A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

by

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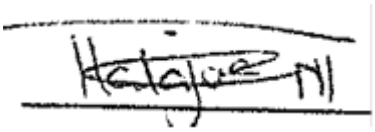
DECLARATION

I hereby declare that the compilation of this thesis is the result of my own, independent investigation. I have endeavoured to use the research sources cited in the text in a responsible way and to give credit to the authors and compilers of the references for the information provided, as necessary. I have also acknowledged those persons who have assisted me in this endeavour. I further declare that this work is submitted for the first time at this university and faculty for the purpose of obtaining a Philosophiae Doctor degree in Health Professions Education and that it has not previously been submitted to any other university or faculty for the purpose of obtaining a degree. I also declare that all information provided by study participants will be treated with the necessary confidentiality.



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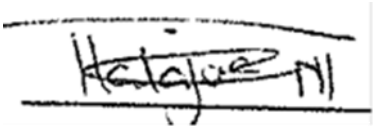

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DEDICATION

I dedicate this thesis to my daughter, Atlehang Tlalajoe Mokhatla, who unknowingly motivates me to reach my full potential, always.

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LIST OF ABBREVIATIONS AND ACRONYMS

DSLD: Division Student Learning and Development

FoHS: Faculty of Health Sciences

LDP: Learning Development Programme

MBChB: Medicinae Baccalaureus and Chirurgiae Baccalaureus

SoCM: School of Clinical Medicine

UFS: University of the Free State

SELECTED TERMS AND DEFINITIONS

Collaborative relationships: The notion of collaborative relationships implies that there is no hierarchy among participants and that decision-making is democratic (Dallmer 2004).

Framework: A framework provides guidance about all facets of the study that is being researched and assesses the general philosophical ideas behind the inquiry (Creswell 2013:3). A framework in the context of this study refers to a basic structure that emphasises concepts that were addressed in this research project. The concepts underlined the theory of the study, and recommendations that achieved consensus on how to resolve the identified social learning and integration factors, levels of engagement and actions that need to be implemented as support programmes, which informed the construction of the support framework for social learning and integration of first-year undergraduate medical students, as the ultimate contribution of this study.

Social learning theory: Theorises that people learn from one another, through observation, imitation, and modelling (Bandura 1969:217).

Social integration theory: Social integration is a requirement for successful transition to university by students, and involves building new social networks and friendships, and having contact with academic staff members. Students are more likely to remain enrolled at an institution if they become connected to the social and academic life of that institution (Tinto 1975:107).

Social learning and integration theory: This theory suggests that interaction through institutional experiences can influence how individuals learn from each other through observation, imitation, modelling and persistence (Formulated by the researcher for this study).

Support programmes: The terms support(s) may refer to any number of academic support strategies. In practice, academic support encompasses a broad array of educational strategies, including tutoring sessions, supplemental courses, summer learning experiences, after-school programmes, teacher advisors, and volunteer mentors, as well as alternative ways of grouping, counselling, and instructing students. Support programmes typically refer to services provided to underperforming students and may be used to refer to "enrichment" programmes and more advanced learning opportunities provided to higher-achieving students (Hsiu-Chia, Li-Ling and Yi-Ting 2013:195).

Social support programmes: Programmes that offer social supportive resources or means to cope, and which use personal factors to increase an individual's capacity to recover quickly from difficulties (Thompson, McBride, Hosford & Halaas 2016:175).

SUMMARY

Key terms: support framework, social learning and integration, first-year, undergraduate, medical students, transition, support programmes, recommendations, levels of engagement, actions

In an effort to address the absence of a social learning and integration support system that could facilitate the transition of first-year undergraduate medical students from high school to a new education environment in the School of Clinical Medicine (SoCM) in the Faculty of Health Sciences (FoHS) of the University of the Free State (UFS), an in-depth study was conducted to construct a support framework for social learning and integration of first-year undergraduate medical students. The researcher aligned literature from two theories relating to social learning (Bandura 1969:217) and social integration (Tinto 1975:107) respectively. An aligned theory, called social learning and integration, and defined as the interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence, was used to obtain a deeper understanding of the dynamics of transitioning into a new education environment, and means of achieving successful transition.

