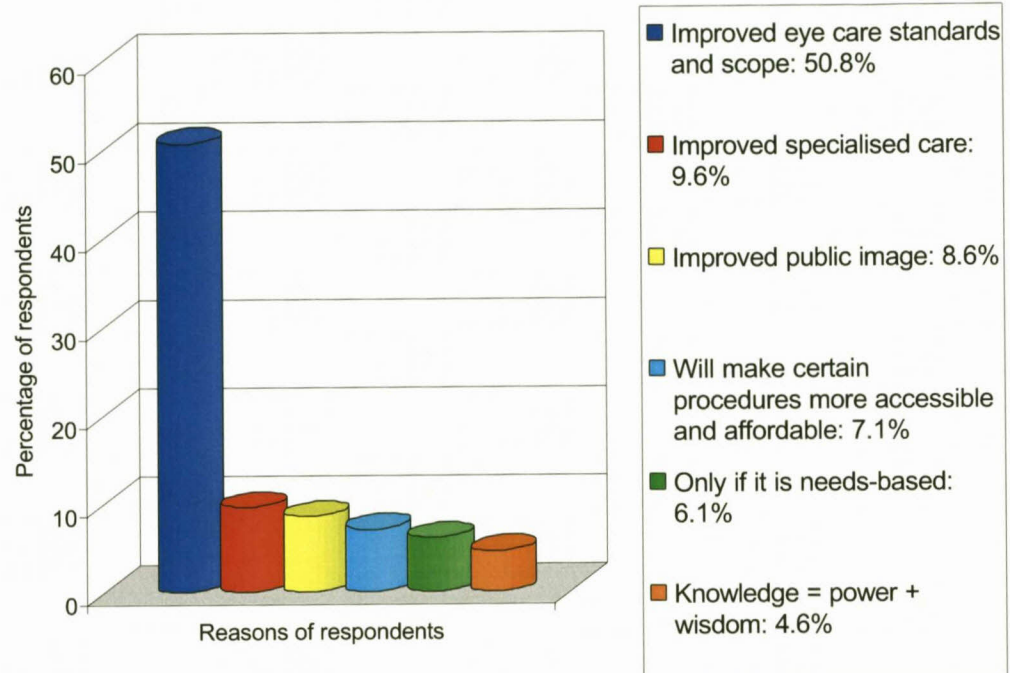
- j) Responses to the suggestion that a national health assurance scheme is an option for South Africa (n=325)



- k) Responses to the question whether post-graduate education would impact positively on the needs of the public (n=374)



l) Respondents' reasons why a post-graduate education would have a positive impact on the needs of the public [Only the main reasons are provided – also see Table 6.47(b) (n=197).]



6.19 MAIN FINDINGS IN THIS CATEGORY

The following main findings are present in this category:

- Respondents do have a detailed opinion on the public need regarding necessity, affordability and equity.
- Respondents do have a detailed opinion on ocular disease in diabetes, retinopathy, glaucoma, cataract and low vision.
- Optometry can play an important role in the improvement of the standard of care.
- The role of post-graduate education will result in improved standards of care and delivery.
- A large portion of the respondents felt part of the community they served. However, they did have different views on why they had reported this.
- Respondents had specific ideas as to what role the State should play in the provision of eye care.
- Respondents felt that the State should employ optometrist, as the current structure is inadequate.
- Respondents felt that there should be a public/private sector partnership to assist in the delivery of eye care, because the needs of the public sector are big and standards are poor.
- Most of the respondents felt that community service was required, as it is a good way to gain experience and serve the community.
- A National Health Insurance scheme can contribute by bringing private care to a larger part of the population.
- Most of the respondents were of the opinion that post-graduate education would have a positive impact on the public's need.

CHAPTER 7

A SUMMATIVE PERSPECTIVE OF THE STUDY

7.1 INTRODUCTION

In this chapter a summative perspective of the study will be provided. Each chapter will be dealt with and discussed separately. It should be noted that references to the literature (with singular exceptions) will not be made again, since it was already done comprehensively in the chapters being discussed here.

7.1.1 Perspectives on Chapter 1

Introductory perspectives to equip the reader with an orientation to the study were provided in this chapter with the same title. It was noted that the importance of good health care was being increasingly emphasised, not only in South Africa, but also world-wide, e.g. by institutions like the IAPB and the WHO. The National DoH (RSA DoH 1997:38) recognises the necessity that education and training programmes should be aimed at recruiting and developing personnel who are competent to respond appropriately to the health needs of the people they serve. In the education and training for health professions, the focus has shifted from a hospital-based/institution-based to community-based education and training with the emphasis on primary care. Furthermore there has been a shift from traditional content-based and teacher-centred methods to outcomes-based and learner-centred methods and approaches. Thus education and training now have to be delivered within a programme-based, modular mode; diversification and access to programmes have to be facilitated; while teaching and learning systems have to be made more flexible to meet the criteria for qualifications laid down by SAQA (see 1.1).

Changes in higher education include education for the health professions, which include optometry education and training. The needs which exist nationally as well as internationally were outlined and special reference was made to the optometry career ladder as accepted by the Professional Board for Optometry (see Figure 1.1). The importance of equity and quality in health care delivery was emphasised so that blindness and related conditions can be treated, not only in South Africa, but especially in Africa, which is considered to be the region in the world with the greatest need for human resource development (RSA DoH 2000:33).

The rationale for the study was outlined with special reference to the WHO's *Vision 2020 – The Right to Sight* campaign, namely to eliminate avoidable blindness by the year 2020. The extreme importance of the WCO resolution entitled the *Global Vision Care Campaign*, which needs to be taken cognisance of in the education and training of optometrists, was depicted and its content spelled out (Di Stefano 2001), while recommendations were also made in this document. Reference was made to the National Prevention of Blindness Programme developed by the government. In this Programme various shortcomings of optometry education and training are recognised and the need to address them, is acknowledged (RSA DoH 2000). The prominent need for renewal at post-graduate level furthermore clearly emerged and several countries abroad were mentioned as examples of locations where education and training beyond the bachelor's degree have to be pursued. The conclusion was reached that in South Africa, based on the current undergraduate training, there is a need for a programme aimed at providing education and training to learners in order to become competent to render a professional specialist service in optometry and to contribute to the enhancement of the discipline through research (see 1.2).

The problem which was identified and addressed in this study, is that a potential market of optometrists who wish to pursue post-graduate studies

exists in South Africa. However, no suitable and clinical-relevant programmes (opportunities) are offered to address their needs and to afford them the opportunity to expand their scope and enhance their knowledge and skills in order to make a more meaningful contribution to the prevention of avoidable blindness in South Africa (see 1.3).

The overall goal and objectives were outlined, namely to make a contribution to eye care and the prevention of blindness, as well as to make a meaningful contribution to education and training in optometry. The aim was stated, namely to determine the needs of optometrists with regard to optometric education and training and the opportunities existing in South Africa, measured against the background of the needs of the society (from the optometrists' perspective). Thereafter the objectives were discussed, namely in the first place to enhance competence beyond graduate level, thereby serving the eye care needs of the population of South Africa in particular and of the whole of Africa in an indirect way better. In the second place the objective was to make recommendations concerning the delivery of relevant and applicable post-graduate studies at Optometry Schools/Departments. All of these aspects were achieved by conducting a literature study on optometry education and training in order to collect information to serve as a background for the empirical study, in addition to conducting an empirical study among optometrists by means of a questionnaire survey to determine their needs in respect of post-graduate studies, as well as obtaining the respondents' views regarding existing opportunities in this regard (see 1.4).

The methods used and the procedure for the research study were explained (see 1.5). The study took the form of a needs analysis and was descriptive and exploratory in nature, as it comprised a literature review and an empirical investigation, which entailed a questionnaire survey carried out among optometrists. Furthermore a quantitative design was employed, but – because open-ended questions had been included – the

study had a qualitative dimension as well. Some aspects regarding the questionnaire were touched on, but neither this nor the respondents were dealt with in detail here, as these aspects are described fully in Chapter 5 (see 5.4.1; 5.5).

The significance and the value of the study were subsequently pointed out. The aspects of new and academic challenges which the optometry profession is faced with, new opportunities, as well as changes taking place, were mentioned. The needs of optometrists and the possibilities for post-graduate studies in South Africa were identified, while the shortcomings which prevent optometrists from reaching the top of the career ladder, were referred to. Mention was made of the programme for a master's degree in optometry which had already been registered by the Faculty of Health Sciences of the UFS. The desire was expressed that this study would play an important role in addressing specific needs which had been identified, as well as create opportunities that would be best suited to address the needs of optometry post-graduate students, not only in pursuing formal post-graduate studies, but also in CPD with a view to maintaining registration with the professional board. In the final analysis, the study would ensure that optometry post-graduate studies in South Africa would be embarked upon in a scientific way and based on well-founded evidence. In this way a relevant programme would be ensured. The recommendation would be made that this study would be followed up with a Ph.D. study aimed at developing the contents and implementation, that is, a full curriculum, for such a Master's Programme in Optometry (see 1.6).

In paragraph 1.7 the scope of the study was outlined and it was mentioned that it had been conducted within the field of Health Professions Education, while perspectives had also been gained from the field of study of higher education, as it is related to this field as well. It was pointed out that the relevant health science for the investigation was that of optometry

and therefore attention had been paid to the demands made on and the requirements of optometry education and training in South Africa from the profession, as well as health care and higher education authorities. In addition, international views and perspectives were considered. Reference was made to the concepts of "needs", "a needs analysis" and the "target population", but these aspects were not explained in detail here, as that will be done in Chapter 5 (see 5.4.2; 5.5).

In the last place, the arrangement of the dissertation was explained (see 1.8).

7.1.2 Perspectives on Chapter 2

This chapter is entitled "Factors influencing the design of optometry education and training programmes". Factors influencing the design of optometry education and training programmes, as described in literature, were taken under scrutiny, while the history of the optometry profession was also attended to. The transformation of the health care system in South Africa, as well as the transformation of education and training in South Africa, was discussed.

The chapter started by referring to the changing health scene in South Africa and world-wide. This as well as prominent trends in health care and health professions education was discussed (see 2.1). The enabling competencies and attributes which health care practitioners must begin to embrace as undergraduates in order to remain effective, were listed. Hereafter the history of the development of the optometry profession from its earliest years was briefly outlined (see 2.2).

The next issue to be discussed was the transformation of the health care system in South Africa and the eye care needs of the South African population. Two trends which have emerged nationally and internationally,

are the primary health care approach and the community-based approach. Reference was made to different policy documents and legislation as well as their importance, e.g. the White Paper for the Transformation of the Health System (RSA DoH 1997) and the National Prevention of Blindness Programme (RSA DoH 2000:2). The importance of the WHO's *Vision 2020 - The right to sight* campaign, not only for South Africa, but also world-wide, was discussed and some alarming facts and figures regarding blindness and related conditions and consequences were provided. The aims and goals of this body, which closely resemble those of the National Prevention of Blindness Programme, were spelled out. In addition, there was an identification of the resources required and an exposition of the four areas at which the prevention of blindness will be addressed (see 2.3.2.1; 2.3.2.2).

With reference to PHC, it was pointed out that it is a concept which is defined differently by different people. In this regard some definitions and perspectives as provided by different authors were provided. The three functional levels of PHC, namely the primary level, the secondary level and the tertiary level - which can be incorporated into one model - were mentioned. The objectives of health promotion, as well as the way in which they will be developed in South Africa according to the White Paper for the Transformation of the Health System in South Africa (RSA DoH 1997), were depicted (see 2.3.3).

The important role of statutory and professional bodies was attended to, since health professionals have to register with these bodies and therefore have to meet their requirements. The first body to be dealt with, was the HPCSA, formerly the Medical and Dental Council of South Africa. The aims and functions of the Council were outlined with special reference to the function of the laying down of minimum standards of training, inspection of training, and conducting certain examinations, which - by implication - means that it also regulates education and training for the

profession (see 2.3.4.1). The history of the next body, namely the SAOA, was briefly discussed and its objectives were outlined (see 2.3.4.2). This was followed by a discussion of the establishment of the SACOE, which does not play a major role any longer (see 2.3.4.3).

The next very important aspect to be reviewed, was that of the transformation of education and training in South Africa. Some of the challenges and principles for higher education as proposed in the Draft White Paper on Higher Education (RSA DoE 1997a:9-14) were highlighted, while curricula and their requirements were also defined. Reference was made to the Act on Higher Education (RSA 1997) and the White Paper 3 on Higher Education Transformation (RSA DoE 1997c) with their stipulations and recommendations regarding the programme-based approach. In addition, the six programme elements which should be attended to according to SAQA (1997:15), were also provided (see 2.4.3). Subsequently OBET, what it entails, its focus, and its enormous challenge to educators were discussed. A distinction was made between the two kinds of outcomes, namely critical cross-field education and training outcomes (briefly critical outcomes) and specific outcomes, whereafter each kind was discussed. Mention was also made of a third group of outcomes, i.e. career outcomes. As the critical outcomes have to inform the specific outcomes, a closer look was taken at critical outcomes and they were defined according to, *inter alia*, the Regulations under the SAQA Act (Act 58 of 1995) (RSA 1998:8). Next specific outcomes, which are context-specific, were defined and described and their importance was highlighted. This was followed by a brief description of career or vocational outcomes, while the three integrated elements of learning outcomes, namely knowledge and understanding, doing (skills and abilities), and attitudes and levels were outlined and examples provided. The conclusion was reached that, as optometry is a dynamic profession where new knowledge and methods are developed continually, it is of paramount importance to train students who have the skills to integrate

theory and practice; to contextualise their knowledge, skills and attitudes into real-life situations; and who are equipped to be lifelong learners (see 2.4.3).

The establishment of the NQF, its aims and goals, the dire necessity for the existence of such a body, as well as relevant legislation were discussed next. The way in which SAQA is compiled, its functions, the difficulties confronting it, its role in the registration of programmes and its limitations were described. The eight qualification levels of the NQF with its three bands were described and a schematic presentation provided in Table 2.1. The objectives of the NQF as laid out in the SAQA Act (RSA 1995), as well as the set of principles with regard to qualifications by which it is underpinned, were listed. The stringent requirements which education and training programmes have to meet were delineated with specific reference to optometry education and training programmes.

It was emphasised once again that making recommendations regarding the delivery of relevant and applicable post-graduate studies in optometry education and training in which the needs as defined in this study can be addressed, would be the ultimate goal of the research. Thus educational strategies were dealt with next. The SPICES model was discussed and each of its aspects explained, namely the student-centred strategy; problem-based learning; an integrated approach; the community-based approach; electives; and a systematically structured curriculum (see 2.4.6).

Finally, this chapter attended to the issue of development trends in optometry education and some recommendations were made in this regard (see 2.5).

7.1.3 Perspectives on Chapter 3

Chapter 3 is entitled "A selective review of optometric education" and it starts off by providing a brief history of the profession, which had its origin abroad. Mention was made of events, leading institutions and legislation in various countries abroad, e.g. Europe, the former East Block and Asia, Australia and New Zealand, the USA, Canada, Britain, etc. In South Africa the profession was officially recognised in the Health Professions Act of 1974 (RSA 1974) and the extreme importance of optometric education and training came to the fore. Therefore this chapter focuses on this aspect nationally as well as internationally. The emphasis is on South Africa, however, since it is the country with the most advanced optometric education and training system in Africa. Furthermore it is also the country where optometric education and training, as well as the practice of optometry, have advanced most rapidly over the past couple of years (see 3.1).

An overview of the history of optometric education and training in South Africa was subsequently provided. Compared to other African countries, South Africa has the oldest optometric educational heritage. As a profession, optometry was only recognised in South Africa around 1927, while formal training started around 1931. The history of the various institutions with their different courses and student numbers, the influence of political changes occurring in South Africa and legislation with regard to optometry education and training were depicted in paragraph 3.2.1. Specific reference was made to the scope of optometry which was clearly defined under Regulation No. R.228 in 2001 (RSA DoH 2001:1). The current need to train specialist optometrists in South Africa for the private, state and primary health care sectors clearly emerged and statistics were provided to substantiate this fact. The objectives which should be pursued in optometry education and training in South Africa as set out by the National DoH in its National Prevention of Blindness Programme (RSA

DoH 2000:38), were outlined (see 3.2.1). The next step was describing the programmes offered at the different institutions in order to gain a clear picture of the education and training of optometrists and dispensing opticians in South Africa.

The following institutions, their programmes, student numbers and the way in which they meet legislation, were described:

- The TWR (see 3.2.2).
- UNIN (see 3.2.3).
- UDW (see 3.2.4).
- RAU (see 3.2.5).
- The CT (see 3.2.6).
- The UFS (see 3.2.7).

NEWENCO and its relationship to the GIO as well as the important role of the latter were dealt with, while CAS and the different CAS courses were discussed. A visual representation of post-graduate optometry in South Africa as depicted in Figure 3.1, was provided (see 3.2.8).

The above exposition was followed by a discussion of optometric education and training in the rest of Africa (see 3.3). The profession was introduced to Africa by European immigrants and at present there are optometric services in western Africa, eastern Africa and southern Africa. Sadly, though, there are no optometric training programmes in northern Africa (see 3.3.1). As previously mentioned, the whole of this country is in dire need of optometry services as a result of the severity of prevalent circumstances and conditions with regard to (eye) health care. Resulting from the opening of several new teaching programmes during the past two decades optometry is, however, now presenting a significant presence in four African countries, namely Nigeria, Ghana, Tanzania and South Africa. These four countries have 10 optometric teaching programmes, which

vary in scope. Far too few optometrists are, however, produced to meet the needs of their own countries, let alone make a contribution to the eye care needs of the countries without optometric training programmes.

Except for South Africa, a brief overview was provided on each of the countries mentioned, as the literature on this aspect is limited. The history and the current state of affairs in Ghana (see 3.3.2), Tanzania (see 3.3.3) and Nigeria, including French-speaking Africa (see 3.3.4), were discussed. As much information as possible concerning the institutions; the number of students; the kinds of programmes offered; and, where applicable, the influence of countries abroad was provided. To summarise, the utter gravity of the situation was reiterated and it was pointed out that, in contrast to Africa, the education and health systems - with special reference to optometry - in the USA seem to be well developed. Therefore optometrists from Africa mostly receive their post-graduate training in the USA or through USA programmes. Since this is the case, the next two countries to be discussed, were America and Canada (see 3.4).

By way of introduction some background information was provided. In the case of the USA the meaning of concepts such as "doctor of optometry" and "optometrist" was provided, while their functions and the length of time involved to qualify to perform these functions were also delineated. Aspects like admission tests; different kinds of degrees (e.g. OD and MS); residencies; legislation; the language of instruction; the number of students; and prominent institutions were furthermore referred to (see 3.4.1).

In paragraph 3.4.2 programmes for optometric education and training; prerequisites for admission (e.g. the OAT); subjects taken; as well as other relevant aspects pertaining to each of the following institutions were discussed:

- The Ferris State University.
- The Michigan College.
- The Pennsylvania College of Optometry.
- The Pacific University College of Optometry.
- The University of California at Berkeley.

In conclusion it was pointed out that - in contrast to the training in Africa - which is mostly (almost exclusively) undergraduate, the training in the USA is exclusively post-graduate. Furthermore, in the programmes of the USA the various needs of the population are addressed and students have opportunities for research. Innovation is taking place in programmes, while new developments in health and specifically in eye care are addressed in various residency programmes. In the USA there are even too many eye care providers, while in Canada the primary vision care needs of the population of just over 30 million people are taken care of by approximately 3 300 practising optometrists (Spafford 2001). The scenario which emerges when one compares these two countries with Africa, is indeed not only a disheartening one, but it is also distressing and deplorable.

Subsequently optometric education and training in Europe, the United Kingdom and Australia were discussed (see 3.5). It would seem that optometric education and training in Australia and in the UK provide in the needs of the countries, as the former has three and the latter eight universities which offer optometric education and training. Europe, however, seems to be having problems in providing education of a level that will be acceptable to all the different countries on the continent. An encouraging aspect in this regard is that guidance and assistance are provided by the ECOO.

Once again, as was the case with the previous institutions and countries dealt with, an outline of the state of affairs at each of the various

institutions; the duration of courses; subjects; research; etc. was provided. The first country to be discussed was Australia with its three universities, namely the University of New South Wales, the University of Melbourne and the Queensland University of Technology. Special mention was made of the Department of Optometry and Vision Sciences of the University of Melbourne, which is research-focused and has a strong graduate school. Its three higher qualifications, namely the Postgraduate Diploma in Clinical Optometry, the Postgraduate Diploma in Advanced Clinical Optometry and the Master of Optometry (by Research or by Research and Clinical Work) were discussed at length (see 3.5.2.1).

The United Kingdom with its eight universities, namely the City University, London, Anglia, Aston, Bradford, Cardiff, Glasgow Caledonian, Ulster, and Manchester UMIST was discussed in paragraph 3.5.2.2. The role of the GOC was mentioned; it was pointed out that there are two kinds of opticians, namely "optometrists" and "dispensing opticians"; the difference between them was explained; programmes, credits and modules at the University of Bradford were dealt with; while the APL scheme and its value were also discussed.

The prominent role of the ECOO in Europe was highlighted in paragraph 3.5.2.3. It represents 24 nations and is a confederation of the leading professional bodies representing 22 countries in Europe, the names of which were provided. The way in which optometrists are trained in Europe; the length of courses; the ECOO European Diploma in Optometry; different kinds of institutions (e.g. technical schools, the university); the nature of the ECOO; and examinations, including the patient care examination, were some of the aspects discussed.

The summative perspective provided by the researcher was that the challenge for South African educators would be to find a model that would address the immediate public need, whilst allowing for the vertical

development within a career path to the highest post-graduate level possible. Furthermore, it was emphasised that the public need is so urgent and of such a nature that it demands that the profession plays a bigger role in the avoidance of blindness (see 3.6).

7.1.4 Perspectives on Chapter 4

Chapter 4 is entitled "Continuing professional development (CPD) in optometry", which is an integral part of the research study and as such had to be investigated thoroughly. By way of introduction it was pointed out that the notion of a "vocation for life" learnt once will have to be surrendered in favour of the idea of constant, that is, lifelong learning, especially in the field of health professions. Some reasons why CPD is essential, were emphasised, e.g. the rapid rate of developments in health sciences, coupled with the impact of this on health care practice, have made it impossible to keep up to date with developments relevant to practice; the knowledge and skills of every individual decay over time and need to be refreshed and reinforced; from a professional point of view, it should be mandatory to maintain professional competence; it has been proven by research that knowledge starts to become obsolete from the first day of an optometrist's practice and the situation deteriorates over time so that, by the time an optometrist has been in practice for 20 years, serious gaps in knowledge and skills exist; primary health care is receiving increasing emphasis and most practice-based optometrists have little or no knowledge of community work as well as little experience of detecting the early presentation of vision failure, the extent of eye disease in communities, or the impact of disability on relationships in family units, while in practice they are not always kept informed of the latest developments in basic care (see 4.1).