With the application of appropriately selected techniques, namely the nominal group technique and Delphi technique as methods of investigation, the researcher investigated factors that affect the social learning and integration of medical students at the SoCM in the FoHS at the UFS, when they transition from high school into university. During the nominal group meetings, the medical students at the SoCM indicated six factors, namely **underpreparedness**, **peer support**, **confidence**, **self-management**, **alienation** and **academic advice,** that affected their transition from high school to university. After the social learning and integration factors had been identified by the medical students at the SoCM in the FoHS at the UFS, they were engaged further to suggest social learning and integration skills which could ease the social learning and integration factors that had been identified. The social learning and integration skills recommended by the medical students were subsequently presented to a panel of experts in a Delphi study. The experts in the fields of higher education and health sciences education were recruited in South Africa and

abroad with the aim of achieving consensus on recommendations that could be used to formulate the contribution of the study, namely, the construction of a support framework for social learning and integration of first-year undergraduate medical students.

In addition to achieving consensus on 12 of the recommendations suggested as useful skills for social learning and integration factors, the panel of experts also contributed comments that identified key role players who need to facilitate the recommendations, in an attempt to resolve the social learning and integration factors that had been identified. Four key roles were identified and denoted as levels of engagement, namely **community: SoCM, individual, group setting** and **collaborative relationships.** Complementary to the levels of engagement, the literature overview highlights support programmes, which were denoted as actions, namely **preparation for health sciences workshop support**, **mentorship** and **student-led group support,** which are likely resolve the identified social learning and integration factors.

By combining the two theories on social learning (Bandura 1969:217) and social integration (Tinto 1975:107), greater depth of understanding was obtained on social learning and integration factors, skills and support programmes. As a contribution to new knowledge, this study constructed a support framework for social learning and integration of first-year undergraduate medical students. Implementing the support framework could facilitate successful transition of first-year undergraduate medical students from high school to university.

A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

The aim of this chapter is to orient the reader to the study. It will provide background to the problem statement and the research questions. The overall goal, aim and objectives of the study will also be set out. The demarcation of the field and scope of the study will follow, and the significance and value of the study to the profession and educators will be summarised. A brief overview of the research design and methods of investigation will be provided, together with a schematic outline and summary of the study. Thereafter, the chapter will be concluded by a layout of the subsequent chapters and a brief conclusion.

Generally, people feel emotionally less secure in a new or strange environment. This is the case with students, in particular, who enter the university environment for the first time to become active members of a higher education institution (Bojuwoye 2010:277); they often experience anxiety, confusion, fear and helplessness (Bujuwoye 2010:278). This transition from high school to university is difficult to adjust to and, consequently, many first-year students to feel isolated and uncertain (Heirdsfield, Walker, Walsh & Wilss 2008:109). There are a number of factors in the new educational environment that may be responsible for these feelings, including having to leave home for the first time, having to manage one's own finances, challenges related to making new friends and, generally, assuming a greater responsibility for oneself. These feelings may affect students' social integration into the university and may, ultimately, affect their academic success (Bojuwoye 2010:277-278).

For this reason, it is imperative that universities provide students with nurturing educational and social environments, which are focused on developing principles of caring, professional attitudes and healthy interpersonal relationships. This applies to all students, but especially

medical students who are entering their first year of studies. Just as medical students are expected to treat patients holistically, so should medical education subscribe to a whole-student model – a biopsychosocial approach to education (McLean & Gibbs 2009:1). In an attempt to understand the education system, the biopsychosocial approach systematically takes into account biological, psychological, and social factors and their complex interactions (Smith, Fortin, Dwamena & Frankel 2013:266).

Despite useful and innovative developments in medical education, some institutions are still preoccupied with the 'bio' component (i.e. the curriculum), and often pay less attention to or neglect the psychosocial well-being of their students. A whole-student model allows a student to reach self-actualisation by paying attention to the student's physiological needs (e.g., sufficient sleep, food), safety (e.g., by guaranteeing personal safety), sense of belonging (e.g., being a respected team member, playing a useful role in the faculty) and self-esteem (e.g., valuing input, giving constructive feedback) (McLean & Gibbs 2010:226).

Students who are admitted to medical schools are generally from a variety of racial, cultural, religious, education, and language backgrounds. Their core skills, such as collaboration, communication and critical thinking, vary. Once admitted, they are exposed to a new environment, which requires them to adapt to a particular learning environment, and they are expected to integrate into the faculty socially. It is, thus, important that universities take cognisance of the different life experiences and levels of emotional maturity of medical students (McLean & Gibbs 2010:227).

Medical education staff should have a holistic picture of medical students' transition from high school to university – not only in relation to the medical education environment, but also the manner in which medical students interact with one another socially in this new education environment. As suggested by Kiessling, Schubert, Scheffner and Burger (2004:509), medical schools need to strive to offer students a curriculum that supports them to find a balance between the demands of medical education, on the one hand, and having accomplishing lives outside the university, on the other.

The aim of this study was to contribute to developing a support framework to help improve students' transition into the medical education environment. Two main theories guided the study, namely, social learning, and social integration. According to Bandura (1969:217), the theory of social learning explains how people learn from one another, through observation, imitation, and modelling. In turn, Tinto's social integration theory describes conditions needed for a successful transition to university, such as building new social networks and friendships, and having contact with academic staff members. Students are more likely to remain enrolled at an institution if they become connected to the social and academic life of that institution (Tinto 1975:107). Tinto describes two fundamental concepts related to the college experience: (1) Institutional experiences, involving the educational system, and (2) Academic and social integration, involving the personal context (Tinto 1975:107).

Tinto's theory refers to both social and academic integration, which Severiens and Schmidt (2009:60) call "twin concepts", in that social integration relies on academic integration and vice versa. The focus of this study was on social learning and integration; therefore, the study is based on the theories relating to social learning (Bandura 1969:217) and social integration (Tinto 1975:107). While the study focus was on these two social aspects, the link between them and academic integration cannot be overlooked.

Elements of Bandura's (1969:217) social learning and Tinto's (1975:107) social integration theories are, to some extent, aligned. For instance, Bandura's theory (1969:217) refers to how individuals learn from each other through observation, imitation and modelling. Tinto's theory states that institutional interaction and experiences can influence persistence, which can also be regarded as a personal drive that results from either direct or indirect social and academic integration (Tinto 1975:107). As a result, for this study, the two theories are combined and referred to as social learning and integration; which is defined as interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence.

1.1.1 Personal background

The researcher is a lecturer and an academic advice practitioner in the Division Student Learning and Development (DSLD), in the Faculty of Health Sciences (FoHS) at the University of the Free State (UFS), in South Africa. The Division's strategic plan is to enhance student development and support for both under- and postgraduate students of the FoHS at the UFS. The researcher's interest in these two theories stemmed from her primary duty of providing academic guidance to first-year undergraduate medical students. Academic guidance entails either one-on-one or group consultations on study methods, time management, and test and examination techniques. Through these interactions, it became apparent that students were ill equipped for the new education environment, and were unable to integrate into the faculty socially. For example; students would refer to the difficulties of making friends within their classroom, subsequently struggling to adjust and feeling lonely. This example relates to Tinto's theory on the importance of building new social networks and friendships. Moreover, during the academic consultations, students always expressed the need to be paired up with a senior student, to teach them the ropes of being a medical student. This specific example relates to Bandura's theory on how students learn from one another, through observation, imitation, and modelling. The researcher considered this realisation as holding considerable potential for further research; hence, her interest in researching social learning and integration during the transition of first-year undergraduate medical students from high school to medical education; by doing so she could contribute to closing a gap in the body of knowledge, beginning with the integration of the two acknowledged experts' theories.