The rationale for CPD was outlined in paragraph 4.2. It has to be noted that CPD has been undergoing tremendous changes recently, in addition

to becoming increasingly important for health professions and patients. The aspects of recertification and reaccreditation, as well as quality assurance and the reasons for their existence were highlighted. It was mentioned that one of the major objectives of accreditation and certification bodies, professional associations/boards and employers, is to ensure that professionals in health services are kept sufficiently qualified to keep on practising. As already pointed out, knowledge continually has to be kept up to date. In South Africa some hindrances exist with regard to keeping up to date, e.g. long distances which have to be travelled to centres where courses are offered; a lack of time and funding; etc. Yet no one can dispute that the necessity of updating courses, completion courses and other CPD programmes increases with policy changes and changes in the regulation of practising optometry. There is an increasing need of CPD programmes in a situation such as the current one in South Africa, where necessary change in the educational level required in the profession is brought about and the scope of practice is broadened.

The next aspect concerning CPD which had to be examined, was the criteria for CPD programmes (see 4.3). Thus far the need for CPD was already established beyond a shadow of doubt and the conclusion reached that an undergraduate professional qualification can no longer be regarded as an adequate lifelong certificate of competence. Furthermore the traditional approach to CPD will no longer suffice. Thus proactive action is called for from the side of the health care professions, including optometry, to ensure that services remain relevant and that the needs of the community and the public at large are satisfied. Some factors playing a role when CPD programmes are considered, were listed and attention was drawn to the fact that sets of educational criteria are required to maintain as well as encourage quality in all forms of CPD and post-graduate education and training. This led to an exposition of the CRISIS criteria as identified by Harden and Laidlaw (1992). With regard to

CRISIS, the following important facts were listed (Harden & Laidlaw 1992:3-15):

- The criteria contained in CRISIS were explained.
- As "CRISIS" is an acronym, its meaning was depicted.
- It is a practical tool, based on 15 years' experience in the production and evaluation of CPD programmes at the Centre for Medical Education at the University of Dundee, while the criteria have since been proven to be suitable for use in other CPD programmes too.

Attention was drawn to certain important facts, i.e. that factors related to health professionals' decision to attend CPD programmes were identified by research (e.g. such items as convenience, travel, scheduling, preferable days, months, and fees); that aspects related to delivery systems play a role (e.g. programme format, programme amenities, and programme location); and that additional aspects exist (e.g. the involvement or participation of the learners, methodology, content, the subject knowledge and teaching ability of the programme deliverers). It was acknowledged that CRISIS might seem a simplification in a very complex world, but it was also pointed out that it did identify the characteristics of programmes which are successful in achieving the goals of CPD.

Each of the characteristics of CRISIS as described by Harden and Laidlaw (1992:3-15) is relevant in designing CPD programmes and in defining the needs of practitioners with regard to professional development. Subsequently each of the characteristics of CRISIS was described individually, namely:

- Convenience (see 4.3.1) makes voluntary participation easy and includes the aspects of place (see 4.3.1.1); time (see 4.3.1.2); and pace (see 4.3.1.3).

- Relevance (see 4.3.2) reflects the user's day-to-day role in practice and is a very important aspect. Various authors give different connotations to relevance, but currentness and content continually emerge. Other aspects mentioned are, *inter alia*, how facts are applied; that learners must be shown the uses to which knowledge may be put; it is related to the choice of topic and also to the way or context in which the content can be put to use; and the importance of a needs analysis as well as problem areas in connection with different needs once again came to the fore. In the latter regard Harden and Laidlaw (1992) provide a graphic representation of the relationship among the three components of relevance which were depicted in Figure 4.1. Thereafter each of the five components was explained, while some methods as identified by Dunn, Hamilton and Harden (1985) that are available to identify the needs of practitioners with regard to CPD, were indicated.
- Individualisation allows learners a say in what is learnt and to adapt the programme to their own needs. As learners come from various educational backgrounds and differing professional circumstances, it stands to reason that their needs will therefore differ. A recently qualified optometrist may be up to date on a subject, but lacking in experience; more senior colleagues may have the experience, but lack up-to-date theory and skills. With regard to this aspect, 10 areas into which the variation in individuals' needs may be divided according to Harden and Laidlaw (1992:9), were outlined. Subsequently strategies to individualise continuing education programmes in order to increase the likelihood of success, were delineated (Nel & Nel 1995:8).
- Self-assessment was discussed in paragraph 4.3.4. Self-assessment encourages learners to evaluate their understanding of the subject and to remedy gaps that exist. The numerous ways in which self-assessment can contribute to successful CPD were outlined, while

Harden and Laidlaw's (1992:10-11) statement that it is a three-stage process was described.

- Interest arouses attention and encourages learners to participate (see 4.3.5). Three reasons were provided why continuing education must be interesting to be successful. According to Nel & Nel (1995:10) and Harden and Laidlaw (1992:12-13), a combination of five factors had been identified to maximise the attractiveness of a programme and the interest of potential participants, namely relevance; presentation; text design and lay-out; visuals and colour; and active involvement.
- Speculation recognises controversial and grey areas in the field and offers a planned programme with coverage of the whole (see 4.3.6.1). The reasons why areas of speculation and controversy should be included, were provided, while the areas where speculation may exist, were mentioned.
- "Systematic" has to do with subject or an identified part of it (see 4.3.6.2). The importance of the fact that CPD needs to be systematic was emphasised, while it was furthermore pointed out that CPD programmes should include a well-designed mix of self-directed learning, seminar participation, instructional experiences and scholarship.

Subsequently the different types of CPD programmes were discussed in paragraph 4.4. The fact that the CRISIS criteria do not distinguish among various types of interventions, was mentioned and three kinds of self-directed CPD were distinguished, namely:

- Informal, ongoing habitual activities directed to the maintenance of competence.
- Semi-structured learning experiences which typically have their basis in immediate patient problems.
- Formal, intentional, planned activities.

It was reiterated that traditional approaches to updating knowledge and skills in a profession would no longer suffice and it was pointed out that it would be advisable to link CPD activities to departments of optometry and faculties of health sciences. It was suggested that CPD programmes could be offered by means of disciplinary congresses, seminars and workshops, as well as over longer periods, e.g. summer or winter schools. The importance of building a strong component of distance education into COE programmes in order to take CPD to the practitioner, was also mentioned. The criteria which should apply in designing CPD programmes were summarised in four main points:

- Educational efficiency (educational interface, infrastructure, planning and support).
- Availability of resources (financial, human, physical, technological).
- Attitude towards change (the demands and requirements of our times need to be addressed).
- Interest and needs (needs analyses to be done) (Nel 1995:3).

Hereafter a distinction was made between formal programmes and informal CPD and the ways in which each kind is presented, was described.

The next aspect to be dealt with, was that of CPD in South Africa (see 4.5). Its establishment and administration were outlined. Reference was made to the vital role which the Professional Board of Optometry and Dispensing Opticians plays, while its functions were also outlined (see 4.5.1). Categories of educational and developmental activities and the aspect of obtaining points were mentioned and elucidated in paragraph 4.5.2. The requirements for obtaining points were clearly defined and the following categories identified:

- Category 1: Organisational activities.

- Category 2: Small-group activities.
- Category 3: Individual activities. These include self-study; individual learning; research and publications in peer reviewed/continuing professional development journals; teaching and/or training activities; paper/poster presentations/lectures to peers; relevant additional qualifications; evaluations/assessments/examinations; supervision of candidates for higher degrees; community service; professional ethics; and non-clinical but health-related activities.

In paragraph 4.5.3 the conditions were outlined which the Board may impose should deferment or non-compliance of a practitioner occur. Furthermore it was made clear what is understood by "Providers of CPD activities" (see 4.5.4), as well as by "Accreditors of CPD activities" (see 4.5.5).

The HPCSA, which is a statutory body established in terms of the Health Professions Act of 1974 (RSA 1974), was discussed next (see 4.6). The HPCSA is an umbrella body with 12 professional boards functioning under its jurisdiction (see 4.6.3). Aspects which were discussed, were among others, the following:

- The background of the HPCSA (see 4.6.1).
- Registration of the HPCSA. This features aspects like prerequisites for practising; benefits enjoyed as a result of registering; and the list of professionals who register in terms of the Act (see 4.6.2).
- The 12 Professional Boards under the jurisdiction of the HPCSA were listed (see 4.6.3) and the role of the latter where these Boards are concerned, was spelled out. In addition, the function of a Professional Board as it relates to professional practice, was outlined. The way in

which regulations pertaining to professional conduct inquiries of the Professional Boards are discharged in accordance with legal principles following upon formal complaints lodged against a registered person and related aspects were also dealt with.

It was pointed out in paragraph 4.7 that, with knowledge becoming so proliferated, diverse and specialised, it is impossible for any profession, let alone that of a teacher or being a student, to know or master everything that has to be learned (Super 1989:708). Reference was made to the conclusions reached by Grant and Stanton (reported in Eraut 2001:8) regarding CPD, namely:

- The key to the effectiveness of CPD is not to be found in the learning methods adopted.
- There is not a best learning method and no best approach to learning.
- Instead, the key to effectiveness is to make sure that the process of CPD is effectively managed to have the following components:
 - A stated reason for the CPD to be undertaken.
 - An identified method of learning, which might be formal or informal.
 - Some follow-up after the CPD for reinforcement and dissemination of the learning.

By way of conclusion (see 4.8), it was emphasised that the role of optometrists in the health care of our nation can therefore clearly not be denied. The profession of optometry has been a leader in the movement to formalise continuing education through mandatory participation related to renewal of licensure in the USA (Escovitz & Augsburger 1991:41). South Africa is now undergoing the same processes and certain questions which need to be answered with regard to COE, were put forward, e.g. Do optometrists participate in continuing education because it is mandatory? Do other factors enter into the decision to undertake COE? Are providers

of COE addressing the perceived needs of optometrists? What changes can be made to offer optometrists better opportunities for COE? Additional issues raised were, among others, the issue of standards; the structure of COD programmes; the real needs of the potential participants; the fact that education and health care are interdependent; etc.

Subsequently perspectives on Chapter 5 will be provided.

7.1.5 Perspectives on Chapter 5

The title of Chapter 5, namely "Research methodology", gives an exact indication as to the content of this chapter. Aspects which were referred to in Chapter 1, were discussed in detail in this chapter to provide the reader with the necessary insight into and an understanding of the research study. By way of introduction (see 5.1) it was reiterated that the research took the form of a descriptive and an exploratory study, comprising a literature review as well as an empirical investigation. The data in the empirical study were collected by means of a questionnaire survey, carried out among practising optometrists in South Africa to determine their needs in connection with post-graduate studies, as well as the possibilities available for optometrists in South Africa to further their studies and enhance their knowledge and skills as professionals in health care services. The empirical study therefore took the form of a needs analysis. The noteworthy terms "needs", "needs analysis" and "target population" as defined by different authors were clarified in this chapter (see 5.1; 5.4; 5.4.2; Appendix B). The changes which the optometry profession as well as higher education and training have been undergoing recently, were also pointed out.

Paragraph 5.2 explained that the aim of the literature review was to provide reliable data with a view to gaining sufficient background knowledge on the subject, as well as to generate a number of criteria to be

used to determine the needs of optometrists with regard to their education and training. These criteria were eventually converted into items contained in a questionnaire used for the needs analysis. The questionnaire survey constituted the empirical part of the study. Reference was made to the two main paradigms or models used in research, namely the quantitative and the qualitative approaches. It was pointed out that both these approaches had been used in this study, but that the greatest emphasis had been on a quantitative design, since the questionnaire had contained open-ended questions as well as other kinds of questions. In addition, the advantages of a multiple approach were pointed out, while both the advantages and the disadvantages of the quantitative and the qualitative approaches were outlined. Since this study falls into the category of descriptive surveys, this concept as defined by various authors was explained. Furthermore the concepts "reliability" and "validity" were stressed, while attention was drawn to the fact that in this study the reliability of the instrument (questionnaire) had been established by means of a pilot study, the inclusiveness of the sample, as well as the response rate. The validity of the findings rests on the in-depth literature survey, the experience of the researcher, as well as the number of respondents who had participated in the study.

Subsequently each of the different methods and procedures utilised in this study was elucidated in detail. The aim and purpose of the literature review was clearly outlined in paragraph 5.3.1. In this study it was to establish a background to and a context for the research problem; to justify the need for the research; and to indicate that the researcher was knowledgeable about the field of study and the particular area under investigation (cf. Landman 1988:69). Based on the literature study, a phenomenological perspective was established, as the focus was on the meaning of the phenomenon of continuing/post-graduate/further optometry education and training. This was a search for meanings and, through it, assumptions in concepts and methods were uncovered (Landman

1988:75). The factors which comprised the focus of the literature study were mentioned, while the sources of information and the different aspects which had received special attention in the study, were identified.

The questionnaire (see Appendix C), which had been briefly mentioned in Chapter 1, was described in detail in paragraphs 5.3.2 and 5.4.1. The function of the questionnaire was outlined and definitions thereof according to various authors were provided. It was pointed out that this method of gathering data is exceptionally suitable for a needs analysis of national scope, as was required in this study (cf. Wolmarans & Eksteen 1987:39). The questionnaire utilised for this study consisted of six categories containing approximately 35 questions, which were divided into 77 subsections. Aspects which were delineated were, among other things, the different categories; the types of items used; the length of time involved to complete the questionnaire; the way in which the questionnaires reached the respondents and how the latter could respond; the cover letter (see Appendix 1); the number of questionnaires sent out (i.e. four) over a period of 16 weeks; and the list of definitions provided (see Appendix B). The content of each category was briefly summarised and a differentiation among the types of items – with a short description of each kind of item – were provided. The disadvantages of questionnaire surveys were outlined, but mention was made of the fact that steps had been taken to counter the difficulties encountered in this regard.

Subsequently the needs analysis was dealt with (see 5.4.2). The extremely important aspects of “needs” and a “needs analysis” or a “needs assessment” were once again referred to and definitions according to different authors were provided (cf. Appendix B). It was pointed out that this study is concerned with macro-level needs, that is, needs which occur at national and even international level (e.g. Africa). Furthermore it was stressed again that an in-depth literature review had been done and a questionnaire developed to identify the needs of practising optometrists

with regard to their education and training; the needs of the society and other stakeholders; and the opportunities they saw with regard to further education and training.

Perhaps the most important aspect of all, namely the respondents, was dealt with in paragraph 5.5. Before this aspect could be discussed, the term "target population" was defined and its relation to this study explained. The noteworthy fact that, in most research, the entire target population is not accessible to the author (Halldorson 1999) was reiterated, since it had been the case in this study. It was emphasised that the target population for the questionnaire did not comprise the total population of optometrists in South Africa. Subsequently the following aspects were clarified:

- The number of addresses obtained (i.e. 1 400) and how they had been obtained from the GIO.
- The role of the Professional Board and why addresses had not been obtained directly from this body.
- The attitude of the SAOA and why the researcher did not make use of this body.
- How it came about that the target group to whom questionnaires had been posted, was eventually 1 131.
- How it occurred that the final number of questionnaires was eventually 576, giving a response rate of 70.2%.
- That, in the end, 397 fully completed questionnaires were used for statistical analysis, i.e. 68.9% of the questionnaires which had been returned.
- The exclusion criteria which had been applied (i.e. age; individuals who already possessed a clinical applicable post-graduate qualification; illegible handwriting; and duplication which occurred).
- The term "population".

- The respondents' needs with regard to post-graduate studies and their views on possibilities available to them to satisfy these needs.

The ethical considerations [i.e. issues concerning anonymity; confidentiality; demographic details; and approval of the protocol for the study obtained by the Ethics Committee of the Faculty of Health Sciences, the UFS (ETOVS number: 12/02)] were discussed in paragraph 5.6.

In paragraph 5.7 an explanation was provided as to the way in which the analysis of the data took place by the Department of Biostatistics at the University of the Free State by using the S.A.S. Programme.

Subsequently an analysis of the chapter was provided before commencing with Chapter 6 (see 5.8).

7.1.6 Perspectives on Chapter 6

In this chapter the six categories of questions dealt with in the questionnaire (see Appendix C) were analysed in detail by means of tables, etc. Each of the six categories of the questionnaire was followed by a summative conclusion, as well as by the main findings of the content of that specific category. The main findings, as well as those obtained via the literature study, enabled the researcher to make recommendations on post-graduate optometric education in South Africa. (In this regard, see Chapter 8.)

7.1.7 Perspectives on Chapter 7

This chapter is entitled "A summative perspective of the study" and the different perspectives regarding each chapter were dealt with separately.

7.1.8 Perspectives on Chapter 8

In Chapter 8 recommendations on post-graduate optometric education in South Africa will be made. These recommendations will be based on the literature cited, as well as on the findings. Different factors, which are listed under the following headings and subheadings, will have influenced these recommendations:

- Points of departure.
- Role-players.
- Post-graduate optometric education and training itself, divided into three aspects, namely:
 - Recommendations concerning the programme.
 - Recommendations with regard to CPD.
 - Recommendations on clinical competence based on public needs.

The recommendations on clinical competencies will be extremely detailed, since they may serve as a basis for the SGB of Optometry and Opticianry. In order not to confuse the professional competencies with the categories of the questionnaire, they will be divided into six **sections**, namely:

- Section A: Clinical responsibilities.
- Section B: Patient history.
- Section C: Patient examination.
- Section D: Diagnosis.
- Section E: Patient management.
- Section F: Recording of clinical data.

Each of these sections will be divided under the headings "Outcomes"; "Performance criteria"; and "Indicators".

In the last instance a summative perspective will be provided in which a framework will be proposed as a starting point for post-graduate education and training programmes.

7.1.9 Perspectives on Chapter 9

This chapter will deal with a summary of the main conclusions and the limitations of the study. The researcher's opinion is that the overall goal and objectives of the study have been addressed and realised, while meaningful recommendations will be made. The main limitations of the study is that the opinion on the public need was limited, as the respondents were practitioners; literature and statistical sources of the South African situation are limited, since epidemiological data are incomplete and fragmented; while optometry educational development also stagnated during the apartheid years.

Finally, the conclusion will be reached that - for the recommendations in this study to be successfully implemented - a model and a detailed curriculum plan for post-graduate optometric education will be required. Furthermore the researcher will express the opinion that the profession as a whole needs a leadership and management model that will ensure cohesion between all the facets in the eye care field.

CHAPTER 8

RECOMMENDATIONS ON POST-GRADUATE OPTOMETRIC EDUCATION IN SOUTH AFRICA

8.1 INTRODUCTION

The overall goal of the study was to make a contribution to eye care and the prevention of blindness in South Africa. To achieve this, the study sought to determine the needs of and the opportunities which exist in South Africa for students in optometry who wish to pursue post-graduate studies. Post-graduate education was therefore seen as the formal structure that underpins improved skills which will be more appropriate to the needs of the majority of the population who were neglected prior to 1994. The educational opportunities were sought in order to improve skills which would enhance care. The need of society in this regard was therefore seen as an element in the development of education and formed part of the study, albeit being a subjective opinion.

As the recommendations are aimed at a post-graduate programme, one must be mindful of the fact that certain skills will, over time, become part of undergraduate training during a process of overview, integration and a shift to primary health care. Similarly certain skills will become speciality skills and therefore will only be taught at introductory level in the undergraduate programme with the advanced skills acquired at post-graduate level.

The needs of the public, the workplace and the profession will determine the priorities and time frames, provided that these needs are measured on a regular basis and acted upon by the providers of education and training.

8.1.1 Why post-graduate?

It is clear from the results in the research that post-graduate education is indeed required by the profession. The respondents' views of the public need are also indicative of the fact that, in the field of eye care, service delivery is inadequate and speciality skills are lacking. This is particularly evident in the public sector, responsible for what is estimated to be 75.0% of the population. Preventable blindness is therefore not successfully addressed as cataract, glaucoma, diabetic retinopathy and the correction of refractive errors remain the major contributing factors in South Africa. According to the *National Prevention of Blindness Programme* document, the following disturbing statistics are in force:

"For our planning purposes –

For a population of 1 million –

Prevalence of blindness 0.75%

Number of blind people = 7 500

Causes of blindness – Cataract 66% = 5 000 people

Glaucoma – 14% = 1 000 people

Incidence of blindness due to cataract = 1 000 people per year

All other – 20% of blindness" (RSA DoH 2000:4).

One needs to question this current scenario beyond the most obvious reason of apartheid and separate development. Five other possible reasons come to mind:

- Limited ophthalmology posts ($\pm$ 45) and hardly any optometry posts ($\pm$ 25) in the public sector (responsible for $\pm$ 30 million people).
- Undergraduate training in optometry is still aimed at a first-world population and takes place mainly outside public sector health facilities.

- Undergraduate training in optometry is not measured on an ongoing basis against a public and workplace need.
- Undergraduate training in optometry is didactically too broad and therefore limits clinical exposure, which results in insufficient time spent on clinical and speciality skills.
- The scope of the eye team responsible for eye care in South Africa is not fully understood due to the lack of research, epidemiology data, mid-tier workers and proper management. This resulted in a lack of design models and creative implementation of a structure which can address needless blindness. Currently the lack in undergraduate optometrist training and clinical involvement in the public sector forces others (ophthalmologists) with post-graduate skills to perform many primary care tasks.

Most of the above reasons can be addressed via curriculum review and integration which will allow for more time in the undergraduate final year for clinical training. However, as previously mentioned, public sector involvement at under- and post-graduate level should result in a repositioning of the profession in order to play a more useful role. It follows that certain skills at the undergraduate level will be taught at an introductory level with a view to enhance them at post-graduate level.

Some may argue that another option would be to expand the undergraduate programme beyond four years. That will be too costly for the State and the student and will delay addressing the immediate public need. Community service will also be delayed and an extended programme will also be against the current Policy that seeks mid-tier exits.

It is important to note that the courses that are thus taught at introductory level, will need formal recognition when graduates return to upgrade these skills beyond the B. Degree. In other words, a structured approach should

be followed so that skills which are seen to be speciality skills, need the basics introduced at undergraduate level for them to be recognised as sufficient prior learning that will satisfy the admission regulations at post-graduate level.

8.1.2 How will this contribute to addressing the need?

Post-graduate education will contribute to addressing the need in at least six ways:

- As previously explained, post-graduate education will by nature influence undergraduate training, the major factors being that post-graduate training will initially be more structured and aimed at addressing the immediate needs. As undergraduate training becomes more structured or repositioned to be more appropriate for the public sector, post-graduate training will shed some of the initial responsibilities to concentrate more on specialisation. For example, B. degree optometrists will fulfil the functions of refraction and diagnosis, whereas M. degree optometrists will be involved in disease management and specialisation in fields such as contact lenses, low vision, vision therapy and co-management with Ophthalmology. Both groups and/or levels will, in turn, improve service delivery, standard of care and the increased diagnosis and management of potentially blinding diseases, as well as rehabilitation, health promotion and the education of nurses, ophthalmic nurses and voluntary community workers.
- By offering post-graduate specialisation such as in the management and co-management of glaucoma, keratoconus and irregular corneal conditions, ocular trauma, cataracts, diabetic retinopathy, low vision and other common ocular diseases, post-graduate education will prevent and reduce blindness, in addition to preventing unnecessary costs and social grants. Other areas of specialisation such as sport

vision and vision therapy may be limited to certain centres only, but should not be excluded from the public sector setting, as it will be of benefit to other interdisciplinary fields and departments.

- The cascading effect of skills or multiskilling in the eye team will increase the effect that community workers, nurses, B. degree optometrist, general medical practitioners, M. degree optometrist, and ophthalmologist will have in the prevention and reduction of blindness. In other words, it will move away from the current structure where highly trained people are used to perform primary care which creates the backlogs and subsequent preventable blindness which brings hardship.
- The resultant better-organised and skilled eye team will allow for better eye health promotion, which will result in less preventable blindness by the mere fact that the public will be better educated about eye safety and the importance of compliance in diabetes and glaucoma, as well as resolving some of the myths surrounding cataract extraction, amblyopia, strabismus and the progression of diseases like glaucoma, age-related macular disease and other blinding conditions.
- A better-structured eye team will result in better screening protocols at schools and in industry which will partner State and private sector efforts, further helping with the correction of refractive errors and diagnosis of other potentially blinding disease.
- Research stimulated and accommodated via the structured approach to the eye care career will result in better epidemiology studies, better management of service and care structures and should lead to better disease management protocols, clinical guidelines, surgical techniques, therapeutic interventions, low vision assistive devices and rehabilitation services.

8.1.3 Post-graduate education in optometry and its role in post-apartheid South Africa

Educational policy under a new dispensation creates the opportunity to structure a career path that allows a new focus in the educational underpinnings of skills and expanded skills. A direct result of this structured direction offers effective articulation between under- and post-graduate training that, coupled with a broader skills base, will entrench the role of the profession in the field of eye care in South Africa. A post-1994 Health Policy provides the conduit whereby the profession can evolve as a public utility and reach a much larger population, as well as its full potential.

Ultimately, this dual track in policy allows for a stable platform for the profession to contribute to the improvement of services to eye care, research and the reduction of preventable blindness. The simultaneous introduction of primary health care and the "Primary Care Worker" provides a further opportunity for the profession to play a gatekeeper role in the public sector and share generic modules in education and training with others involved in eye care at various levels.

The successful utilisation of these new structures will develop a model for Africa as South Africa, is the country most likely to take the lead in optometric education in Africa (home to five of the 10 schools on the continent).

It is also important to note that in the post-apartheid era restructuring of systems, which were inherent to the past, brings forth new elements such as career outcomes and community-based education and training. These elements are directly or indirectly part of the recommendations in this study.

Ophthalmology protectionist attitudes may delay this development but cannot be substantiated under these new policies. A protectionist attitude would have been quite acceptable under apartheid, as equity in health care was not a priority of the state.

8.2 PREMISES OF POST-GRADUATE OPTOMETRY EDUCATION

From the perspective of the researcher, it is obvious that the following premises are not negotiable in order to establish effective and efficient post-graduate education and training. Subsequent to this, our recommendations, the role-players and the points of departure will be discussed.

The first premise entails that, should a structured approach be followed for post-graduate education, it will allow for the delivery of eye care in a way that is more accessible, affordable and equitable for the broader public. This is also supported by the research in this study and is fundamental to Health and Higher Education Policy, for example:

- Specialised skills through the post-graduate programmes will bring help to those who could not be helped before due to distances from tertiary institutions and private practitioner cost factors.
- It also translates to better health promotion to what was previously only enjoyed by those who could afford private specialised care.
- The ladder structure allows for a new focus on specific and immediate eye care needs, supported by an appropriate educational background.

The second premise is that it is also clear from this study that, for practitioners to engage in post-graduate studies, it should be accessible, affordable and at an acceptable standard. Elements that will make this possible are, for example:

- Flexible modules as participants in post-graduate studies will need to be accommodated in part-time studies.
- Close to home or local community-based activities, which will be more convenient and reduce costs.
- Part self-study, part lectured/contact sessions in order to meet the findings in this study.
- Recognised by the Professional Board for Optometry, SAQA and internationally.
- Increased scope parameters which offer increased options in skills and patient care.
- Post-graduate studies which have CPD links.
- Grow the reach of the profession by extending services to more people.

In the third place it should be noted that, for the proposed post-graduate studies in optometry education to be successful, the standard of eye care should be lifted.

This can, for example, be achieved via:

- The enhanced skills and knowledge which allow more comprehensive eye examinations and insight into ocular disease, systemic disease states and treatment modalities.
- The relatively better demographics of the profession that bring advanced care to a larger population.
- Clinical rotations that allow for interdisciplinary teamwork to develop and promote the cascade from primary to secondary to tertiary care and vice versa more efficiently and effectively.

In the fourth place, for post-graduate optometry to be successful, it needs to uplift the status of the profession and allow for further vertical development, for example via:

- The recognition of advanced post-graduate skills in a specific field.
- The growth of meaningful research in the field of eye care.
- The freedom to choose a recognised speciality area.
- Internationally equitable standards of post-graduate studies.
- The establishment of a secure public sector career path.

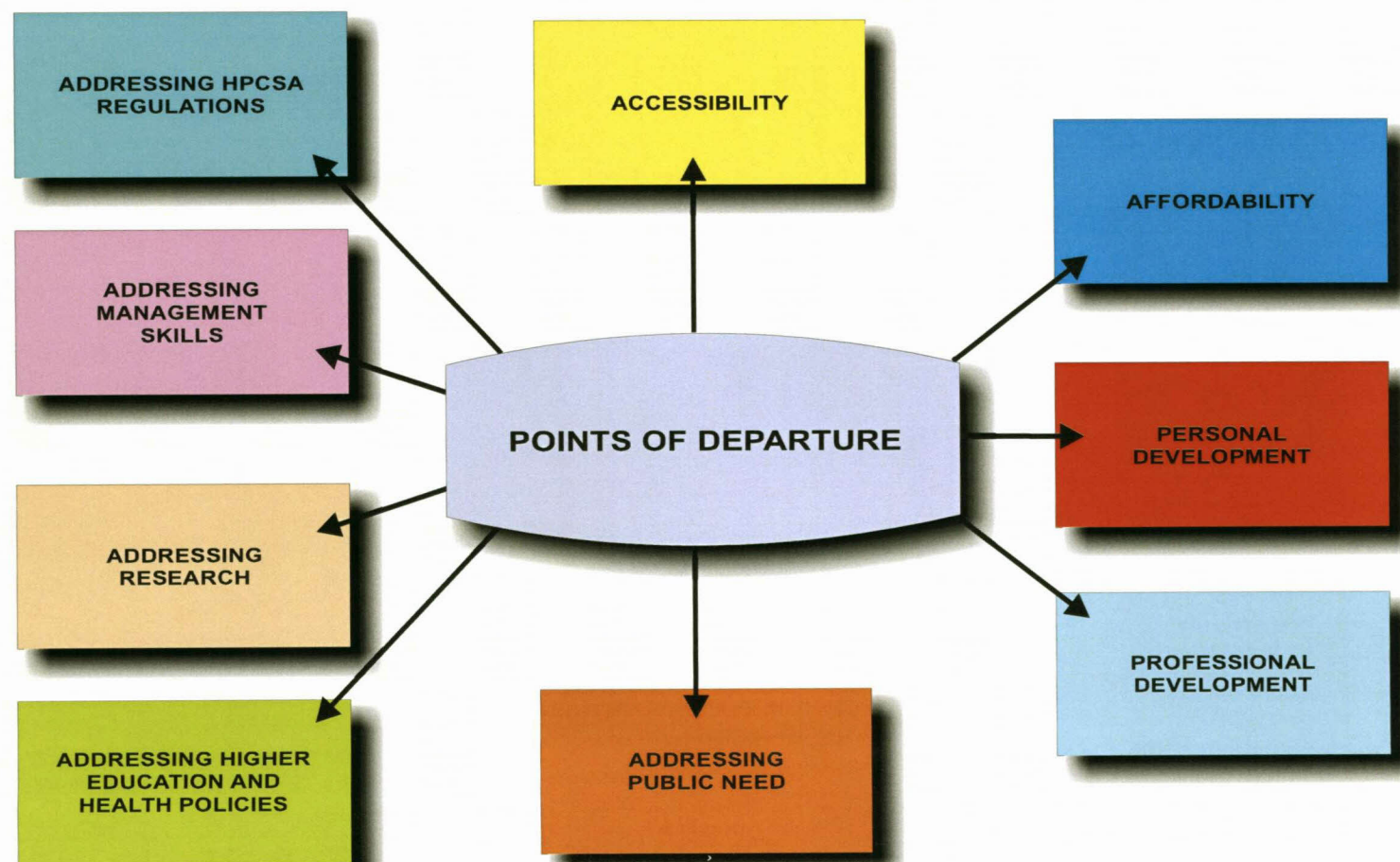
In the fifth place, successful post-graduate studies will be measured in their ability to build faculty capacity in order to perpetuate the continued growth in research, curriculum review and quality assurance, for example via:

- Relevant and tailor-made post-graduate courses which cover clinical skills, professional knowledge, research skills and pedagogical skills.
- The development of leaders in the field of optometry education and the departmental management of educational, as well as clinical sites.
- The forging of national and international links in education, especially with reference to the African continent.
- The development of resources in funding and inter-governmental agreements to educate in and for Africa.

8.3 RECOMMENDATIONS

This section will deal with the recommendations which the researcher wishes to make. The first aspect which will be discussed, are the points of departure which influence the recommendations as depicted in Figure 8.1:

FIGURE 8.1: POINTS OF DEPARTURE WITH REGARD TO THE RECOMMENDATIONS ON POST-GRADUATE EDUCATION AND TRAINING



8.3.1 Points of departure

For the recommendations in this study to be effectively implemented, the following elements are assumed to be in place, or - if not in place - they should be put in place:

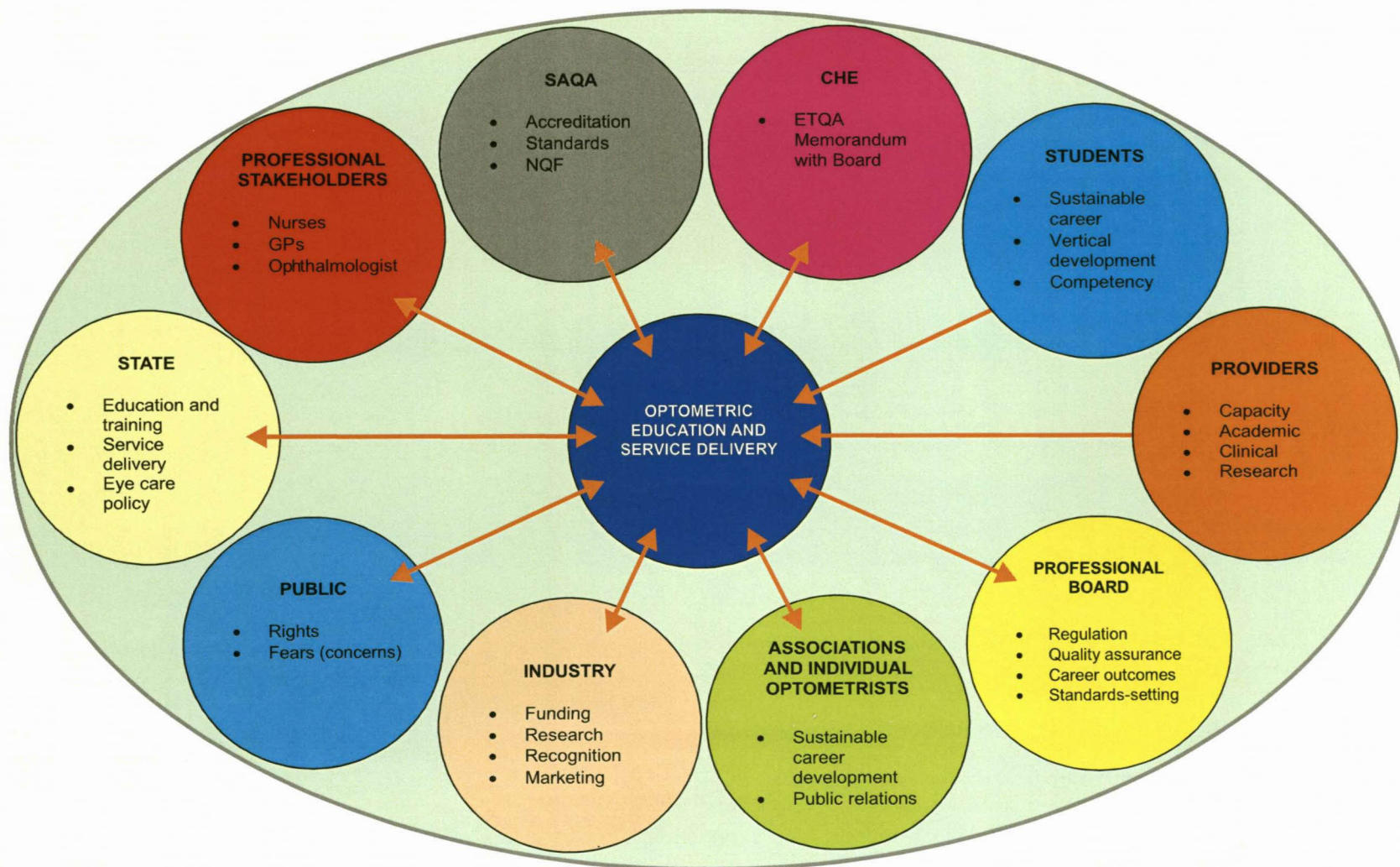
- Post-graduate programmes must be accessible to optometrists by:
 - recognising prior learning;
 - structuring that promotes a symbiotic relationship between CPD and formal post-graduate programmes;
 - structuring that is modular and part-time based; and
 - scheduling that is convenient in timing and distance.
- Post-graduate programmes must be affordable by:
 - after hours scheduling where possible;
 - being offered partially on the Internet and at as many sites as possible; and
 - making use of local educators where possible.
- Post-graduate programmes must provide for:
 - personal development opportunities;
 - elective modules and research opportunities;
 - professional development;
 - a vertical career path with horizontal exits; and
 - recognition of advanced skills or specialities.
- Post-graduate programmes must address the public need by:
 - offering knowledge and skills that address current public need;
 - offering knowledge and skills that a broader population will benefit from and, by implication, will be more affordable than what is currently available;

- offering knowledge, skills and research which will result in an improvement of the current standard of care.
- Post-graduate programmes must address Health and Higher Education Policy by:
 - respecting the principles of the Primary and District Health Care Policy;
 - respecting the principles of the NQF, the objectives of SAQA and - besides career outcomes - critical outcomes as well.
- Post-graduate programmes must promote specific and elective research by:
 - providing optometrists with fundamental as well as advanced research skills;
 - providing study leaders, promoters and examiners at the appropriate level;
 - providing technology and scholarships where needed;
 - providing guidance as to the most appropriate research in the field of eye care;
 - providing the right atmosphere for research and recognising the efforts and achievements of optometrists.
- Post-graduate programmes must offer managerial skills by:
 - offering fundamental and advanced practice, departmental, financial, human resource and corporate management skills where appropriate.
- Post-graduate programmes must take cognisance of the HPCSA regulations by:
 - involving the Professional Board in planning, setting of standards, structuring and quality assurance of these programmes;

- informing the Professional Board where regulatory changes will be required; and
- ensuring that the code of ethics will be respected during and after post-graduate training.

The next section will deal with the role-players who influence recommendations regarding optometric education and training. Figure 8.2 provides a schematic presentation in this regard:

FIGURE 8.2: ROLE-PLAYERS WHO INFLUENCE RECOMMENDATIONS WITH REGARD TO OPTOMETRIC EDUCATION AND TRAINING



8.3.2 Role-players

For post-graduate programmes to be successful, the following role-players need to be recognised and involved where possible:

Students by:

- joint planning sessions with specific reference to a sustainable and viable career;
- communicating the development opportunities within a vertical career path; and
- ensuring competency at each exit level.

Providers of education and training by:

- developing faculty capacity in the post-graduate academic, clinical and research spheres;
- recognising limitations; and
- forging links nationally and internationally.

The Professional Board by:

- communicating effectively where regulatory change is needed;
- motivating speciality level registration;
- assisting in developing quality assurance structures;
- offering career outcomes, clinical guidelines and standards, performance criteria and indicators;
- upholding the code of ethics; and
- developing and maintaining its role as the ETQA for the profession.

The professional associations and individual optometrists by:

- planning a sustainable and viable career path; and
- communicating benefits to the profession and the public by assisting with the publicising and recognition of broader and/or speciality skills and knowledge.

The Optical and Pharmaceutical Industry by:

- forging working relationships with the profession towards a clear goal;
- being offered entry into new markets;
- offering scholarships where deserved;
- promoting research opportunities; and
- promoting joint evaluation of new technology, materials and pharmaceutical agents.

The public by:

- accommodating their expectations in care and cost;
- promoting health and eye care to them;
- communicating broader skills and improved standards of care;
- dispelling myths and preventing blindness; and
- respecting their rights.

The State by:

- establishing new education and training opportunities;
- helping with the implementation of the Prevention of Blindness Policy and being party to its success;
- ensuring the effective implementation of community-based education and training;
- establishing a network of clinical sites that will articulate with community service;
- playing a role in the multiskilling of the eye team (including community workers);
- helping in the improvement of standards of care and service delivery;
- playing a role in the supply of corrective and low vision devices;
- playing a role in rehabilitation;
- developing the public sector career path for optometrists;
- providing management of public sector eye care structures;

- assisting in problem-solving by directing and implementing relevant research;
- playing a role in correcting the skewed demographics in an objective and responsible manner; and
- entrenching the role of the profession as a public utility within the primary health care policy.

Other professions in eye care such as:

Nurses by:

- sharing modules during training;
- assisting in their efforts of screening and health promotion;
- offering training in advanced skills where no optometrist are available; and
- offering training of community workers.

Medical Officers by:

- playing a gatekeeper role with them in Eye Departments;
- allowing them the time to acquire certain surgical skills to alleviate the backlog; and
- sharing relevant modules in programmes.

Ophthalmologists by:

- offering public sector refractive services which can be taken over by B. degreed optometrists or trained nurses where required;
- performing a gatekeeper role as a post-graduate and later an undergraduate function;
- alleviating fears of loss of income by highlighting the needs of the public and respecting skill levels;
- assisting in pre- and post operative care;
- assisting in the management of common ocular disease;

- managing the non-surgical option in keratoconus;
- playing a major role in the management, education and follow-up of non-surgical glaucoma patients as well as co-manage surgical cases in glaucoma;
- taking part in collaborative research in the field of eye care;
- paving the way for effective and ethical private sector group practice;
- taking over the managerial functions of Ophthalmology Departments where needed;
- creating time for surgeons to catch up with the surgery backlog; and
- playing a part in restoring public confidence in the public sector.

SAQA by:

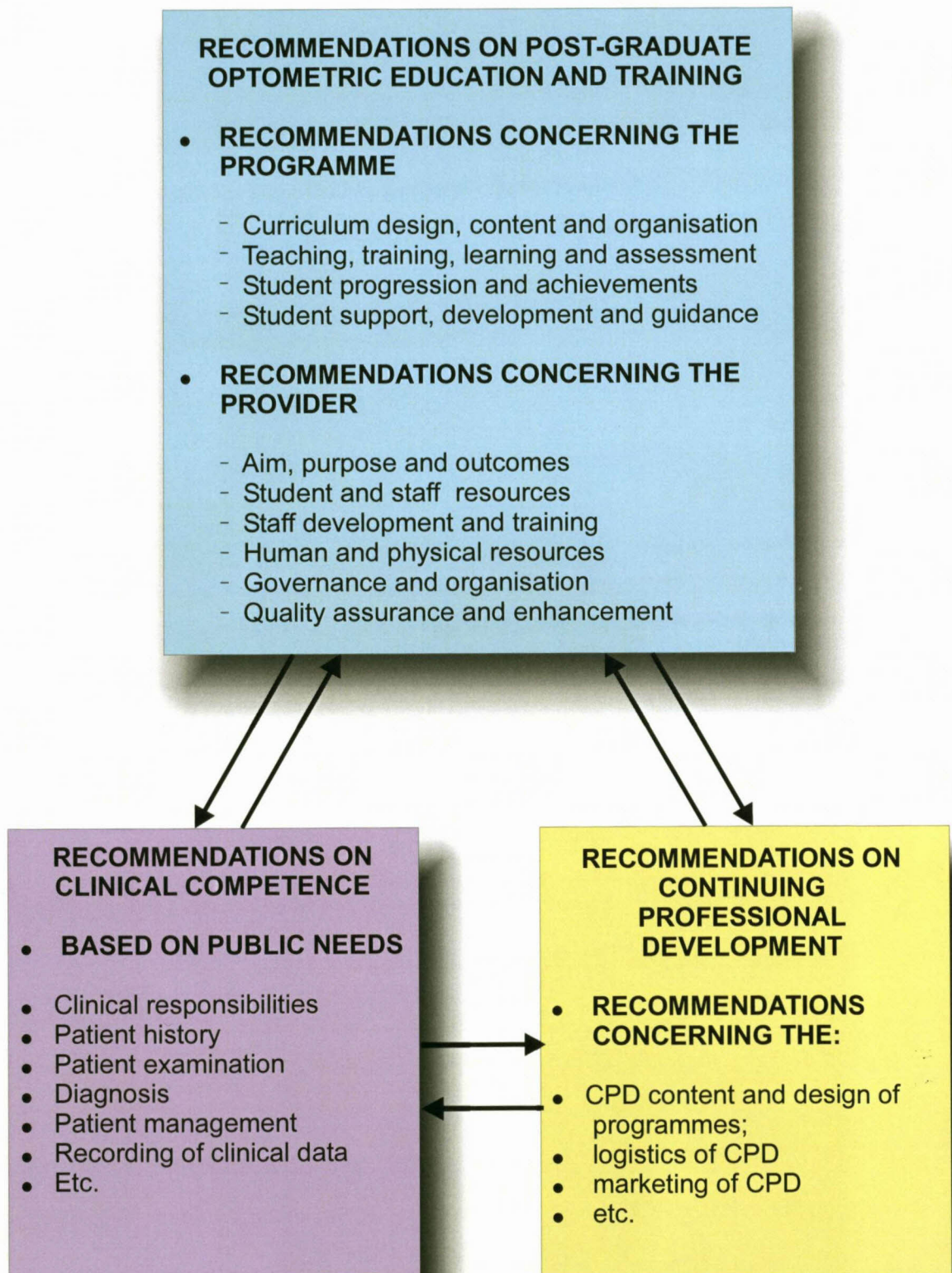
- seeking registration for post-graduate programmes;
- upholding the principles of the NQF; and
- respecting and achieving the critical and career outcomes.