Based on the abovementioned theoretical foundation, the researcher conducted an in-depth study with a view to designing a social learning and integrated support framework. This framework may assist students by to transition from high school to the new social and education environment at the UFS in South Africa, thus, easing their adaptation into the School of Clinical Medicine (SoCM).

The study aimed to investigate factors that affect social learning and integration of students in general, but specifically first-year undergraduate medical students who transition from

high school to university. Furthermore, the study explored the support programmes that were available to first-year undergraduate medical students, and the social learning and integration skills they had to develop to facilitate their transition into the new education environment. The findings of the investigations were applied to the information gathered regarding current support systems, to design a support framework that could enhance undergraduate medical students' transition from high school to university.

The investigations were achieved by (a) conducting a literature overview, (b) collecting and analysing data using a nominal group technique applied to first-year undergraduate medical students; and (c) by administering a Delphi questionnaire to a group of experts involved in student support at health science and higher education and training institutions nationally and internationally.

The relevant literature and background to the research problem has been provided. What follows is the problem statement, which highlights the dearth of knowledge about a support system that addresses social learning and integration of first-year undergraduate medical students. Then, the overall goal and aim of the research project, research questions and objectives will be discussed, which will include the details of the research design. The chapter will end by explaining the significance and contribution of the study, as well as how the findings will be implemented and the way this report is arranged.

1.2 PROBLEM STATEMENT

The research addressed the absence of a social learning and integration support system that could facilitate the transition of first-year undergraduate medical students from high school to a new education environment at the SoCM in the FoHS at the UFS.

1.3 OVERALL GOAL OF THE STUDY

The overall goal of this research project was to enhance the knowledge and understanding

of social learning and integration by developing a support framework for the faculty and university addressing the experiences of first-year undergraduate medical students on transitioning from high school to the medical education environment. The information gained could improve the way the faculty and the university meet the needs of medical students upon their entry, to ease their transition into the new education environment.

1.4 AIM OF THE STUDY

The aim of the study was to design a support framework for social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS.

1.5 RESEARCH QUESTIONS

To address the problem stated, the main research question asked was:

What support framework can be developed to facilitate social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS?

1.5.1 Subsidiary research questions

The following subsidiary research questions arose:

i. What factors affect the social learning and integration of first-year undergraduate medical students?
ii. What social learning and integration skills need to be developed by first-year undergraduate medical students?
iii. What support programmes are available to facilitate the social learning and integration of first-year undergraduate medical students?
iv. What should a support framework designed to address social learning and integration

of first-year undergraduate medical students at the SoCM in the FoHS at the UFS include?

1.6 OBJECTIVES OF THE STUDY

The research objectives of the study were,

i. To conceptualise and contextualise factors that affect social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS. (Literature study and nominal group technique)
ii. To determine the set of social learning and integration skills that need to be developed by first-year undergraduate medical students at the SoCM in the FoHS at the UFS to help them with challenges faced during the transition process of entering medical education. (Nominal group technique)
iii. To determine what support programmes are available to facilitate the social learning and integration of first-year undergraduate medical students. (Literature study)
iv. To design a support framework that could address the social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS and enhance their academic success. (Nominal group technique and Delphi technique)

1.7 RESEARCH PARADIGM, DESIGN OF THE STUDY AND METHODS OF INVESTIGATION

1.7.1 Research paradigm

Creswell (2013:18) defines the term worldview as "a basic set of beliefs that guide actions", and refers to other, similar commonly used terms, such as paradigms (described by Lincoln, Lynham & Guba 2011; Mertens 2010); epistemologies and ontologies (described by Crotty 1998), or broadly conceived research methodologies (described by Neuman 2009).

Moreover, Creswell (2013:16) describes worldviews as a general philosophical orientation about the world and the nature of research that the specific researcher brings into a study.