The CHE by:

- respecting its ETQA memorandum with the Professional Board; and
- tendering and implementing own quality assurance structures.

The next section will deal with the recommendations concerning post-graduate optometric education and training. Figure 8.3 provides a schematic presentation in this regard:

FIGURE 8.3 A SCHEMATIC ILLUSTRATION OF THE RECOMMENDATIONS WITH REGARD TO POST-GRADUATE OPTOMETRIC EDUCATION AND TRAINING



8.3.3 Recommendations with regard to post-graduate optometric education and training

The following recommendations are made with regard to post-graduate education and training programmes to be delivered in/by South African Optometry Schools:

8.3.3.1 *Curriculum design, content and organisation*

- The post-graduate optometry programme must satisfy the standards of the NQF level at which the programme is registered.
- The duration of the post-graduate optometry programme must be at least two years as recommended by the respondents/the researcher/the HPCSA. The post-graduate programme must give recognition to post-graduate/CPD studies/activities.
- The notional hours for the post-graduate optometry programme and concomitant credits must be on a par with what is reasonably expected of similar programmes in other Optometry Schools.
- That the Optometry School/Department, through its curriculum responds to demands due to changing demographics, cultural contexts and the health needs of society.
- That the content and sequencing of the curriculum components (core curriculum and electives) are described clearly.
- That the sequencing of the curriculum components must promote horizontal and vertical integration of content as well as the integration of basic and clinical disciplines.

- That the curriculum is designed to provide professional post-graduate education to prepare (and foster) independent, unsupervised practice and to hone specific clinical skills and competencies.
- That the curriculum must include elective options to provide opportunities for students to pursue individual academic/clinical research interests.
- That the curriculum must include opportunities for students to develop critical thinking skills, scientific thinking and research skills – the curriculum must prepare students to be lifelong learners.
- The curriculum must be designed to prepare students to have a sound knowledge and understanding of health (eye) care, the promotion thereof and the prevention and management of eye disease.
- The curriculum must be designed to deliver post-graduate students who are proficient in advanced clinical skills, including contact lenses, treatment and management of ocular disease, vision therapy/sport vision and paediatrics; interpret the findings, prevent eye disease and promote health. Professional reasoning and problem-solving as part of clinical practice must form an integral part of the curriculum.
- Interdisciplinary co-operation between optometry and other health care professions, as well as between health care and the social welfare professions must be encouraged in teaching, training and research to the advantage of the patient.
- The curriculum must be based on and emphasise ethical aspects.
- The curriculum must be designed to deliver a post-graduate student who has the appropriate attitudes and behaviour to ensure quality

health care, including a commitment with regard to the well-being of the community, recognition of the importance of primary health care and a community-orientated approach to health care.

- The programme should develop post-graduates with an attitude to carry out their responsibility towards patients, colleagues, the broad public (including the desire to serve humanity, respect for human rights, recognition of ethical values, a community and primary health care orientation) and a willingness to adapt to local circumstances and changing situations.
- The curriculum must be designed to ensure that the students are sensitive to and have the acquired necessary knowledge and understanding to be aware of the health needs of the country.
- The curriculum must ensure standards in optometry education with a view to produce safe practitioners.
- Clear statements on RPL and flexibility between post-graduates and CPD must be made.

8.3.3.2 *Teaching, training, learning and assessment*

- The strategies for teaching, training, learning and assessment articulate clearly with the aims, objectives and outcomes of the programme.
- The teaching, training, learning and assessment activities must be appropriate in terms of the intended learning outcomes, in particular with regard to the development and assessment of knowledge and understanding, generic skills, cognitive skills, and specific practical/clinical skills.

- Teaching and learning systems must be grounded in modern educational theory and the ranges of available technological aids must be used optimally. Innovative, relevant and situationally applicable teaching and learning strategies must be employed.
- Content development, as well as the development of teaching, training, learning and assessment strategies, must be based on and clearly related to stated outcomes.
- Students must accept responsibility for their own learning: the focus must be on active study and involvement in the educational process rather than passive learning. Students must be prepared to become lifelong learners.
- Self-activity, group work and co-operation in teams must be emphasised. The use of information technology must be promoted.
- Clinical skills must be developed by using skills laboratories/units, simulated patients, models for practical procedures, and patients.
- Clinical skills, including skills in patient care, must be acquired under supervision and assessed thoroughly.
- Clinical training must include ocular trauma, ocular disease, diagnosis and management, sport vision, low vision, co-management and contact lenses (primary health care; community-based training; management of health care in hospitals, private practices and rural practices/clinics).
- Learning outcomes must be stated for all parts of the post-graduate programme and must provide direct guidance for assessment. Assessments must be consistent with these outcomes and the assessments must be valid and reliable.

- Required outcomes and standards of achievement must be communicated widely through the programme materials, policies, publications and other communications.
- The methods used for assessment must be defined and described (that is, the balance between formative and summative assessments; the number of examinations and tests; the nature of the examinations and tests; the balance between oral and written and other types of examinations and tests; and the nature of clinical testing) and the criteria for passing levels must have been clearly stated.
- The Optometry School/Department must ensure the validity and reliability of the assessment methods by making use of moderators and external examiners.

8.3.3.3 *Student progression and achievement*

- Processes must be in place to ensure that students meet the stated outcomes and satisfy the set standards for achievement.
- Regular evaluations must take place and pass rates, drop-out and failure rates must be analysed and the results must be used to improve retention rates, learning success and the standards of achievement.
- The rates and trends in student progression must be satisfactory at each stage (end of module/term/year) of the programme and also on completion of the programme.
- The Optometry School/Department must do follow-up studies on student achievement, including progression to further study, and provide evidence of student achievement from external examiners'

reports, reports to and from the regulatory authority, employers/professional practitioners, as well as by means of data collection and meetings with former students/colleagues.

8.3.3.4 *Student support, development and guidance*

- The Optometry School/Department must have structures in place for academic support, development, guidance and counselling.
- The Optometry School/Department must have support services available for special needs of students (physical, mental, financial, social, welfare needs).
- The Optometry School/Department must provide students with the necessary training facilities and amenities that increase effectiveness of studies.
- The Optometry School/Department must have a policy on health and exposure to infections and environmental hazards/disease.
- The Optometry School/Department must have and follow clear procedures to receive and deal with students' complaints and grievances and must be able to resolve these appropriately.

8.3.3.5 *Aim, purpose and outcomes*

- The Optometry School/Department must have a clearly defined mission and objectives, stating its aim and purpose, and the overall outcomes of the post-graduate optometry education on the training programme it offers.
- The Optometry School/Department must regularly review its mission and objectives and the stated outcomes of its post-graduate

programme in consultation with its major stakeholders and the regulatory authority, and with consideration of needs, demands and trends in health sciences and higher education in South Africa and the rest of the world.

- The Optometry School/Department must submit its post-graduate programme for approval to SAQA for the registration of the programme.
- The Optometry School/Department must be successful in reaching its stated aim and in achieving the set of outcomes of the programme as submitted to and approved by SAQA for registration of the programme.

8.3.3.6 *Student and staff resources*

- The Optometry School/Department must have a clear recruitment and admission policy document, explicitly stating the selection criteria for the programme at undergraduate and post-graduate level.
- The Optometry School/Department must define the size of the student intake for post-graduate studies, related to the capacity of the School in terms of resources and facilities; and in accordance with national health authority expectations and the needs of the community.
- Members of the academic staff must have the capability and continued commitment to be effective educators and trainers, recognising that effective teaching requires knowledge of the discipline, as well as the necessary clinical skills and competencies.
- The Optometry School/Department must have a policy regarding the student:staff ratio in each of the modules in the programme (science disciplines as well as clinical and research fields).

8.3.3.7 *Staff development and training*

- The Optometry School/Department must establish effectiveness-related standards of performance for all staff, and regularly evaluate their overall performance.
- Academic staff members must have a commitment to continuing professional and academic development and the Optometry School/Department should make available opportunities for the development of their educational knowledge and skills.

8.3.3.8 *Human and physical resources*

- The Optometry School/Department must provide an environment which is conducive to teaching, training and learning, where students and staff members work together in teaching, learning, research and health care services, and where new knowledge is generated.
- The academic staff of the Optometry School/Department must be an expert professional body consisting of competent, committed individuals who are academically prepared and qualified, and who accept responsibility for maintaining the highest level of professional excellence.
- The Optometry School/Department must be assured of the use of buildings and equipment which are qualitatively and quantitatively adequate to provide an environment conducive to high productivity of students and staff.
- The Optometry School/Department must have adequate and appropriate resources to provide clinical instruction. These must include adequate numbers and diversity of patients, as well as sufficient facilities for clinical training in hospitals, clinics, primary care

settings, private practices and health care centres in the communities, where the full spectrum of medical care is provided. Facilities to train students according to a community-based approach must be available.

- Optometric equipment and supplies selected must represent the grade and type used for good optometric practice. Proper equipment and supplies should support the instruction and training programme in such a manner that clinical and lifelong learning skills can be developed.

8.3.3.9 *Governance and organisation*

- The Head of the Optometry School/Department must be qualified by education and experience to provide leadership in optometric education and post-graduate education *per se*, in scholarly activities and research, in care of patients, and in the general management of the School.
- The Head of the Optometry School/Department must be assisted in his/her leadership and management tasks by staff as may be required for administration, undergraduate and post-graduate education and training, student and staff affairs, research, business and planning, marketing and public relations, and relationships with the university and authorities in areas where clinical training takes place.
- Staff and students must be involved in decisions concerning admissions, promotions, curriculum design teaching and training administration and organisation, in addition to other related matters by means of committee structures.
- The Optometry School/Department must have structures in place to manage organisational processes.

- The Optometry School/Department must have constructive relationships and interactions with the health and health-related sectors of society and government and allied health professions.
- The Optometry School/Department must ensure development of the organisational structures and management principles in order to cope with the changing circumstances and needs of the Optometry School/Department, government and society, accommodating the interests of different groups of stakeholders.
- The Optometry School/Department must have a clear statement on the leadership and management necessary to govern post-graduate education and training.

8.3.3.10 *Quality assurance and enhancement*

- The Optometry School/Department must have a programme/process to assure quality.
- The Optometry School/Department must have mechanisms to identify strengths and weaknesses, and institute processes to enhance strengths and address weaknesses.
- Quality assurance measures must include the governance and administration of the School/Department, the academic staff, the students, and teaching and training programmes.
- Relevant stakeholders (e.g. professional boards and associations, community and private bodies, government agencies) must have access to the results of programme evaluations and assessments of education and training in the School/Department.

- Quality assurance by means of self-evaluation must be an ongoing process.
- Self-study and external reviews (HPCSA accreditation review) must be followed by developmental actions with a view to improving the education and training of post-graduate students on an ongoing basis. Plans for the future enhancement of the activities of the School must be devised and made available.

8.3.4 Recommendations with regard to continuing professional development (CPD)

In this section recommendations with regard to continuing professional development (CPD) will be made.

8.3.4.1 *Recommendations concerning the CPD content and design of programmes*

- Publications used for CPD purposes must be interesting, relevant and have a user-friendly self-assessment structure.
- A practitioner feedback system, evaluating all aspects of the CPD activity, must be part of all activity engaged in.
- All CPD activities should have a clear goal in mind and this goal should be relevant, articulate with other CPD activities and be communicated clearly to practitioners. It must also provide an indication of benefits vs. costs.
- CPD should constantly measure the needs of the practitioners and the public in order to remain relevant and current.
- Congresses should, as far as possible, integrate with other categories of CPD in order to respect and maximise the “golden thread” of knowledge and skills acquisition within a paradigm of lifelong learning.

- CPD should provide the option that it is formal enough to be translated into "currency" or "loyalty points", which may be recognised towards higher qualifications.
- Besides its continuing education role, CPD should also play a re-skilling role and thus focus on clinical training in this context.
- CPD should be mandatory and maintain professional competence.
- CPD should be an independent third phase of education, geared to the renewal, maintenance, enhancement and facilitation of knowledge and skills.
- A primary purpose of CPD must be for recertification and reaccreditation in order to keep professional registration.
- CPD should be aimed at behavioural change where needed as well as improved clinical performance and patient outcomes.
- CPD content must transfer the most recent, practically-orientated knowledge, skills and attitudes.
- The most effective, time-effective instruction methods, which are educationally suitable for adult learners, must be applied in CPD.
- Training in CPD must be provided by teams with different professional backgrounds.
- Educational input in the planning, preparation and presentation of CPD is imperative.
- CPD should recognise that adults need more practical training to absorb new concepts.
- CPD design should recognise that the relevance of a programme is determined by the factors, namely the extent to which there is a match or a mismatch between the content of the programme; the aims and objectives of CPD in the area under consideration; and the deficiencies in the learner's knowledge or competence.
- When planning appropriate CPD programmes, three problem areas should receive attention, namely the identification of learning needs; the prioritisation of those needs; and matching prioritised needs to learning opportunities and activities.

- Relevance of CPD programmes can be accentuated by presenting the subject-matter in a context with which the learner can identify.
- In individualisation of CPD programmes, variations in individuals needs must be considered.
- Factors which will enhance individualisation in CPD are for example:
 - Smaller groups.
 - Page lay-out designs.
 - Feedback and self-assessment.
 - A choice between a problem-based, a problem-oriented or an information-oriented approach.
 - Short individual modules vs. a series of modules.
 - Multidisciplinary programmes.
- Self-assessment should, for example, be used as:
 - a diagnostic test;
 - a prerequisite for access;
 - an indicator that learners have mastered the material.
- Providers of CPD should remember that CPD may be:
 - informal, ongoing habitual activities directed at the maintenance of competence;
 - semi-structured learning experiences which have their basis in immediate patient concerns;
 - formal, intentional, planned activities.
- CPD programmes must be interesting in order to attract the participant and to hold the attention via:
 - Presentation.
 - Visuals and colour.
 - Active involvement.
 - Admitting speculation.
- Ultimately CPD programmes must be systematic in that they must be planned programmes of post-graduate education which are designed to advance significantly the optometric graduates' preparation as providers of patient care services.

8.3.4.2 *Recommendations concerning the logistics of CPD*

- Besides clear communication and a relevant and clinical focus, CPD logistics should respect the time and distance out of practice in every activity offered.
- CPD opportunities must be available in the right place, at the right time and at the right pace.

8.3.4.3 *Recommendations concerning the marketing of CPD*

- Dissemination of information regarding CPD activities is vital and must be clear, relevant and communicated via different media and on several occasions for any particular activity.
- All the benefits of CPD, including financial where applicable, should be explained and marketed with a particular activity.
- During the marketing and delivery of CPD, the principle of matching the provider's capabilities with the expectations of the practitioner, should always be adhered to.

8.3.5 *Recommendations with regard to clinical competence*

For any post-graduate programme to be successful, it needs the sound underpinning of an adequate undergraduate programme. For that reason the professional/career outcomes for both under- and post-graduate South African qualifications will be outlined. This is done in order to highlight the structured approach within a vertical orientation and the articulation of the career path.

It is also important to keep all competencies in a single framework so that educators may adjust the outcomes of the under- and post-graduate exits as the needs of the public, the profession and education itself change.

The recommendations will focus on clinical competencies that will form the basis for the most appropriate standard of care that the South African public deserve. Recommended outcomes specific to the post-graduate programme will be reflected in *italics and in colour* and are provided in addition to the undergraduate generic competencies which would be a prerequisite to entry into the post-graduate programmes.

These recommendations are based on the literature cited, as well as on the findings of this study. As a guideline for clinical competencies, the two-tier-based "Optometric therapeutic competency standards 2000" (Kiely, Chakman & Horton 2000:300-314), was used and adapted for the South African scenario.

These recommendations on clinical competency are extensively detailed, as it is important for the profession at this stage since a process of Standards Generating has been embarked on by the regulatory body. These recommendations may therefore serve as a basis for the SGB for Optometry and Opticianry. However, outcomes for opticianry will not be specifically indicated.

As this study also focused on the public need, the detail in the recommendations regarding competency will help to ensure that the care that the public receive is optimised.

It should be noted that clinical competencies could be further enhanced during a compulsory community service year.

Professional competencies will be divided into six sections, namely:

- A: Clinical responsibilities.
- B: Patient history.
- C: Patient examination.
- D: Diagnosis.

- E: Patient management.
- F: Recording of clinical data.

Within each section outcomes, performance criteria and indicators will be recommended as a guide and by no means as a complete list.

SECTION A: CLINICAL RESPONSIBILITIES

The recommendations are based on the fact that the optometrist shall demonstrate the following outcomes. He/she must be able to:

Outcome A-1: Ensure that optometric knowledge, skills and equipment remain current.

Performance criteria

1.1 Optometric knowledge and clinical skills can be maintained and developed.

Indicators

Up to date in all categories of the CPD requirements of the Professional Board.

1.2 Developments in clinical theory, optometric techniques and technology can be evaluated for clinical practice.

Indicators

Prove that all options within the CPD regulations have been explored at an appropriate level.

- 1.3 New and existing procedures and techniques are applied and adapted to improve patient care.

Indicators

Show variety within accredited CPD activities that were taken part in with particular reference to self-assessment as well as peer appraisals.

- 1.4 Clinical experiences and discussions with colleagues are used to improve patient care.

Indicators

Study groups, interactive seminars and workshops.

Outcome A-2: Practise without the need for supervision.

Performance criteria

- 2.1 Professional independence in optometric decision-making and conduct is maintained.

Indicators

Patient records; perverse incentives or outside influences do not compromise patient care.

- 2.2 Possible consequences of actions and advice are considered and responsibility for one's own actions is accepted.

Indicators

Errors acknowledged; patient complaints addressed in a responsible and co-operative manner; professional indemnity insurance.

Informing professional indemnity insurer of cases which are potentially litigious.

2.3 Advice is sought from other optometrists, health and other professionals when a further opinion is required.

Indicators

Reports, referrals, record-keeping, possessing a list of suitable professionals.

Shows understanding of the role of the post-graduate speciality field, and collaborates with other specialists and pharmacists when necessary.

Outcome A-3: Act in accordance with the ethical rules of the HPCSA and the profession.

Performance criteria

3.1 Optometric services provided are necessary for the patient or are initiated by the patient.

Indicators

Clinically necessary follow-up visits are recommended and provided; recommendations for additional visits can be clinically justified; record-keeping indicates advice to the patient.

3.2 Patient interests are held ahead of self-interest.

Indicators

Only necessary visits, optical and other appliances are recommended to the patient.

Only necessary medications, procedures and other treatments in the post-graduate speciality field are recommended and/or administered to the patient.

3.3 Advantage (in a physical, emotional or other way) is not taken of the relationship with the patient.

Indicators

The dignity and rights of the patient are respected.

Outcome A-4: Provide advice and information to patients and others.

Performance criteria

4.1 Information is clearly communicated to patients, those who care for the patient, staff, colleagues and other professionals.

Indicators

Itemised accounts, referral letters, reports, written and oral instructions and information: interpreters, opportunity for the patient to ask questions; patient records; information to allow patients to give informed consent regarding their management; sensitivity shown to different cultures.

4.2 Liaison with other professionals is maintained.

Indicators

When necessary local practitioners in appropriate allied and other fields are known and contacted to arrange for referral. Referral letters, reports, replies.

4.3 *Significant or unusual clinical presentations can be recognised and findings communicated to other practitioners involved in the patient's care.*

Indicators

Findings which have wider ramifications than solely to the patient, e.g. to the community are investigated and reported, e.g. side effects of drugs (Adverse Drug Reactions to the Medicines Control Council); patient consent where appropriate. Notifiable diseases are reported.

Outcome A-5: Utilise resources from optometry and other organisations to enhance patient care.

Performance criteria

- 5.1 The various functions of, and resources available from, optometric and other organisations are understood and utilised.

Indicators

Registration boards, professional associations, educational and research institutions in optometry, other health authorities, schools for the blind, other bodies such as associations and societies for the blind *and societies which are specifically dealing with the recognised skills attained via post-graduate programmes.*

Outcome A-6: Understands the principles of the planning, establishment, development and maintenance of an optometric practice.

Performance criteria

- 6.1 Awareness of the roles of other practice staff is demonstrated.

Indicators

The optometrist does not request or allow staff to perform duties outside their competence.

Training of practice staff to recognise patients requiring immediate attention.

- 6.2 Maintenance of equipment in a safe, accurate, working state is ensured.

Indicators

Calibration, cleaning, new globes, regular maintenance, repair.

6.3 Personal and general hygiene is maintained in the practice.

Indicators

Cleanliness of premises and disinfection of equipment; gloves and masks as necessary; sterility of pharmaceuticals and other solutions (refrigeration of pharmaceuticals as recommended by the manufacturer); hand washing.

Infection control measures required in post-graduate speciality practice.

6.4 Patient appointments are scheduled according to the time required for procedures.

Indicators

Appointment schedules; follow-up appointments.

6.5 Safe access by patients and staff is considered in the layout of the practice.

Indicators

Access for children, the elderly, and disabled.

Outcome A-7: Understand the legal obligations involved in optometric practice.

Performance criteria

7.1 Optometric fee structures are understood.

Indicators

Medical/health insurance, fee schedules, benefits, retail price list.

7.2 Familiarity with relevant Acts and regulations can be demonstrated.

Indicators

Health Policy; Medical Aid Act, Health Professions Act, Poisons Act and Regulations. Business legal requirements.

Pharmaceutical Schedules, Therapeutic Guidelines, MIMS Annual. Familiarity with relevant therapeutic publications. Medicines Control Regulations. Speciality category requirements and regulations.

7.3 Statutory and common law obligations relevant to practice are understood.

Indicators

Registration, duty of care, informed consent, negligence, safe practice environment, occupational health and responsibilities.

Outcome A-8: Provide for the care of patients with special needs.Performance criteria

- 8.1 Patients who cannot afford private care are or have no medical aid cover due to high costs are advised of the services to which they are entitled and/or subsidised eye care programmes and these services are made available.

Indicators

Referral system to state clinic or hospitals where services are available, In-practice subsidised services.

- 8.2 The ability to provide domiciliary optometric care is demonstrated.

Indicators

Portable equipment; refers patient to an optometrist who can provide domiciliary care.

Outcome A-9: Ensure emergency optometric care is available.Performance criteria

- 9.1 Emergency facilities are organised for times when the optometrist is unavailable.

Indicators

After-hours telephone number, answering machine; optometrist or alternative can be contacted at all times.

9.2 Emergency ocular treatment and CPR can be provided.

Indicators

The optometrist can provide emergency first-aid or organise for the patient to receive it.

Outcome A-10: Promote issues of eye and vision care to the community.

Performance criteria

10.1 Information on matters of visual health and welfare (including the need for regular eye examinations), and product and treatment developments can be provided.

Indicators

Practitioner newsletters, other professional groups; written information, verbal.

10.2 Advice is provided on eye protection in the home and in recreational pursuits.

Indicators

South African Industrial Safety Standards, safety lenses, radiation protection, sunglasses, tints, occupational lens designs, lighting, ergonomic design.

Outcome A-11: Understand factors affecting the community's need for optometric services.

Performance criteria

- 11.1 The demography and epidemiology of the community and the patient population are understood.

Indicators

General knowledge of epidemiology of ocular and visual disorders, demographics of patient population.

SECTION B: PATIENT HISTORY

The recommendations are based on the fact that the optometrist shall demonstrate the following outcomes. He/she must be able to:

Outcome B-1: Communicate with the patient.

Performance criteria

- 1.1 Modes and methods of communication - which take into account the physical, emotional, intellectual and cultural background of the patient - are employed.

Indicators

Interpreter, sign language, questionnaires, written means; use of appropriate language, vocabulary and terminology; questions rephrased to enhance understanding; understanding is verified.

- 1.2 A structured, efficient, rational and comfortable exchange of information between the optometrist and the patient takes place.

Indicators

Greets patient, introduction and identification, listens to patient, tact, rapport.

Outcome B-2: Make general observations of patient.

Performance criteria

- 2.1 Physical and behavioural characteristics of the patient are noted and taken into account.

Indicators

Appearance, gait and general movements, mobility, balance, posture, behaviour, speech, verbal responses.

General comfort and well-being with specific reference to the post-graduate skills category and scope.

Outcome B-3: Obtain the case history.

Performance criteria

- 3.1 The reasons for the patient's visit are elicited in a structured way.

Indicators

Actively listens to patient, notes body language, anxieties, clarifies understanding and ambiguities, notes and understands referral, determines patient expectations.

- 3.2 Information required for diagnosis and management is elicited from the patient and/or others.

Indicators

Presenting symptoms and patient's chief complaint; other signs/symptoms; personal and family history; behavioural patterns; visual needs (occupational, recreational, educational, and other requirements); medications (current and past); previous assessments and treatment by other professionals; previous illness with ocular, visual or developmental significance; surgical intervention with visual/ocular relevance; trauma, accident and injury of ocular/visual significance; follow-up questions; ongoing history throughout examination.

Identification of risk factors for certain eye conditions; duration, severity and progression of symptoms; time of onset of condition; type and time of injury; precipitating factors; previous instance(s) of similar events and their management; ocular and systemic medications (name, dosage, frequency of use, vehicle of administration); non-prescription interventions; systemic conditions (allergies, pregnancy, glaucoma, hypertension, diabetes, etc.); patient contact with infectious agents or exposure to agents which could cause an allergic reaction (e.g. make-up, pollens, workplace, etc.). Assess likely compliance with treatment; past medical and surgical conditions; family ocular and systemic history (including

diabetes, glaucoma, hypertension etc.); adverse responses to the classes of drugs which are to be used in the eye.

Outcome B-4: Obtain and interprets patient information from other professionals.

Performance criteria

4.1 Pertinent information from previous assessments by other professionals is sought and interpreted (with the patient's permission).

Indicators

Reading previous histories, contacting other professionals for information, patient consent.

SECTION C: PATIENT EXAMINATION

The recommendations are based on the fact that the optometrist shall demonstrate the following outcomes. He/she must be able to:

Outcome C-1: Formulate an examination plan.

Performance criteria

1.1 An examination plan based on the patient's history is designed to obtain the information necessary for diagnosis and management.

Indicators

Knowledge of which tests are suitable for the particular occasion and patient, e.g. age of patient, developmental status of patient, attention of patient. Optometrist can justify the inclusion or exclusion of any test.

- 1.2 Tests and procedures appropriate to the patient's condition and abilities are selected.

Indicators

Consideration of age, intellectual ability.

Consideration of physical ability in all relevant situations falling into the post-graduate category.

Outcome C-2: Implement examination plan.Performance criteria

- 2.1 Tests and procedures which will efficiently provide the information required for diagnosis are performed.

Indicators

Proficiency with equipment and techniques, explanations to the patient, accurate results are obtained, informed consent.

- 2.2 The examination plan and procedures are progressively modified on the basis of findings.

Indicators

Further tests, referral for indicated assessment, alternate test procedures are used to maximise confidence in findings.

Outcome C-3: Assess the ocular adnexae and the eye.

Performance criteria

- 3.1 The structure and health of the ocular adnexae and their ability to function are assessed.

Indicators

Assessment of skin lesions, conjunctiva, lids, lashes, puncta, meibomian glands. Screening for disease; macro-observation, slit lamp biomicroscopy, loupe, interpupillary distance, lid eversion, photography, diagnostic pharmaceuticals, tear dynamics.

Lacrimal glands, punctal dilation, lacrimal lavage, cannula and syringe, forceps, use of lid retractor, disposable gloves, sterile cotton swabs, alcohol preparations, sharps collector, sterile saline.

- 3.2 The structure and health of the anterior segment and its ability to function are assessed.

Indicators

Assessment of cornea, conjunctiva, anterior chamber, anterior chamber angle, sclera, iris, pupil. Screening for disease; vital stains, slit lamp biomicroscopy; keratometry; keratotomy; gonioscopy; tonometry; photography, diagnostic pharmaceuticals, pharmacological evaluation of

pupil abnormalities, corneal aesthesiometry, pupil reactions, tear break-up time, exophthalmometry.

Ultrasound, pachymetry, corneal topography, anterior chamber imaging, tear film, tear break-up time, aqueous humour, episclera, ciliary body, anterior sclera.

3.3 The structure and health of the ocular media and their ability to function are assessed.

Indicators

Assessment of the lens and vitreous. Screening for disease; direct and indirect ophthalmoscopy, retinoscopy, photography, diagnostic pharmaceuticals, slit lamp.

Ultrasound, 2D and 3D imaging.

3.4 The structure and health of the posterior segment and its ability to function are assessed.

Indicators

Assessment of the retina, choroid, vitreous, blood vessels, macula and fovea. Screening for disease; direct and indirect ophthalmoscopy, retinoscopy, photography, diagnostic pharmaceuticals, slit lamp; visual acuity tests, colour vision tests, visual field assessment, photostress test, pupil reactions.

Auxiliary lenses for fundus viewing, optic nerve head and retinal assessment via coherence tomography, angiography.

3.5 *The nature of the disease state is determined.*

Indicators

Inflammatory, infective, immunologic, metaplastic, neoplastic, dystrophic, degenerative, congenital, neurological, iatrogenic, irritative and traumatic changes (wounds, abrasions, alkali burns, thermal, cryogenic lesions). Corneal oedema and endothelial repair, laser-induced trauma, keratoplasty, corneal neovascularisation, corneal changes in metabolic diseases (diabetes, Vitamin A deficiency, hypercholesterolaemia). Glaucoma (including laser-, α -chymotrypsin- and corticosteroid-induced). Cataract, uveitis, vitreous and retinal infections (bacterial endophthalmitis, viral retinitis), proliferative vitreoretinopathy, retinal detachment, retinal vascular disease (neovascularisation, retinal ischaemia, diabetic retinopathy), retinal degenerations and dystrophies.

3.6 *Microbiological tests are selected and ordered.*

Indicators

Indications for microbiological investigations, cost-effectiveness, selection of laboratory, associated paperwork with necessary details, diagnostic needs, lack of response to initial management, collection technique and storage (cultures, smears and scrapings), timely collection or delivery of samples, refrigeration or freezing, sterility of instrumentation and storage items, disposable gloves.

Outcome C-4: Assess central and peripheral sensory visual function and the integrity of the visual pathways.

Performance criteria

4.1 Vision and visual acuity are measured.

Indicators

Contrast sensitivity function, neutral density filter test, photo-stress test, glare testing, optokinetic nystagmus, pinhole, line and single letter tests and preferential looking tests, logMAR charts, letter/number charts, etc., monocular/binocular measurements, corrected/uncorrected measurements.

4.2 Visual fields are measured.

Indicators

Amsler grid, confrontation, frequency doubling technique, kinetic and static screening and threshold, tests for hysterical amblyopia and malingering, etc. Monocular/binocular measurements.

Advanced threshold tests and evaluation in the ongoing management of glaucoma.

4.3 Colour vision is assessed.

Indicators

Colour vision and discrimination tests (pseudo-isochromatic tests, hue ordering tests), etc. Monocular measurements, flicker, colour matching. Discrimination between acquired and congenital defects.

4.4 Pupil function is assessed.

Indicators

Pupil reactions, symmetry, response rate, pupil cycle times, swinging flashlight tests, pharmacological testing.

Outcome C-5: Assess refractive status.

Performance criteria

5.1 The spherical, astigmatic and presbyopic corrections are measured.

Indicators

Logical progression of objective and subjective tests, standardised acuity charts, retinoscopy, crossed-cylinder technique, fogging, binocular balance, near vision cards, refractometer, cycloplegia, records findings and aided and unaided visual acuity, sphere, cylinder, axis, addition.

Outcome C-6: Assess oculomotor and binocular function.

Performance criteria

6.1 Eye alignment and the state of fixation are assessed.

Indicators

Deviation (direction, magnitude, laterality; manifest, latent; comitancy), associated and dissociated heterophoria, nystagmus, fixation (central, eccentric, steadiness), prism.

6.2 The quality and range of the patient's eye movements are determined.

Indicators

Pursuits, saccades, excursions, nine positions of gaze, limitations of gaze, adaptive head posture, reading saccades, versions, vergences, near point of convergence.

6.3 The status of sensory fusion is determined.

Indicators

Fusion, suppression, diplopia, stereopsis, simultaneous perception, amblyopia, correspondence (normal, anomalous).

6.4 The adaptability of the vergence system is determined.

Indicators

Phorias, fusional vergence ranges, vergence facility, fixation disparity (curve analysis), Sheard's criterion, Percival's criterion, associated phoria, near point of convergence.

6.5 Placement and adaptability of accommodation are assessed.

Indicators

Accommodative lag, lead (spasm), accuracy, relative accommodation, accommodation facility, monocular and binocular amplitudes of accommodation.

Outcome C-7: Assess visual information processing.

Performance criteria

7.1 Visual perceptual abilities are assessed.

Indicators

History of learning problems, awareness of developmental milestones, visual processing, attention, visual spatial skills (laterality, directionality), visual analysis skills, visual motor integration, reading eye movements, assessment of handwriting, screening of reading age, screening of language abilities.

7.2 Visual-motor integration is assessed.

Indicators

History of learning problems, awareness of developmental milestones, visual processing, attention, visual spatial skills (laterality, directionality), visual analysis skills, visual motor integration, reading eye movements, assessment of handwriting, screening of reading age, screening of language abilities.

Outcome C-8: Assess the significance of signs and symptoms found incidental to the ocular examination in relation to the patient's eye and/or general health.

Performance criteria

8.1 Pertinent non-ocular signs and symptoms found incidentally during the ocular examination are identified and considered.

Indicators

General welfare of the patient; medical, acquired neurological disorders; pharmacological, social, emotional factors; assault/abuse; disorders of communication and articulation; short-term memory; history of spatial confusion; reduced cognition; referral.

8.2 Ensures that significant non-ocular signs and symptoms are investigated.

Indicators

Sphygmomanometry, carotid auscultation, blood sugar levels, *referral for the investigation of thyroid function, blood tests, histological investigations and imaging procedures related to the findings and suspicion of focal or systemic disease.*

SECTION D: DIAGNOSIS

The recommendations are based on the fact that the optometrist shall demonstrate the following outcomes. He/she must be able to:

Outcome D-1: Interpret and analyse findings to establish a diagnosis or diagnoses.

Performance criteria

1.1 Accuracy and validity of test results and information from the case history and the other sources are critically appraised.

Indicators

Records, verification of results/information.

Significance of laboratory results (gram positive and negative bacteria, drug sensitivities), alterations to prescribed therapeutics.

- 1.2 Test results and other information are analysed, interpreted and integrated to establish the diagnosis or diagnoses.

Indicators

Information from sensory, refractive, binocular and perceptual tests, information from other sources, ocular and general health, congenital, developmental, hereditary and active and resolved pathological changes are differentiated, information prioritised; establishment of a differential diagnosis; indications for further tests; *ordering of further tests.*

SECTION E: PATIENT MANAGEMENT

The recommendations are based on the fact that the optometrist shall demonstrate the following outcomes. He/she must be able to:

Outcome E-1: Design a management plan for each and implement the plan agreed to with the patient.

Performance criteria

- 1.1 The diagnosis is presented and explained to the patient.

Indicators

Language understood by the patient, invites and answers questions.

- 1.2 Consideration is given to the relative importance or urgency of the prepresenting problems and examination findings.

Indicators

Urgency of referral or review.

Prognosis of disease, time-course of disease (natural history of the condition, likely outcomes if the condition is treated or left untreated including unwanted side effects), effects of disease and treatment of the patient (vision, driving, etc.), training of practice staff to recognise patients requiring immediate attention, first aid measures until medical treatment can be obtained if full management is beyond the abilities of the optometrist, consideration of possible sequelae to the eye and systemically, prophylactic medication.

- 1.3 Management options to address the patient's needs are explained.

Indicators

Optometrist is aware of the different management options; patients and parents/guardians where appropriate are provided with sufficient information about their options for management to allow them to make an informed decision, e.g. costs, merits, time frame, risks, benefits, etc.

Aims and objectives of management in the specific field.

- 1.4 A course of management is chosen with the patient, following counselling and explanation of the likely course of the condition, case management and prognosis.

Indicators

Patients (and parents/guardians where appropriate) are assisted to make a decision regarding the management option to be used; advice regarding the need for ongoing care; review, referral or discharge; reassurance; advice on driving or operation of machinery; repercussions of management options; optical correction: spectacles, contact lenses, low vision aids, vision therapy, pharmacological therapy, task modification, environmental adaptations, etc.; sequence of procedures, treatment duration, criteria for discharge, awareness of validity and reliability of treatment options, referral, co-management, eye protection, modification of visual tasks, lifestyle requirements.

Glare sensitivity, ocular irritation, ability to carry on with employment: avoidance of allergens, advice on modifying, risk factors.

- 1.5 The informed consent of the patient is obtained for the initiation and continuation of treatment.

Indicators

Explanation of presenting complaints, alternatives discussed, additional findings, diagnosis, management options, expected duration, course, costs, outcomes and limitations of treatment, possible complications and risks, patient queries answered, ambiguities and misinterpretations clarified, record advice given, written consent, verbal consent.

- 1.6 Patients requiring ongoing care and review are recalled as their clinical condition indicates and management is modified as indicated.

Indicators

Review visits, modification of the management plan depending on the results obtained, recall notices.

Outcome E-2: Prescribe spectacles.

Performance criteria

- 2.1 The suitability of spectacles as a form of correction for the patient: the patient is assessed.

Indicators

Optical, recreational, occupational requirements.

- 2.2 The patient's refraction, visual requirements and other findings are applied to determine the spectacle correction.

Indicators

Working distances, magnification requirements, prism, dispensing requirements and limitations (vertex distances), anisometropia, aniseikonia, vergence prescription, accommodation status, safety spectacles, special lenses and treatments, sports requirements, incidental optical effects, lens design, materials, tints, etc., spherical component, cylindrical component, axis, prism, lens form and specifications; coatings, additions, care regime, use, interpupillary distance, Fresnel lenses,

hardening, prescription written, date, optometrist's signature, patient's name, expiry date, vocational needs.

Outcome E-3: Prescribe contact lenses.

Performance criteria

- 3.1 The suitability of contact lenses as a form of correction for the patient is assessed.

Indicators

Lifestyle, vocational needs, risk factors, vision, comfort and duration of wear, contra-indications, ocular integrity, physiology and environment, slit lamp, keratometer, vital staining. Referral of complicated cases to optometrists with recognised post-graduate speciality skills.

- 3.2 The patient's refraction, visual requirements and other findings are applied to determine the contact lens prescribed.

Indicators

Working distances, anisometropia, aniseikonia, vergence accommodation status, referral of special lenses and treatments, sports requirements, incidental optical prescription effects, lens design, materials, tints, etc., trial lens fitting, current basic fitting techniques, equipment, keratometer, fluorescein, slit lamp, care, maintenance and disposal regimen. Prescription written, date, optometrist's signature, patient's name, expiry date.

Skills and knowledge of advanced procedures in keratoconus, irregular corneas and reverse geometry.

3.3 *Therapeutic and cosmetic contact lenses are recommended and prescribed*

Indicators

Aniridia; cosmetic and trauma management; occlusion; recurrent erosion syndrome; basement membrane degeneration.

- 3.4 Contact lenses are correctly ordered and on receipt, parameters are verified before the lenses are supplied to the patient.

Indicators

Material, power, base curves, diameter are checked against the prescription or order; radiuscope, vertometer, lens type, standards. (Parameters on packs of to the patient multiple disposable lenses are checked against the prescription/order.)

- 3.5 Contact lenses are checked on the eye for physical fitting and visual performance.

Indicators

Visual acuity, lens fit, overcorrection, centration, movement, fluorescein, lid interactions.

- 3.6 The patient is instructed in matters relating to ocular health and vision in contact lens wear, contact lens care and maintenance.

Indicators

Wearing time, aftercare visits, replacement schedules, insertion and removal techniques, care and maintenance regimen, indications for lens care and maintenance, removal, indications for seeking urgent care.

- 3.7 Contact lens performance, ocular health and patient adherence to wearing and maintenance regime monitored.

Indicators

Contact lens-related conditions recognised and managed, aftercare visits, recall/review, history.

Outcome E-4: Prescribe low vision devices.Performance criteria

- 4.1 A range of low vision devices is demonstrated.

Indicators

Working distances, magnification requirements, physical ability of the patient to manage different devices, pathology associated with low vision, incidental optical effects, low vision aid design, special materials, tints, lighting requirements.

- 4.2 Low vision devices suited to the patient's visual requirements and functional needs are prescribed.

Indicators

Selection and prescription of most appropriate low vision aid (to take into account the ability of the patient to manipulate the device and to meet the cost), loan, trial period.

4.3 The patient is instructed in the use of the low vision device.

Indicators

Lighting, working distance.

4.4 The success of the low vision device is evaluated and monitored and additional or alternative devices are prescribed.

Indicators

Review visits, reassessment of the vision and the efficacy of the device for the needs of the patient. *Advanced alternatives in speciality field.*

4.5 The patient is informed of and, if necessary, referred to other rehabilitative or specialised services.

Indicators

Low vision clinics, other practitioners, co-management.

Outcome E-5: Prescribe pharmacological treatment regimes.

Performance criteria

- 5.1 Selects appropriate pharmacological agents for the treatment of the patient's condition.

Indicators

Allergies, required drug actions, drug interactions, side effects. Legal requirements, e.g. Medicines Control Council Regulations, the Health Professions Act.

“Therapeutic Guidelines”: Agents within the scope of post-graduate qualifications.

- 5.1.a ***Microbiological factors are considered in the choice of therapeutic agent(s).***

Indicators

Infections (viral, bacterial, fungal, chlamydia, other), non-infective inflammations (allergies, other), protozoal parasites, prophylaxis, drug sensitivities.

- 5.1.b ***Pharmacological factors are considered in the choice of pharmaceutical agent(s).***

Indicators

Ocular autonomic pharmacology (classification of the autonomic nervous system: parasympathetic and sympathetic; neurotransmission: adrenergic, cholinergic, etc.); mode of action of different drug types (mydriatics, cycloplegics, miotics, anaesthetics,

anti-glaucoma medications, angle closure medications, anti-viral agents, anti-bacterial agents, anti-inflammatory agents, combination drugs, antihistamines, hypertonic agents, vasoconstrictors, ocular lubricants).

5.1.c Systemic factors are considered in the choice of therapeutic agent(s).

Indicators

Interactions with systemic medications and other substances used by the patient; toxic and sensitivity reactions; contraindications such as pregnancy, paediatric use, restriction of certain drugs in sport, side effects to consider for driving and use of machinery; allergies; development of resistance by pathogenic organisms; effects of systemic medications on the eye.

5.1.d Ocular factors are considered in the choice of therapeutic agent(s).

Indicators

Ocular side effects [corneal pathologies (toxicity) from topical delivery, allergies]; interactions with ocular medications and other substances used by the patient; significance of any effects on the contralateral eye; ocular pharmacokinetics/pharmacodynamics of cornea and anterior chamber (time intervals: transportation, elimination phase, absorption, distribution phase, other factors); ocular absorption of administered dose (precorneal fluid dynamics, normal tear turnover, drainage of extra solution, induced lacrimation, drug binding to tear proteins, conjunctival drug absorption,

resistance to corneal drug penetration, drug binding to melanin, drug metabolism).

5.1.e Available delivery systems are considered in the choice of therapeutic agent(s).

Indicators

Suitability of available delivery systems: aqueous solutions (viscosity, pH, buffers), drug enhancement, suspensions, particulates, chemical delivery systems, new ophthalmic delivery system (NODS: presentation of drugs in a water-soluble drug-loaded film), semisolids, therapeutic lenses, mucoadhesive dosage forms, ocular inserts, corneal collagen shields, ocular penetration enhancers, systemic delivery; peptide and protein therapeutics (oral, nasal, buccal, pulmonary, ocular); role of systemic circulation: systemic absorption from topical delivery, drug resistance.

5.1.f Drug substitution factors are considered in the choice of therapeutic agent(s).

Indicators

Suitability of brand name products versus generic products (cost, efficacy).

5.2 Understands and *prescribes therapeutic drugs.*

Indicators

Understands the written prescription, drug, dosage, frequency of use, duration of treatment (course, package size), repeats, special instructions. Agents within the undergraduate scope.

Can refer to appropriate pharmaceutical reference material; maintains the appropriate standard of care in the prescription of fluoroquinolones, topical steroid preparations and other medications with a propensity for intra-ocular penetration; clarifies any issues relating to the prescription with the pharmacist; uses South African abbreviations; specifies whether alternative medications may be substituted, concentration of medication, amount of solution, method of administration; special advice for administration to children; clarity of writing; date, name and address of patient, eye to be treated with topical medication, numbers written in full and as digits, use of metric system, signature, practitioner name and details, delivery system (drops or other); security of prescription pads; most suitable agent(s); need for prescription of more than one medication type; cost; consideration of the effects of other drugs taken by the patient on the eye, adnexa and visual system; non-drug treatments; complications of drug use; influence of patient dexterity on vehicle for administration; likely prognosis with different medications; prophylactic medication.

5.3 Monitors and modifies the treatment regimen.

Indicators

Review interval, recognition of adverse signs and symptoms, authorises repeat prescriptions, co-manages the alterations to drug, dose, etc. Referral if appropriate.

Timing and frequency of review; criteria for the completion of treatment; assessment of the progress of the disease; advice on adverse signs and symptoms; alterations to drug, dose or type (additional or alternative medications, other non-drug interventions); monitors compliance.

5.4 Instructs/counsels patient on the correct use of the prescribed drugs.

Indicators

Dose, frequency of use, timing of use, adverse reactions, method of administration, interactions with drugs and other substances, storage and disposal.

Type of medication; action to be taken by the patient if adverse reactions occur; appropriate hygiene precautions for the patient to observe when using medications; methods of administration (adults, children, babies).

5.5 Patients are instructed about precautionary procedures and non-therapeutic management.

Indicators

Possibility of infection of contralateral eye or infection of other people; methods to prevent cross-infection of others and contamination of medication; use of eye patches, sunglasses and analgesia; lid hygiene procedures, lid scrubs, warm compresses and artificial tears; discontinuation of contact lens wear and/or use of eye make-up during treatment; back-up practitioner to consult in optometrist's absence; patient

lifestyle, occupation (e.g. contact with children), ability to observe hygiene procedures; patient general health and dexterity.

Outcome E-6: Dispense optical prescriptions

Performance criteria

- 6.1 The prescription is interpreted and responsibility for dispensing is accepted.

Indicators

Resolution of ambiguity in specification and usage, compliance with international notation, present/previous prescriptions are considered, lens forms, materials, apparent errors, validity of prescription.

- 6.2 The patient is assisted in selecting an appliance.

Indicators

Features, benefits; suitability, fashion/cosmesis, application of contemporary lens forms, lens treatments, materials, safety factors, spectacle frames selected considering anatomical, physiological and proposed use factors, costs, ptosis crutches.

- 6.3 Lenses are ordered and fitted to spectacle frames in accordance with accepted standards.

Indicators

Pupillometer, vertometer, callipers, lens measure, polariscope, transmittance meter. Requirements, processes and limitations involved in the fabrication of optical appliances are understood.

6.4 The appliance is verified against the prescription prior to delivery.

Indicators

Optical centres and segment heights, powers: sphere, cylinder, axis, bifocal addition, base curves, prism, lens thickness, tints, coatings, hardening, contact lens material, lens diameter. Compliance with South African Standards.

6.5 The appliance is adjusted and delivered and the patient is instructed in the proper use and maintenance of the appliance and of any adaption effects which may be expected.

Indicators

Appliance is fitted and adjusted to optimise comfort and performance, optical tools, specific lens cleaners and accessories, ptosis crutches, prosthetics, hearing aid adaptations to frames, product information literature, length to bend.

Outcome E-7: Manage patients requiring vision therapy.Performance criteria

7.1 Treats patients diagnosed with accommodative, vergence, strabismic and amblyopic conditions.

Indicators

Therapy sequence, time frame for treatment, discharge criteria, spectacles, therapy activities, training equipment.

Advanced therapy regime, re-assess, make adaptations as required at speciality level.

7.2 The patient is instructed in the use and maintenance of vision training equipment.

Indicators

Ensures that the patient understands what is expected of him/her, written instructions, loan of equipment and appliances.

7.3 Goals of the vision therapy programme and criteria for discharge are set.

Indicators

Time frame, expected results, discharge criteria, cost.

7.4 Progress of the vision therapy programme is monitored.

Indicators

Review visits at appropriate intervals, appropriate tests at these visits, recalls. Referral to another optometrist with speciality skills in the field.

Outcome E-8: Treat ocular disease and injury.Performance criteria

- 8.1 Non-pharmacological treatment or intervention procedures are performed.

Indicators

Epilation, lid scrubs, lacrimal lavage, irrigation, foreign body removal, corneal debridement, ocular lubricants, saline.

Management of trauma to the eyes and adnexa (blunt trauma, contusion, concussion, compression, abrasions, lacerations, penetrating and perforating injuries, chemical and thermal burns); instillation of drops (punctal occlusion); instruments and techniques (speculum insertion, double eyelid eversion, expressing meibomian glands, punctal plug insertion, pressure patching, ocular irrigation); prophylactic antibiotic treatment, chalazion surgery.

- 8.2 Pharmacological and/or other regimens are instituted and therapeutic devices are introduced to treat eye conditions.

Indicators

Knowledge of actions, interactions, contra-indications and side effects of drugs; dosage; frequency; prophylactic management; ptosis crutches.

Subconjunctival injection.

- 8.3 The patient is instructed in the use, administration, storage and disposal of pharmaceutical agents.

Indicators

Instructions to the patient, knowledge of shelf life of the medication and of the appropriate disposal.

- 8.4 The effect of treatment is monitored and changes in management are recommended.

Indicators

Pharmaceutical diagnostic agents, side effects, review using appropriate tests, referral.

Outcome E-9: Fit ocular prosthetic.

- 9.1 Evaluate the state of the orbital cavity.

Indicators

Correctly evaluate the socket health, shape and size.

- 9.2 Fit and modify the appropriate prosthesis.

Indicators

Iris/scleral colour, direction of gaze, palpebral aperture size, comfort, handling and cleaning regime, follow-up.

Outcome E-10: Refer the patient.

Performance criteria

- 10.1 The need for referral to other professionals for assessment and/or treatment is recognised and discussed with the patient.

Indicators

Abilities and limitations of services provided by optometrists and other health and allied health professionals, recognises when the patient requires the services of another professional or another optometrist.

- 10.2 A suitable professional is recommended to the patient.

Indicators

Role and scope of services provided by other professionals - including health, welfare and education services - are understood: general and specialist medicines, ophthalmology subspecialties, psychology, occupational therapy, audiology, speech pathology, community nursing, education, dietetics, social workers, physiotherapy, chiropractic, low vision services, rehabilitation services, experience, location.

- 10.3 Timely referral, with supporting documentation, is made to other professionals.

Indicators

Telephone, written referral including all appropriate information, urgency, timing of referral, specified tests and procedures arranged, relevant signs and symptoms and reasons for referral, clarity.

Non-invasive first aid management; appropriate transport of the patient.

10.4 Patients can be jointly managed with other health care practitioners.

Indicators

Co-management may be with another optometrist or a member of another profession, e.g. occupational therapist, psychologist, ophthalmologist, general medical practitioner; understanding of roles and responsibilities of each practitioner.

Outcome E-11: Co-operate with ophthalmologist in the provision of pre- and post-operative management of patients.

Performance criteria

11.1 Provides pre-operative assessment and advice.

Indicators

Indications and contra-indications for surgery; types of surgery that may be the provision of pre- and post-performed patient's condition and expectations taken into consideration; operative management of patients.

Discusses risks, benefits, complications and alternatives with patient.

11.2 Provides post-surgical follow-up assessment and monitoring of signs according to the surgeon's requirements and the procedure undertaken.

Indicators

Normal course of recovery, degree of monitoring, intervention and reporting, referral, recalls.

11.3 Provides emergency management for observed post-surgical complications.

Indicators

Arranges referral, communication with other relevant professionals.

Pharmacological regimens.

11.4 Arranges appropriate referral for further post-operative treatment or assessment of complications.

Indicators

Notes urgency of referral, suitable practitioner, etc.

Outcome E-12: Provide advice on vision in the workplace.Performance criteria

12.1 Visual screenings for occupational or other purposes are provided.

Indicators

Ability to modify full examination to include only those tests necessary for a visual screening.

12.2 Advice is provided on eye protection, visual standards and visual ergonomics in the workplace.

Indicators

Industrial and environmental analysis, radiation protection, safety lenses, tinted safety lenses, occupational lens designs, lighting, ergonomic design, knowledge of lighting and vision standards, Occupational Health and Safety Laws.

12.3 Individuals are counselled on the suitability of their vision for certain occupations.

Indicators

Industry and other occupational requirements are known for colour vision, visual acuity, spectacle powers, etc. Consultations with employee and employer organisations take place.

12.4 Certification of an individual's visual suitability for designated occupations or tasks is provided.

Indicators

Report written including all relevant information; vision standards for different occupations. Certification is determined against written visual standards of the industry or employer.

SECTION F: RECORDING OF CLINICAL DATA

The recommendations are based on the fact that the optometrist shall demonstrate the following outcomes. He/she must be able to:

Outcome F-1: Ensure that data are organised in a legible, secure, accessible, permanent and unambiguous manner.

Performance criteria

- 1.1 All relevant information pertaining to the patient is recorded in a format which is understandable and usable by the optometrist and his/her colleagues.

Indicators

Date, patient's name and address, examining practitioner, history, procedures, clinical observations, diagnoses, results and management strategies, standard terminology, photographic, video, written and manner computer records, records of consultations and other contacts.

Medications, medication prescribed, timing of review, advice to the patient, microbiological tests and results, modifications to management, initialling and dating of corrections, signature, record release forms, referral letters.

- 1.2 Patient records are kept in a readily retrievable format and are physically secure.

Indicators

Correct labelling, cross-referencing, staff understand filing system [legible and permanent (i.e. not pencil)] and, if electronic, backed up.

Outcome F-2: Maintain confidentiality of patient records.

Performance criteria

- 2.1 Understands the need to ensure that access to records is limited to authorised personnel.

Indicators

Security of records, confidentiality, knowledge of relevant laws.

- 2.2 Information from patient records and/or obtained from patients is released only with the consent of the patient.

Indicators

Maintains records in accordance with ethical rules and the law, patients' names and addresses are not released for use in mailing lists. Anonymity of the patient is maintained when confidential information regarding the patient is discussed with others, unless those parties are engaged in the management of the patient. Knowledge of relevant laws.

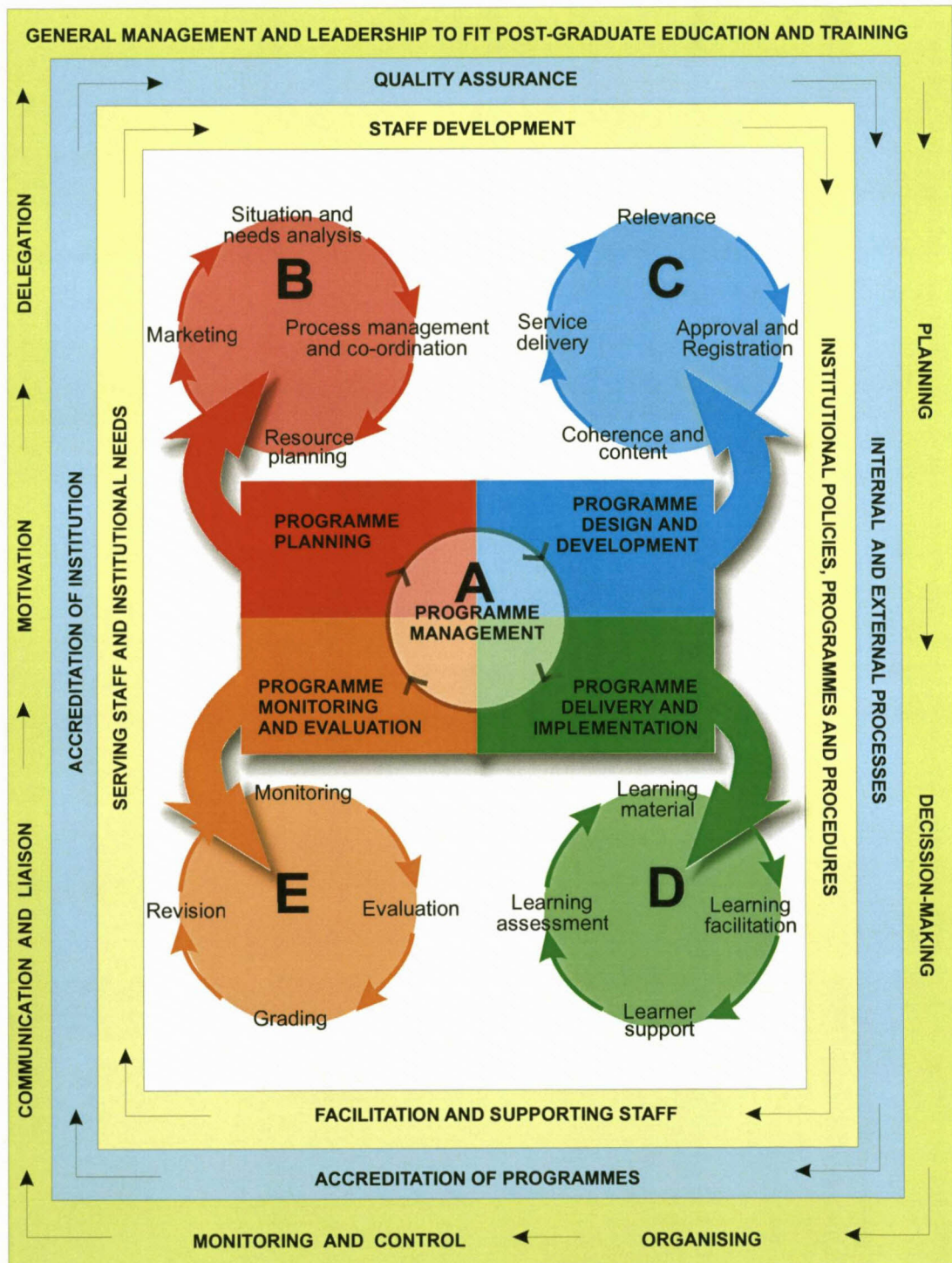
8.4 SUMMATIVE PERSPECTIVE

In summary, the researcher is of the opinion that - if everything from the literature (also compare UFS 2002a, 2002b), the empirical investigation and the recommendations are taken into consideration - it would be possible to propose the following framework as a starting point for post-graduate education and training programmes.

The framework as proposed in Figure 8.4 serves as a point of departure to develop a structured clinical post-graduate Master's Optometry

Programme. It enhances the most important processes, but it has to be borne in mind that it does not completely take into consideration all possible aspects. The framework can in short be illustrated as follows:

FIGURE 8.4: A PROPOSED FRAMEWORK WHICH CAN SERVE AS A POINT OF DEPARTURE FOR THE DEVELOPMENT OF POST-GRADUATE EDUCATION AND TRAINING PROGRAMMES IN OPTOMETRY



A. PROGRAMME MANAGEMENT

In order to ensure effective programme management, aspects like, for example, the following will have to be in place:

- The programme must be lodged in the most appropriate programme site.
- The programme must be researched/scrutinised and accepted by all the relevant decision-making structures (at faculty and institutional level).
- The programme must be accepted by all the applicable national bodies (e.g. the DoH, the DoE, higher education, SAQA) and be registered on the NQF.
- The programme must be planned, developed and implemented within the guidelines of Professional Bodies and must meet with all the further requirements of these bodies.
- The programme must have a suitable programme director with the necessary knowledge, skills and authority in order to manage the programme effectively.
- The required processes and mechanisms, namely planning, design and development, delivery and implementation, as well as monitoring and evaluation, must be in place and must also be managed effectively.

B. PROGRAMME PLANNING

- **Situation and needs analysis**
 - Taking into account all relevant internal and external factors which play a role.
 - Determining whether a need exists to establish the programme by determining the needs of society, the profession and role-players.

- Decision-making with regard to the most appropriate programme site and the assurance that the Faculty/School/Department accepted ownership of and responsibility for the programme.
- **Process management and co-ordination**
 - The programme director must have the proven ability and the required authority to effectively manage and co-ordinate the process, while the responsibilities must be clearly outlined.
 - Processes must be in place with a view to democratic decision-making; efficient communication channels; procedures for effective co-operation; delivery procedures; effective working relationships among the programme director and the heads of departments and the module leaders/staff.
- **Resource planning**
 - **Adequate and suitable human resources**
 - Availability of lecturers and support staff.
 - Staff with adequate and relevant qualifications, expertise and experience.
 - Securing suitable experts from across campus and also from outside institutions and the private sector in a cost-effective manner.
 - **Adequate and suitable financial resources**
 - Availability of and utilising financial resources optimally to market and develop the programme.
 - Continuously obtaining new financial resources.
 - Affordability of programme for students.
 - Financial provision for the support structure of the programme.
 - Financial provision for buying in external expertise and remuneration for work after hours.

- **Adequate and suitable physical resources**
- Suitable venues for contact learning and clinical teaching.
- Suitable physical resources to develop learning material, apparatus, teaching media, computer equipment and library resources.
- Effective use of physical resources by students and lecturers.
- **Marketing**
- Effective and professional marketing and advertising processes.
- Relevant inputs of all role-players with regard to the process.
- Responding structures to follow up enquiries.

C. PROGRAMME DESIGN AND DEVELOPMENT

◦ **Relevance**

Relevance of the programme with regard to the following:

- Vision and mission of the institution.
- Regional, national, career, human resources, professional, learners' and international societal needs.
- Lifelong learning.
- Appropriate admission requirements which optimise learners' chances of success.
- The recognition of prior learning (RPL).

◦ **Approval and registration**

- Familiarisation of staff with the format for submitting programmes.
- Compliance with level descriptors which apply to the relevant NQF level.
- Compliance with the generic requirements which were stated for programmes.
- Competence profiling (see Appendix D) for structured clinical Master's programme.
- Approval by the relevant institutional decision-making structures.

- Approval by the appropriate national and professional bodies.
- **Coherence and content**
 - Clear coherence among all the components of the programme.
 - Content should make adequate provision for the development of academic skills.
 - Integration of disciplines/themes (modular format).
 - Programme components contribute to programme outcomes.
- **Service delivery**
 - The operationalisation of service delivery.
 - Input into financial and supply controls.
 - Managerial input and quality assurance.

D. PROGRAMME DELIVERY AND IMPLEMENTATION

◦ **Learning material**

The learning material:

- contributes to the successful achievement of programme outcomes;
- is selected in terms of predetermined guidelines;
- accommodates acceptable principles of instructional design;
- promotes self-activity and open learning;
- is approved/in line with professional guidelines.

◦ **Learning facilitation**

- Teaching/learning methods are suitable in relation to the learners and for the mode of delivery of the programme.
- Teaching/learning methods reflect the recent tendencies in the discipline.
- Teaching/learning methods are flexible and adaptable.

- Teaching/learning methods are flexible and adaptable.
- Post-graduate supervision takes place effectively.
- **Learner support**
 - Appropriate academic support and supervision of post-graduate students.
 - Support mechanisms and procedures are in place and used effectively.
 - Structures exist for dealing with student complaints.
- **Learning assessment**
 - Appropriate integrative assessment methods for every level of the programme.
 - Assessment is based on good principles (unbiased, valid, reliable and justifiable).
 - Clearly defined assessment criteria exist.
 - Lecturers are trained in recent assessment methods to use them correctly.
 - Formative as well as summative assessment is used.

E. PROGRAMME MONITORING AND EVALUATION

◦ Monitoring

The process of monitoring the implementation process is a continuous one and is recorded on a regular basis.

◦ Evaluation

- The evaluation and revision of the programme take place on a continuous basis.

- Efficient and a variety of mechanisms for the regular review of all the components of programme management.
- Inputs from the profession/industry/national bodies with regard to various aspects of the programme are handled responsibly.
- Mechanisms are used to collect evidence showing that learners have achieved the level of competence required.
- Assessment/review and needs analyses of support structures for learners to provide for changing professional needs.
- Record-keeping in programme context for student data and comparative research studies.

- **Grading**

- Grading of programme effectiveness and efficiency with regard to proposed outcomes, the required level of competence, consumer expectations, cost-effectiveness, RPL, admission requirements, success rates, learner satisfaction, etc.

- **Revision**

- Making the proposed changes, supervising the whole process of monitoring, evaluation, grading and revision.

COMMENTS

Programme management and the four processes as discussed must go hand in hand with the necessary staff development actions. Quality assurance (internal and external processes) and the accreditation of programmes and institutions must be taken into account at all times.

General management and leadership to fit post-graduate education and training as one of the issues in the optometry profession must receive attention as soon as possible.

Some of the aspects which were dealt with in the framework for the development of a structured Master's programme are also applicable for the development of a Ph.D. Programme in Optometry. Although a competence profile for a Ph.D. qualification (Appendix E) is included, it is recommended that a specific framework for a Ph.D. programme be developed in due course and that special attention will be devoted to post-graduate supervision in such a framework.

8.5 CONCLUSION

The recommendations made in this chapter are based on the fact that post-graduate education is essential and the reasons for this were clearly outlined (see 8.1.1). At least six ways in which post-graduate training will contribute to addressing existing needs were delineated (see 8.1.2), while this kind of training in optometry and its role in post-apartheid South Africa were also explicated in 8.1.3. Subsequently the essential non-negotiable premises of post-graduate optometry education were defined (cf. 8.2) before the actual recommendations were made in 8.3. The first aspect of the recommendations to be dealt with, was the points of departure for the recommendations in the study to be effectively implemented (see Figure 8.1; 8.3.1). This was followed by an overview of the different role-players who need to be recognised and involved (see Figure 8.2; 8.3.2) and, subsequently, by recommendations with regard to the different aspects of post-graduate education and training (see Figure 8.3; 8.3.4). Hereafter recommendations concerning CPD and the different aspects thereof were made (cf. 8.3.4).

Finally, recommendations regarding clinical competence based on public needs were made in 8.3.5. Professional competencies were divided into six sections, each of which was dealt with thoroughly and in detail under the headings "Outcomes"; "Performance criteria"; and "Indicators". The six sections are the following:

- A: Clinical responsibilities.
- B: Patient history.
- C: Patient examination.
- D: Diagnosis.
- E: Patient management.
- F: Recording of clinical data.

This chapter will be followed by a summary of the conclusions and the limitations of the study in Chapter 9.

CHAPTER 9

SUMMARY OF CONCLUSIONS AND LIMITATIONS OF THE STUDY

9.1 INTRODUCTION

In this chapter the main conclusions and the limitations of the study will be highlighted.

In addition, recommendations will be made with regard to further studies which may be undertaken.

9.2 CONCLUSION

With reference to the above-mentioned aspects, the researcher wishes to accentuate the following:

- The researcher is of the opinion that the overall goal and objectives of the study were addressed and realised and that meaningful recommendations were made.
- The recommendations made in this study are in line with the recommendations in the documents which concern *Vision 2020 – The Right to Sight* (IAPB s.a.c,d), as well as the appropriate sections of the Education White Paper 3 (RSA DoE 1997c) and the White Paper for Health (RSA DoH 1997). Similarly the recommendations in this study are in synergy with the principles and guidelines in the documents regarding the *Global Vision Care Campaign* (Di Stefano 2001) and The National Prevention of Blindness Programme (RSA DoH 2000).

- Recommendations on clinical competencies are in line with international norms, in particular those in the two-tier Australian Optometric Therapeutic Competency Standards 2000, as they conform to a ladder approach.
- The researcher concludes that in South Africa, based on current undergraduate programmes, there is a need for a post-graduate programme aimed at providing education and training to learners in order to become competent to render a professional specialist service in optometry which will enhance the discipline through research.
- It follows from the recommendations that the articulation between the under- and post-graduate programmes will result in an overview of the undergraduate programme in order to train more appropriate at this level and for the public sector in particular.
- From the recommendations, it is clear that the role and functions of the Professional Board (cf. 4.5.1; 4.6.3) are pivotal to the success of education at both under- and post-graduate level.
- This study makes a contribution to the way in which optometry education should evolve; the expansion of the role of the optometrist; and the profession's transformation into a fully-fledged health profession.
- From this study it is clear that the transformation of the South African education and health care systems is a reality and the changing health scene is well established. Indirectly this situation calls for a new focus on Public Health within the optometry teaching programmes.
- Indirectly the study also highlights the fact that current relevant clinical post-graduate programmes lack co-ordination between providers. This

calls for a national strategy sponsored by the SGB of the Professional Board.

- A further conclusion is that the current optometry educational model fails to address the immediate public need. This study also provides at least some of the guidelines in the design of a new model.
- What is furthermore clear, is that CPD (Optometry) is in its infancy in South Africa and its success depends on whether it can influence the delivery of services positively. However, it is of paramount importance that, for CPD to be effective, it will need to articulate with formal qualifications.
- It is evident from this extensive report that the research study in question will make an extremely relevant contribution to optometry education and training. Few references written in the South African context are available. This study could therefore lay the foundation and serve as a reference for a scientific point of departure, thereby introducing a new era of development in a clinical relevant context in the optometry profession. The educational foundation, as supported by the literature and the empirical research, is extensive. In addition, it will be valuable and could serve as background and a point of departure to further develop the proposed framework in a didactic responsible manner.

9.3 LIMITATIONS OF THE STUDY

The researcher recognises the following limitations of the study:

- The opinion on the public need was limited, as the researcher sought this opinion from the respondents who were optometrists. However, it

was done in this manner as there had been no preceding study in the field and the costs of a study based on the broader public opinion would have been prohibitive.

- Literature and statistical sources of the South African situation were limited in that epidemiological data are incomplete and fragmented. Conclusive proof of this statement is that, in the full report of the *South Africa Demographic and Health Survey 1998*, there is information about various categories, e.g. oral health and care, but there is absolutely no information on eye care or ocular diseases (RSA DoH 1998; personal communication with Prof. L. Botes). In addition, formal optometry clinical training stagnated during the apartheid years.

9.4 RECOMMENDATION FOR FURTHER STUDIES

For the recommendations in this study to be successfully implemented, it is obvious that a model and a detailed curriculum plan for post-graduate optometric education, which may form the basis of a further study, will be required.

9.5 CONCLUSIVE REMARKS

Besides the recommendation for further study in 9.4, the researcher is of the opinion that the profession as a whole needs a leadership and management model that would ensure cohesion between all the facets of the eye care field. These facets must include, but not be limited to, the following elements:

- Providers of education.
- The quality assurer.
- Professional associations.
- The State.

- Clinical training networks.
- Service delivery structures.
- Programme development at all levels.
- CPD articulation with all education and training structures.
- Neighbouring countries.

Such a model will provide direction and momentum to education- and needs-driven eye care services in South Africa and will open the way for the profession to develop to its full potential as a major player in the eye care team.

It is therefore the explicit wish of the researcher to pursue such a model as part of a future study.

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SUMMARY

Key terms: Needs and opportunities; post-graduate optometry education and training; National Prevention of Blindness Programme; *Vision 2020 – The Right to Sight*; White Papers for Education and Training and for Health; career ladder of the optometrist; continuing professional development; public needs and public health; Professional Board; education and health care systems; clinical competencies.

This research study was undertaken to determine the needs and opportunities for post-graduate education and training programmes in optometry in post-apartheid South Africa. The rationale for this study can be found in the stimuli which contributed to the commencement of the study, namely the *Vision 2020 – The Right to Sight* Campaign of the World Health Organisation that resulted in the resolution of the World Council of Optometry, entitled the *Global Vision Care* Campaign. That the above-mentioned are fully endorsed by the South African government, is substantiated by policy documents such as the White Paper for the Transformation of the Health System (RSA DoH 1997) and the National Prevention of Blindness Programme (RSA DoH 2000). These aspects resulted in, *inter alia*, the identification of issues like preventable blindness; the importance of public health; public needs; the lack of human resource development; demographic representation; and the lack of clear clinical competency guidelines.

The problem statement pertains to the career ladder for optometry, already accepted in South Africa. It opened the door for magister programmes, allowing practitioners to develop clinical and speciality skills within the scope and parameters set forth and regulated by the Professional Board for Optometry and Dispensing Opticians. Despite this career ladder, there is a need for a programme aimed at providing education and training to learners in order to become competent to render a professional specialist

service in optometry and to contribute to the enhancement of the discipline through research. Such a programme must afford professional optometrists the opportunity to further their education and training in terms of the optometry career ladder, in addition to gaining certain therapeutic privileges and speciality skills.

The research took the form of a descriptive and an exploratory survey, comprising a literature review and an empirical investigation. The literature study covered two aspects, namely in the first place factors influencing the design of optometry education and training programmes. Features like the changing health scene; the history of the development of the optometry profession; the transformation of the health care system in South Africa and the eye care needs of the South African population; as well as the transformation of education and training in South Africa were dealt with. The second aspect covered by the literature review was a selective review of optometry training, which dealt with optometric education and training in South Africa; its history and the current state of affairs; as well as legislation in South Africa. Subsequently optometric training in the rest of Africa and the developed world was discussed in broad terms. The empirical study entailed a questionnaire survey carried out among South African optometry practitioners. A quantitative design was employed, but – because the questionnaire also contained some open-ended questions – the study had a qualitative dimension as well.

The overall goal and objectives were to make a contribution to eye care and the prevention of blindness, as well as to make a meaningful contribution to education and training in optometry. The aim was to determine the needs of optometrists with regard to optometric education and training and the opportunities existing in South Africa, measured against the background of the needs of society (from the optometrists' perspective). The objectives were in the first place to enhance competence beyond graduate level, thereby better serving the eye care

needs of the population of South Africa in particular and, in an indirect way, of neighbouring countries. In the second place the objective was to make recommendations concerning the delivery of relevant and applicable post-graduate studies at Optometry Schools/Departments. All of these aspects were achieved by conducting the above-mentioned literature study and by using the findings from the questionnaire.

The research design consisted of a needs analysis in the form of the questionnaire survey used as the method to determine the needs of optometrists in respect of post-graduate studies, as well as to obtain their views regarding existing opportunities in this regard. The questionnaire consisted of six categories, each containing five different types of items (cf. 5.4.1; Appendix C).

Four rounds of questionnaires were sent out over a period of 16 weeks and the response rate was 70.2% (cf. 5.5). After the returned questionnaires had been analysed by the Department of Biostatistics at the University of the Free State, it became possible for the researcher to draw conclusions; discuss the findings; make recommendations; and identify the limitations of the study. Each of the six categories was followed by a summative conclusion as well as by the main findings of the content of that specific category. The main findings as well as those obtained via the literature study, enabled the researcher to make recommendations on post-graduate optometric education in South Africa. Different factors, which are listed under the following headings and subheadings, influenced these recommendations:

- Points of departure: These include accessibility; affordability; personal development; professional development; addressing public need; addressing higher education and health policies; addressing research; addressing management skills; and addressing HPCSA Regulations.

- Role-players: The role-players include, *inter alia*, students; providers; the Professional Board; individual optometrists and associations; industry; the public; the State; professional stakeholders; SAQA; and the CHE.
- Post-graduate optometric education and training itself was divided into three aspects, namely:
 - Recommendations concerning the programme.
 - Recommendations with regard to CPD.
 - Recommendations on clinical competence based on public needs.

The recommendations on clinical competencies were extensively detailed, since they may serve as a basis for the SGB of Optometry and Opticianry. As this study also focused on the public need, the detail in the recommendations regarding competency will help to ensure that the care which the public receive, is optimised. In order not to confuse the professional competencies with the categories of the questionnaire, they were divided into six sections, namely Sections A to F. Each of these sections was divided under the headings "Outcomes"; "Performance criteria"; and "Indicators". Hereafter a framework as a starting point for post-graduate education and training programmes was proposed.

In summation, the researcher is of the opinion that the overall goal and objectives of the study were addressed and realised and that meaningful recommendations were made. The latter are in line with legislation and with the policy documents referred to earlier. In addition, recommendations on clinical competencies are in line with international norms.

Conclusions are, *inter alia*, as follows:

- Based on current undergraduate programmes, there is a need for a post-graduate programme aimed at providing education and training to learners.

- The articulation between the under- and post-graduate programmes will result in an overview of the undergraduate programme.
- The role and functions of the Professional Board are pivotal to the success of education at both under- and post-graduate level.
- As the current optometry educational model fails to address the immediate public need, this study provides at least some of the guidelines in the design of a new model.
- It is clear that CPD (Optometry) is in its infancy in South Africa and its success depends on whether it can influence the delivery of services positively. It is of the utmost importance, however, that - for CPD to be effective - it will need to articulate with formal qualifications.

The researcher realises the limitations of the study, namely in the first place that the opinion on the public need was limited, as it was optometrists who were the respondents to this category of the questionnaire. In the second place, literature and statistical sources of the South African situation were limited in that epidemiological data are incomplete and fragmented. In addition, clinical training in optometry had stagnated during the apartheid years.

It is recommended that this study be followed by the compilation of a model for post-graduate education and the development of a detailed curriculum plan, as that is essential in order for these recommendations to be successfully implemented.

The researcher is of the opinion that the profession as a whole needs a leadership and management model that would ensure cohesion between all the facets of the eye care field. These facets must include, but not be limited to, elements like the providers of education; the quality assurer; professional associations; the State; clinical training networks; service delivery structures; programme development at all levels; as well as CPD articulation with all education and training structures and neighbouring

countries. Such a model will provide direction and momentum to education- and needs-driven eye care services in South Africa and will open the way for the profession to develop to its full potential.

OPSOMMING

Sleuteltermes: Behoeftes en geleenthede; nagraadse optometrie-onderrig en -opleiding; Nasionale Voorkoming van Blindheid-program (*National Prevention of Blindness Programme*); *Vision 2020 – The Right to Sight*; Witskrifte vir Onderwys en Opleiding en vir Gesondheid; loopbaanleer vir die optometris; voortgesette professionele ontwikkeling; openbare behoeftes en openbare gesondheid; Professionele Raad; onderwys en gesondheidsorgstelsels; kliniese vaardighede.

Hierdie navorsingstudie is onderneem om die behoeftes en geleenthede vir nagraadse onderrig- en opleidingsprogramme in optometrie in Suid-Afrika gedurende die periode na apartheid te bepaal. Die grondrede vir hierdie studie is geleë in die aansporing wat bygedra het tot die aanvang van die studie, naamlik die *Vision 2020 – The Right to Sight*-veldtog van die Wêreldgesondheidsorganisasie, wat die resoluë van die Wêreldraad van Optometrie met die titel die *Global Vision Care Campaign* tot gevolg gehad het. Dat bogenoemde ten volle deur die Suid-Afrikaanse regering ondersteun word, word bewys deur beleidsdokumente soos die Witskrif vir die Transformasie van die Gesondheidstelsel (RSA DoH 1997) en die Nasionale Voorkoming van Blindheidprogram (RSA DoH 2000). Hierdie aspekte het onder andere die identifikasie van vraagstukke soos voorkombare blindheid; die belangrikheid van openbare gesondheid; openbare behoeftes; die gebrek aan menslike hulpbronontwikkeling; demografiese verteenwoordiging; en die gebrek aan duidelike kliniese vaardighedsriglyne tot gevolg gehad.

Die probleemstelling het betrekking op die loopbaanleer vir optometrie wat alreeds in Suid-Afrika aanvaar is. Dit het die deure geopen vir magisterprogramme en praktisyns die geleentheid gebied om kliniese en spesialisvaardighede te ontwikkel binne die omvang en parameters wat deur die Professionele Raad vir Optometrie en Resepterende

Oogkundiges (*Professional Board for Optometry and Dispensing Opticians*) daargestel en gereguleer word. Ten spyte van hierdie loopbaanleer bestaan daar 'n behoefte aan 'n program wat daarop gemik is om onderrig en opleiding aan leerders te voorsien met die oog daarop om 'n professionele spesialisdiens in optometrie te lewer en tot die verbetering van die dissipline deur middel van navorsing by te dra. So 'n program moet professionele optometriste die geleentheid bied om hul onderrig en opleiding in terme van die loopbaanleer te bevorder, asook om sekere terapeutiese voorregte en spesialiteitsvaardighede te verkry.

Die navorsing het die vorm van 'n beskrywende en 'n verkennende ondersoek aangeneem wat uit 'n literatuuroorsig en 'n empiriese ondersoek bestaan het. Die literatuuroorsig het twee aspekte gedek, naamlik in die eerste plek faktore wat tot die ontwerp van optometrie-onderrig en opleidingsprogramme bydra. Aspekte soos die veranderende gesondheidsomgewing; die geskiedenis van die ontwikkeling van die optometrie-professie; die transformasie van die gesondheidsorgsisteem in Suid-Afrika en die oogsorgbehoefte van die Suid-Afrikaanse bevolking; asook die transformasie van onderrig en opleiding in Suid-Afrika is hanteer. Die tweede aspek van die literatuuroorsig was 'n selektiewe oorsig van optometrie-onderrig, wat optometrie-onderrig en -opleiding in Suid-Afrika hanteer het; die geskiedenis daarvan en die huidige stand van sake; asook wetgewing in Suid-Afrika. Vervolgens is optometrie-onderrig en -opleiding in die res van Afrika en die ontwikkelde wêreld in breë terme bespreek. Die empiriese studie het 'n vraelys ingesluit wat deur Suid-Afrikaanse optometriepraktisyns ingevul is. 'n Kwantitatiewe ontwerp is gevolg, maar – omdat die vraelys ook 'n aantal oop vrae bevat het – het die studie tog ook 'n kwalitatiewe dimensie gehad.

Die oorhoofse doel en oogmerke was om 'n bydrae tot oogsorg en die voorkoming van blindheid te lewer, asook om 'n betekenisvolle bydrae tot

onderrig en opleiding in optometrie te lewer. Die hoofdoel was om die behoeftes van optometriste met betrekking tot optometrie-onderrig en -opleiding - asook die geleenthede wat in Suid-Afrika bestaan - te bepaal, gemeet teen die agtergrond van die behoeftes van die gemeenskap (vanuit die perspektief van die optometriste). Die onderlinge oogmerke was in die eerste plek om bekwaamheid bo die vlak van graduering te verhoog en om sodoende die oogsorgbehoefte van die Suid-Afrikaanse bevolking in die besonder en, indirek, ook dié van die aangrensende lande te dien. In die tweede plek was die oogmerk om aanbevelings te maak rakende die onderrig van relevante en toepaslike nagraadse studies in Optometrieskole/-departemente. Al hierdie aspekte is bereik deur middel van bogenoemde literatuurstudie en deur die bevindinge van die vraelys te gebruik.

Die navorsingsontwerp het bestaan uit 'n behoeftebepaling in die vorm van die vraelysondersoek wat gebruik is as die metode om die behoeftes van die optometriste ten opsigte van nagraadse studies te bepaal, asook om hul standpunte aangaande bestaande geleenthede in hierdie verband te verneem. Die vraelys het uit ses kategorieë bestaan, waarvan elk vyf verskillende soorte items bevat het (vgl. 5.4.1; Aanhangsel C).

Vier rondtes vraelys is oor 'n periode van 16 weke uitgestuur en die responskoers was 70.2% (vgl. 5.5). Nadat die vraelys terug ontvang is deur die Departement van Biostatistiek aan die Universiteit van die Vrystaat ontleed is, het dit vir die navorser moontlik geword om gevolgtrekkings te maak; om die bevindinge te ontleed; om aanbevelings te maak; en om sodoende die beperkinge van die studie te identifiseer. Elk van die ses kategorieë is deur 'n samevattende opsomming gevolg, asook deur die hoofbevindinge van die inhoud van daardie spesifieke kategorie. Die hoofbevindinge, asook daardie wat deur middel van die literatuurstudie bekom is, het die navorser in staat gestel om aanbevelings te maak rakende nagraadse optometrie-onderrig in Suid-Afrika. Verskeie

faktore, wat onder die volgende hoofde en subhoofde gelys word, het hierdie aanbevelings beïnvloed:

- Vertrekpunte: Hierdie sluit in toeganklikheid; bekostigbaarheid; persoonlike ontwikkeling; die aanspreek van openbare behoeftes; die aanspreek van hoëronderrig- en gesondheidsbeleid; die aanspreek van navorsing; die aanspreek van bestuursvaardighede; en die aanspreek van *HPCSA*-regulasies.
- Rolspelers: Die rolspelers sluit onder andere in studente; voorsieners; die Professionele Raad; individuele optometriste en assosiasies; industrie; die publiek; die Staat; professionele belanghebbendes; die Suid-Afrikaanse Kwalifikasie-owerheid (SAKO) (SAQA); en die Raad op Hoër Onderwys (RHO) (*CHE*).
- Nagraadse onderrig en opleiding is in drie aspekte verdeel, naamlik:
 - Aanbevelings rakende die program.
 - Aanbevelings met betrekking tot voortdurende loopbaanontwikkeling.
 - Aanbevelings rakende kliniese bevoegdheid gebaseer op openbare behoeftes.

Die aanbevelings rakende kliniese vaardighede is tot in die fynste besonderhede uiteengesit, aangesien dit as 'n basis vir die Standaard-genererende Liggaam (SGL) van Optometrie en Optici (*Opticianry*) mag dien. Aangesien hierdie studie ook op openbare behoeftes gefokus het, sal die detail in die aanbevelings betreffende bekwaamheid help om te verseker dat die sorg wat die publiek ontvang, verhoog word. Om te verhoed dat die professionele vaardighede nie met die kategorieë van die vraelys verwar word nie, is hulle in ses seksies verdeel, naamlik Seksies A tot F. Elk van hierdie seksies is in die afdelings "Uitkomst", "Prestasiekriteria" en "Indikatore/Aanwysers" verdeel. Hierna is 'n raamwerk as 'n vertrekpunt vir nagraadse onderrig- en opleidingsprogramme voorgestel.

Opsommenderwys is die navorser van mening dat die oorhoofse doel en onderlinge oogmerke van die studie aangespreek en verwesenlik is en dat betekenisvolle aanbevelings gemaak is. Laasgenoemde stem ooreen met wetgewing en met die beleidsdokumente waarna vroeër verwys is. Verder stem aanbevelings rakende kliniese bevoegdheide met internasionale norme ooreen.

Gevolgtrekkings sluit onder andere die volgende in:

- Gebaseer op huidige voorgraadse programme, bestaan daar 'n behoefte aan nagraadse programme wat gemik is op die voorsiening van opleiding en onderrig aan leerders.
- Die artikulasie tussen die voor- en nagraadse programme sal 'n oorsig van die voorgraadse programme tot gevolg hê.
- Die rolle en funksies van die Professionele Raad is deurslaggewend vir die sukses van onderrig beide op voor- en nagraadse vlak.
- Aangesien die huidige optometrie-onderrigmodel nie daarin slaag om in die onmiddellike behoeftes van die publiek te voorsien nie, voorsien hierdie studie in ten minste sommige van die riglyne wat nodig is vir die ontwerp van 'n nuwe model.
- Dit is duidelik dat VLO (Optometrie) in sy kinderskoene in Suid-Afrika is en die sukses daarvan hang daarvan af of dit die lewering van dienste positief kan beïnvloed. Dit is egter van deurslaggewende belang dat, vir VLO om effektief te wees, dit met formele kwalifikasies sal moet artikuleer.

Die navorser besef die beperkinge van die studie, naamlik in die eerste plek dat die opinie van die openbare behoefte beperk was, aangesien dit optometriste was wat die respondente in hierdie kategorie van die vraelys was. In die tweede plek was literatuur en statistiese bronne vir die Suid-Afrikaanse situasie beperk in soverre epidemiologiese gegewens

onvolledig en gefragmenteerd was. Verder het kliniese opleiding in optometrie gestagneer gedurende die apartheidsperiode.

Dit word aanbeveel dat hierdie studie gevolg word deur 'n model vir nagraadse studie en die ontwikkeling van 'n gedetailleerde kurrikulumplan, aangesien dit noodsaaklik is met die oog op die suksesvolle implementering van hierdie aanbevelings.

Die navorser is van mening dat die professie as geheel 'n leierskaps- en bestuursmodel benodig wat 'n samehang en verband tussen al die fasette van die oogsorgveld sal verseker. Hierdie fasette moet insluit - maar nie beperk wees nie - tot elemente soos die voorsieners van onderrig; die kwaliteitsversekeraar; professionele verenigings; die Staat; kliniese opleidingsnetwerke; en VLO-artikulasie met alle onderrig- en opleidingstrukture, asook met aangrensende lande. So 'n model sal rigting en momentum aan onderrig- en behoeftegedrewe oogsorgdienste in Suid-Afrika gee en sal die weg baan vir die professie om tot sy volle potensiaal te ontwikkel.

APPENDIX A

Division of Educational Development
Faculty of Health Sciences
University of the Free State
PO Box 339
BLOEMFONTEIN
9300
SOUTH AFRICA

3 December 2001

Dear Sir/Madam

Questionnaire to be filled in by practising optometrists with a view to determining the needs and opportunities for post-graduate education and training programmes for the optometry profession in post-apartheid South Africa

I would hereby like to kindly request you to devote some of your valuable time to fill in the accompanying questionnaire (see Appendix C).

The opportunity for the profession of optometry to play a broader role in the field of eye care under the new dispensation in South Africa is obvious. Any growth in professional scope and recognition of specialised skills can only be based on educational advancement which addresses both the needs of the public and the profession. This questionnaire forms part of a Master's thesis which will propose future post-graduate development in the profession and it will undoubtedly impact on undergraduate programmes as well. Your co-operation is therefore vital in order to determine educational direction and development based on scientific fact. Please note that it is of cardinal

importance to obtain a high response rate to ensure the optimum reliability of the results of this survey.

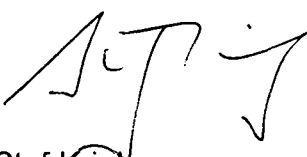
When filling in the questionnaire, please follow these instructions:

- Definitions to key concepts are provided in Appendix B. Please study them before you attempt to fill in the questionnaire.
- Should you find the space for comment on the questionnaire inadequate, please write your comments on the reverse side of that specific page.
- After you have completed the questionnaire, you can either return it in the self-addressed envelope included herewith, or you can e-mail it to gndkln@med.uovs.ac.za not later than 3 January 2002.

Responses will be treated with the utmost degree of discretion and confidentiality. Your name or the name of your practice will not be disclosed anywhere or in any way.

Your kind co-operation in filling in the questionnaire promptly and in as thorough a manner as possible will be sincerely appreciated.

Kind regards



Stef Krier

APPENDIX B

LIST OF DEFINITIONS OF KEY CONCEPTS

1. DEFINITIONS

In order to fill in the questionnaire correctly and to the best of one's ability, it is necessary that certain concepts which are referred to, have to be defined and explained. This will subsequently be done.

1.1 Target population

The term "target population" has repeatedly been referred to. It is therefore essential to understand what it entails. According to Halldorson (1999:s.p.), it is the "[p]opulation to which we hope to generalize the findings of a research study. In most research, the entire target population is not accessible to the researcher".

For the purposes of this research, the target population is the practising optometrists in South Africa.

1.2 Goal of the study

The broad definition of the term "goal" is as follows: "A goal is a direction-setter. It is an ideal future end, condition or state related to the public health, safety or general welfare toward which planning and planning implementation measures are directed. A goal is a general expression of community values and, therefore, abstract in nature" (El Dorado County Planning Department 2002:s.p.). According to The Evaluation Center of the Western Michigan University (2002:s.p.), it is "[a] statement of intent or an end that a person or a group strives to attain".

For the purposes of this study, the goal is determining the needs and opportunities for post-graduate education and training programmes for the optometry profession in post-apartheid South Africa.

1.3 Stumbling-blocks

According to *The Reader's Digest Oxford Wordfinder* (Tulloch 1993:1548), a stumbling-block is "an obstacle or circumstance causing difficulty or hesitation", while the *Reader's Digest Wordpower Dictionary* (Browne 2002:974) defines it as "an obstacle to progress".

1.4 Activities

"Activity" can be defined in various ways. Browne (2002:18) defines it as "the exertion of energy; vigorous action" or as "a particular occupation or pursuit". Synonyms for this word are, interestingly enough, provided as "pursuit", "occupation", "vocation", "work", "employment", etc. *The American Heritage Dictionary of the English Language* (2000:s.p.) agrees with the above definition and adds that it also means "An educational process or procedure intended to stimulate learning through actual experience". The *Merriam-Webster Dictionary* (s.a.:s.p.) provides the following definition: "a process actually or potentially involving mental function; *specifically*: an educational procedure designed to stimulate learning by firsthand experience". The Committee on Family Issues, Inc. (COFI 2000:s.p.) defines "activities" in its *FRN Glossary* as "Specific action steps that are planned to accomplish an objective".

1.5 Opportunities

According to *The Reader's Digest Oxford Wordfinder* (Tulloch 1993:1065) "opportunity" means "a good chance; a favourable occasion" or "a chance or opening offered by circumstances". *The American Heritage Dictionary*

of the *English Language* (2000:s.p.) concurs with this definition by saying that it is "A favorable or advantageous circumstance or combination of circumstances"; "a favorable or suitable occasion or time" or "A chance for progress or advancement".

1.6 Needs

The Reader's Digest Oxford Wordfinder (Tulloch 1993:1016) defines "need" as follows: "stand in want of"; "require"; "be under the necessity or obligation"; "a want or requirement"; "circumstances requiring some course of action"; "necessity"; "destitution"; or "poverty". *The American Heritage Dictionary of the English Language* (2000:s.p.) provides virtually the same definition by saying that it is "A condition or situation in which something is required or wanted" and that it is "Something required or wanted; a requisite". Another interesting definition is that provided by Nordby (1997:s.p.): "A word often used in such phrases as 'behavioral needs' and 'educational needs' which can only be understood when the goals are known. A statement of needs makes sense only with an explicit or implied 'in order to'". A definition which may be of particular value as far as this study is concerned, is the following: "The concept that people with health problems have health care needs. Can be defined as the ability to benefit from health care. A specific indicator of disease may show unmet needs which require intervention. 'Needs' always reflect prevailing value judgements as well as the existing ability to control a particular public health problem. Sometimes differentiated from healthcare supply and demand for services" (Wall 1999:s.p.).

1.7 Needs assessment

In order to make a needs analysis, a needs assessment must first be made. Some references use the two terms "needs assessment" and "needs analysis" interchangeably, e.g. – according to the Instructional

Technology Global Resource Network (s.a.:s.p.) – it is “a systematic study that incorporates data and opinions from varied sources in order to create, install and evaluate educational and informational products and services. The effort commences as a result of a ‘hand-off’ from performance analysis. Also known as training needs assessment, need analysis, front end analysis, task and subject matter analysis...”. Other definitions provided by the same Network read as follows: “process of gathering data to determine if a problem exists, instructional or non-instructional” and “identify the gaps between current results and desired/required results, and place the needs (gaps in results) in priority order on the basis of ‘What it costs to meet the need’ versus ‘What it costs to ignore the need’”. According to COFI (2000:s.p.), it is “A systematic process to assess community needs and develop priorities. Information gathering strategies include a review of existing data, and if more information is needed, use of surveys, interviews, focus groups, and town meetings”.

1.8 Needs analysis

An especially apt description is that of the Electronic Resource Center (ERC s.a.:s.p.), namely that it is “An analysis that studies the needs of a specific group (employees, clients, managers), presents the results in a written statement detailing those needs (such as training needs, needs for health services, etc.) and identifies the actions required to fulfill these needs, for the purpose of program development and implementation”. According to the Instructional Technology Global Resource Network (s.a.:s.p.), it is a “process performed after a need/problem has been determined to exist, where the need is analyzed and the causes of the need are identified, e.g. motivators, lack of skills or knowledge, lack of equipment, etc.”. Another definition provided by Instructional Technology (2000:s.p.) reads as follows: “The primary stage of a training project where the definition of the criteria for success takes place by analysing the

competence level of the target audience and the gap between this and the proficiency needed".

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APPENDIX C

NEEDS ANALYSIS PRACTISING OPTOMETRISTS

DETERMINING THE NEEDS AND OPPORTUNITIES FOR POST-GRADUATE EDUCATION AND TRAINING PROGRAMMES FOR THE OPTOMETRY PROFESSION IN POST-APARTHEID SOUTH AFRICA

INSTRUCTIONS: Please devote some time to complete the following questionnaire and play a part in the future development of your profession.

When answering the closed questions, please indicate your response by means of an "X" in the applicable box. Responses to open questions should be typed/written in the space provided. Should you wish to do this electronically, please replace the applicable box with an "X", and type in your responses to open questions in the spaces provided. A questionnaire in Afrikaans is available from the researcher, should you require it.

QUESTIONNAIRE

CATEGORY 1: PERSONAL INFORMATION	FOR OFFICE USE
1.1 Full name:	1- 4
1.2 Full address: Postal address: Code: E-mail: Province:	
1.3 Racial group: ☐ Asian ☐ Black ☐ Coloured ☐ White	5
1.4 Gender: ☐ Male ☐ Female	6

1.5 Age: ☐ 20 – 30 ☐ 31 – 40 ☐ 41 – 50 ☐ 51 – 60			7
1.6 Please complete:			
Formal qualification	Year obtained	Name of institution	 8 – 12
			 13 – 17
			 18 – 22
			 23 – 27
			 28 – 32
1.7 Type of practice: ☐ Private solo ☐ Private group ☐ State ☐ Other			33
1.8 If "Other", explain your answer.			
1.9 Is your practice located in a: a) ☐ residential area? ☐ commercial area? b) ☐ rural area? ☐ city area?			34 35
1.10 If possible, would you wish to obtain a further (higher) qualification in optometry? ☐ Yes ☐ No			36

1.11 If "Yes", state the reason.	37 – 38
1.12 If "No", state the reason.	39 – 40
CATEGORY 2: PROFESSIONAL DEVELOPMENT	
2.1 In your opinion, are you keeping abreast of developments in the field of optometry practice? ☐ Yes ☐ No	41
2.2 If "Yes", in what manner?	42 – 43 44 – 45 46 – 47
2.3 Are there sufficient opportunities to keep you informed? ☐ Yes ☐ No	48
2.4 State the reason for your answer.	49 – 50
2.5 Do you experience any stumbling-blocks with regard to your continuing professional development (CPD)? ☐ Yes ☐ No	51
2.6 If "Yes", please elaborate.	52 – 53 54 – 55 56 – 57

2.7 What motivating factor(s) should there be for you to engage in continuing professional development (CPD)?	58 – 59 60 – 61 62 – 63
2.8 Do current CPD activities on offer meet your needs? ☐ Yes ☐ No	64
2.9 State the main reason for your answer.	65 - 66
2.10 How do you intend to acquire points for professional development in order to maintain your licence to practice?	67 – 68 69 - 70 71 – 72
2.11 Which of the following CPD activities would you prefer to participate in? ☐ Informal activities to acquire points (e.g. study groups, reading professional journals). ☐ Formal activities that do not necessarily lead to a formal qualification (e.g. seminars, congresses). ☐ Formal activities that lead to a formal qualification. ☐ All of the above.	73 74 75 76
2.12 Motivate your answer.	77 - 78
2.13 Would you like to specialise in a field in optometry? ☐ Yes ☐ No	79

2.14 If "Yes", should formal post-graduate qualifications form the basis of such specialisation? ☐ Yes ☐ No	80
2.15 Motivate your answer.	1 - 2
2.16 Should formal qualifications represent expanded scope privileges which recognise a broader skills base? ☐ Yes ☐ No	3
2.17 Motivate your answer.	4 - 5
CATEGORY 3: POST-GRADUATE/POST-DIPLOMA STUDIES	
3.1 Have you investigated post-graduate possibilities in the field of optometry in South Africa? ☐ Yes ☐ No	6
3.2 If the opportunity arises, would you embark on post-graduate/post-diploma studies? ☐ Yes ☐ No – (If "No", go to question 6.1)	7
3.3 If "Yes", state the reason for not pursuing this at present.	8 - 9
3.4 Why would you like to pursue formal post-graduate studies? Explain.	10 - 11
3.5 Should a formal post-graduate programme meet your needs, would you like to: ☐ receive information? ☐ enrol for the programme?	12

3.6 In which area in the field of optometry would you prefer to acquire a post-graduate qualification? Explain.	13 – 14
3.7 Do you experience any inadequacies/short-falls in your professional practice that you would like to address? Explain.	15 – 16
CATEGORY 4: FURTHER STUDIES TO OBTAIN A FORMAL QUALIFICATION	
4.1 Would you prefer: ☐ full-time studies? ☐ part-time studies?	17
4.2 Would you prefer: ☐ a modular lectured course (course work)? ☐ a research study? ☐ a combination of the two?	18
4.3 Would it be possible for you to do part of the course work by means of online technology such as the Internet? ☐ Yes ☐ No	19
4.4 Would it be possible for you to attend lectures/modules on campus for a short period of time? ☐ Yes ☐ No	20

4.5 How often would you be able to attend lectures/ modules (say a module will be a maximum of four days)? ☐ 1 x year ☐ 2 x year ☐ 3 x year ☐ 4 x year ☐ 2-4 weeks continuous by year	21
4.6 Where would you prefer to do the practical (clinical) sessions of the course?	22-23
4.7 Explain your answer in 4.6.	24 – 25
4.8 What qualification would you like to obtain? ☐ Certificate for short courses ☐ Post-graduate Diploma ☐ Advanced Diploma ☐ Master's degree ☐ Ph.D.	26
4.9 Other – Please explain.	27 - 28
4.10 Are you aware of any post-graduate opportunities in South Africa? ☐ Yes ☐ No	29
4.11 If "Yes", do these fulfil your needs? ☐ Yes ☐ No	30
4.12 Motivate your answer in 4.11.	31 – 32

4.13 Are you aware of post-graduate programmes available in another country?	
☐ Yes	
☐ No	33
4.14 If "Yes", do these fulfil your needs?	
☐ Yes	
☐ No	34
4.15 Motivate your answer in 4.14.	35 – 36
4.16 Would you prefer that the programme which you enrol for in South Africa, have international recognition?	
☐ Yes	
☐ No	37
CATEGORY 5: DETAILED INFORMATION ON POST-GRADUATE/POST-DIPLOMA PROGRAMMES	
5.1 What should the content of the programme you would like to follow be? (Tick all those applicable.)	38
☐ Diagnostic agent privileges	39
☐ Contact lenses	40
☐ Business management skills	41
☐ Public health	42
☐ Therapeutic agent privileges	43
☐ Binocular vision	44
☐ Industrial/environmental optometry	45
☐ Sports vision	46
☐ Surgical co-management	47
☐ Low vision	48
☐ Other	

5.2 If "Other", elaborate.	49 – 50
5.3 How long should the duration of a specialisation programme be?	51 – 52
5.4 Should the programme consist <u>mainly</u> of: ☐ self-study? ☐ contact sessions? ☐ lectured sessions?	53
5.5 Should the programme consist of: ☐ practical/clinical work? ☐ theory? ☐ research? ☐ a combination?	54
5.6 Should the programme include elective modules for enrichment in related fields? ☐ Yes ☐ No	55
5.7 Should the programme be aimed at broadening your scope of practice? ☐ Yes ☐ No	56
5.8 Motivate your answer.	57 – 58
CATEGORY 6: AWARENESS OF THE PUBLIC NEED	
6.1 Give your detailed opinion on the public's needs regarding: a) accessibility; b) affordability; c) equity.	59 – 60 61 – 62 63 – 64

6.2 Give your detailed opinion on the public's current needs regarding eye care with specific reference to the management of ocular disease in the following: a) diabetes; b) retinopathy; c) glaucoma; d) cataract; e) impaired (low) vision.	65 – 66 67 – 68 69 – 70 71 – 72 73 – 74
6.3 What role do you think can the optometrist play in the improvement of the standard of eye care?	75 – 76 77 – 78 79 – 80
6.4 What role do you think can post-graduate education play in the improvement in eye care delivery and standards?	1 – 2
6.5 Do you see yourself as part of the community you serve? ☐ Yes ☐ No Motivate your answer.	3 4 – 5
6.6 What role should the State play in the provision of eye care?	6 – 7
6.7 How many optometrists do you think the State should employ for the whole country?	8 – 10

6.8 Motivate your answer.	11 – 12
6.9 Do you believe that the profession should develop a Private/Public Sector Partnership to assist the State in addressing the eye care needs of South Africa? ☐ Yes ☐ No	13
6.10 Motivate your answer.	14 – 15
6.11 Compulsory community service for optometry graduates is earmarked to be possibly implemented in 2007. Is that a good idea? ☐ Yes ☐ No	16
6.12 Explain your answer.	17 – 18
6.13 Should community service be implemented earlier? ☐ Yes ☐ No	19
6.14 Is a National Health Insurance an option for South Africa? ☐ Yes ☐ No	20
6.15 Motivate your answer.	21 – 22

6.16 In your opinion, will post-graduate education and training have a positive impact on addressing the needs of the public? ☐ Yes ☐ No	23
6.17 State the main reason for your answer.	24 – 25

Thank you for your co-operation.

C/o Stef Kriel
Division of Educational Development
Faculty of Health Sciences
University of the Free State
PO Box 339
BLOEMFONTEIN
9300
SOUTH AFRICA

COMPETENCE PROFILE OF QUALIFICATION: M. OPTOMETRY

Title of qualification: Magister in Optometry/Master in Optometry (M. OPTOMETRY)

Field of Learning: 09; Health Sciences and Social Services

Type of qualification: Structured Masters

NQF Level: 7

Exit after six modules (120 credits): Post-graduate Diploma in Optometry

Credits: 300

Entry requirements: Baccalaureus in Optometry or equivalent qualification

Purpose of the qualification and competence	Exit level outcomes (capabilities)	Specific exit level outcomes (abilities)	Assessment criteria (products)	Forms of integrated assessment
The purpose of the qualification is: (A) - To provide optometrists who have the necessary knowledge, skills, professional thinking, behaviour and attitudes to pursue a career as optometrist with advanced clinical competencies The learner will be competent in: - fulfilling a professional role as [an expert in a specialised field of study in optometry]/[a specialist optometrist] Professional roles will be: [Specialist]/[Expert optometrist] in a specific clinical field - Manager and leader in a specific clinical field - Educator and trainer - Developer Qualification: - Exit with a Post-graduate Diploma in Optometry Professional registration: - Must be approved if applicable (e.g. optometrist with professional privileges in specific field)	Learners who qualify will be capable of working as a [specialist] health care professional in the field of optometry. The learner will be capable of: 1. Demonstrating a sound knowledge and understanding of ocular disease and research in this field.	The learner will be able to demonstrate:	Proof of competency will be provided by demonstration of the achievements of the stated outcomes. Efficiency and effectiveness in the achievement of the set outcomes and general performance in the field of optometry will be evaluated in terms of standards set by the professional board.	Assessment of skills and knowledge applied will be as follows: - Assessment in the programme will be based on an integrated and continuing evaluation approach. - Evaluations will be formative in nature to ensure that the process as well as the end product is regarded as important. - Continuous informal assessment will ensure that the evaluation process is utilised as a learning opportunity. - A module credit system will be followed and, where applicable, the end evaluation (summative evaluation) will comprise a written and oral examination, as well as an evaluation of practical and clinical work. - Skills will be evaluated in real settings.
		1.1 A sound knowledge and understanding of the philosophy of health care and the basic principles underlying the field of optometry and eye care.	1.1.1 Proof of competency will be given by means of seminars, assignments, as well as oral and written examinations.	
		1.2 Knowledge of and skills in the treatment and management of ocular disease.	1.2.1 Proof of competence will be given by means of log books, assignments, as well as oral and written examinations.	
		1.3 Knowledge of and skills in a specific field in ocular optometry (electives).	1.3.1 Proof of competence will be given by means of log books, assignments, and written and practical examinations.	
		1.4 A basic knowledge and understanding of skills in research methodology.	1.4.1 Proof of competence will be given by means of compiling a research portfolio (e.g. assignments, literature reviews, seminars, reports, etc.).	

Purpose of the qualification and competence	Exit level outcomes (capabilities)	Specific exit level outcomes (abilities)	Assessment criteria (products)	Forms of integrated assessment
	2. Demonstrating the skills required in a specialist optometry practice.	2.1 Specialist knowledge and understanding of and skills in planning, designing and executing preventive, identification (diagnostic), assessment and therapeutic programmes for persons with a vision disorder, or at risk to develop such a disorder, within the context of their daily functioning.	2.1.1 Proof of competency will be given by means of: Compiling a clinical skills portfolio with supporting documentation (e.g. log books, assignment, on-site evaluations, OSCEs, clinical examinations.	Assessment of skills and knowledge applied will be as follows: - Assessment in the programme will be based on an integrated and continuing evaluation approach. - Evaluations will be formative in nature to ensure that the process as well as the end product are regarded as important. - Continuous informal assessment will ensure that the evaluation process are utilised as learning opportunities. - A module credit system will be followed and where applicable the end evaluation (summative evaluation) will comprise a written and oral examination, as well as an evaluation of practical and clinical work. - Skills will be evaluated in real settings.
		2.2 The ability, knowledge and understanding, skills and attitudes to function within the ethical context of health care professions and according to the guidelines of the Health Professions Council of South Africa and the Professional Board.	2.2.1 Proof of competency will be given by means of professional stature, attitude, appearance and self-control, on-site evaluations, contribution on professional level.	
		2.3 Skills in patient interviewing and counselling.	2.3.1 Proof of competency will be given by means of structured oral examinations, OSCEs .	
		2.4 The ability to be effective managers in the health care context; to render a service as a member of the health team; to communicate well; be critical thinkers; and professional practitioners in the application of relevant social and behavioural sciences.	2.4.1 Proof of competency will be given by means of on-site evaluations, community involvement and service, liaison with health care professionals, seminars and discussion groups .	

COMPETENCE PROFILE OF QUALIFICATION: Ph.D. (Optometry)

Title of qualification: Ph.D. (Optometry)

Type of qualification: Doctorate

Entry requirements: M.Optom. / M.Phil (Optometry) / M. Tech (Optometry) or equivalent

Field of Learning: 09; Health Sciences and Social Services

NQF Level: 8

Credits: 360

Purpose of the qualification and competence	Exit level outcomes (capabilities)	Specific exit level outcomes (abilities)	Assessment criteria (products)	Forms of Integrated assessment
The purpose of the qualification is: - To provide optometrists who have the necessary knowledge, skills, professional thinking, behaviour and attitudes with a chance to pursue a career as optometrist with advanced research skills and decision – making competency to make a contribution to science The learner will be competent in: - Advanced study and research methodology procedures in the specific field of study and the application of results. The learner will distinguish him-/herself as an expert in the specialised field of study and will show competency in initiating and co-ordinating continued research activities. Professional roles will be: - Educator and trainer - Manager and leader in research - Policy-maker - Consultant - Education Manager - Administrator. Qualification: - Ph.D. (Optometry) Professional registration: Must be approved if applicable (e.g. specialist scientist in the field of optometry)	The learner will be capable of: - Providing expertise in the profession in the advancement and further development of knowledge in the specialised field of study. - Initiating research and applying advanced research methodology.	On this advanced level the learner will: - As an expert in the profession identify, define and provide solutions to complex problems, and advise authoritatively on such matters of all degrees of predictability pertaining to the specialised field of study. - Possess in-depth and comprehensive knowledge in a complex and specialised area and/or across specialised or applied areas and demonstrates intellectual independence in the application of scientific methods and procedures and autonomous synthesising of information that expand or redefine existing knowledge.	The learner should provide evidence of a specialised and a high level of competencies, knowledge and attitude through: - A research report providing expertise in the field of study. At least two external examiners, apart from the supervisor(s) will determine the acceptance or not of the thesis. - The draughting of a framework for a publication complying with the standard of an accredited journal in the field of study.	Assessment of skills and knowledge applied to the field of study will be composed of: - A proposal and the successful defending of the proposed research before a panel. - A thesis submitted after at least two years after registration and preparation in consultation with the supervisor(s), and in which the learner delivered proof of advanced and applicable research.

APPENDIX E