This study adopted a qualitative social constructivist worldview to explore and understand undergraduate medical students' challenges in relation to social learning and integration; specifically, when transitioning from high school to the SoCM in the FoHS at the UFS. Through the study, the researcher obtained students' views regarding the challenges they faced in relation to social learning and integration as they were transitioning from school to university. This also included the skills they used during this transition process. The views and refined judgements of experts in the field of student support at health sciences and higher education and training institutions were also gathered in relation to the content of a social learning and integration support framework (Creswell 2013:24).

The study's qualitative paradigm fits into the norms of worldviews. As Creswell (2014:8) explains, social constructivists believe that individuals often seek to understand the world in which they live and work. Individuals develop subjective meanings relating to their experiences, and these meanings are directed towards certain objects or things. Moreover, Botma, Greeff, Mulaudzi and Wright (2015:42) define social constructivism, also referred to as interpretivism, as an approach that emphasises the importance of insider viewpoints on social realities. In this approach, emphasis is on the role of people and how they interact with the occurrence under investigation.

This study was premised on the interpretation of lived experiences of undergraduate medical students, so that their views on individual experiences within the education environment could be understood by stakeholders involved in student support provided by the faculty. Thus, the researcher endorsed the epistemological principle that refers to the nature of knowledge. The knowledge that is gained guides the researcher to understand the lived experiences and the social relations that structure the experiences of the individuals being investigated (Botma *et al.* 2015:45).

Creswell (2013:22) states that philosophical assumptions are embedded in the interpretive

frameworks that qualitative researchers use when they conduct research. In this study, the researcher interpreted the social learning and integration challenges experienced by undergraduate medical students during their transition from school to the medical education environment. Keenly aware of the diverse backgrounds of medical students at the SoCM in the FoHS at the UFS, the researcher appreciated that divergent realities of the individual experiences of undergraduate medical students would be explored. The researcher used the philosophical assumption of the ontological principle as another guiding philosophy of qualitative research (Creswell 2013:19). According to Botma *et al.* (2015:44), the ontological principle is the nature of reality, which is constructed, interpreted and experienced by people in their interactions with each other and wider social systems. Moreover, the reality concept is subjective and individuals experience reality in different ways. Thus, reality can only be grasped imperfectly, due to the use of language that defines a particular reality further.

1.7.2 Design of the study

Research designs are types of inquiry within qualitative, quantitative and mixed method approaches that provide specific directions for procedures in the design of a study (Creswell 2014:12). The research problem and questions direct the choice of the design the researcher follows to address the nature, aim and context of the research (Botma *et al.* 2015:189).

This study followed a qualitative case study design, which is defined as a strategy of enquiry in which the case takes centre stage and the researcher explores a programme, event, activity, process, or one or more individuals in depth (Botma *et al.* 2015:191). Case studies rely on interviews, observations and document analysis (Creswell 2014:14) to gather information. In this study, the case at the centre was the transition of first-year undergraduate medical students from high school to medical education at the SoCM in the FoHS at the UFS. The researcher explored, in depth, the process of transition undergone by students arriving from high school at the medical education environment, particularly, their social learning and integration.

1.7.3 Qualitative research

Qualitative research is an approach to exploring and understanding the meaning individuals or groups ascribe to social or human problems. The process of qualitative research involves emerging questions and procedures, data typically being collected in the participants' settings, data analysis building inductively from particular to general themes, and the researcher making interpretations of the meaning of the data. The final written report has a flexible structure (Creswell 2014:4).

A qualitative research inquiry was adopted in this study, because the key goal of the study was to design a support framework influenced by the real-life context of medical students. Therefore, the most suitable approach to getting answers to the research questions was to include undergraduate medical students, who could bring meaning to the enquiry into social learning and integration challenges at the SoCM in the FoHS at the UFS.

1.7.4 Methods of investigation

In this study, research methods refer to data gathering (i.e. planning and implementation of sampling), data analysis and interpretation, as well as ensuring rigour in research (Botma *et al.* 2015:199; Creswell 2014:16).

In addition, detailed descriptions of the population, sampling methods, data collection and analysis, as well as appropriate interpretation methods and ethical considerations used for the study, will be provided in Chapter 3. A schematic overview of the study is represented in Figure 1.1.

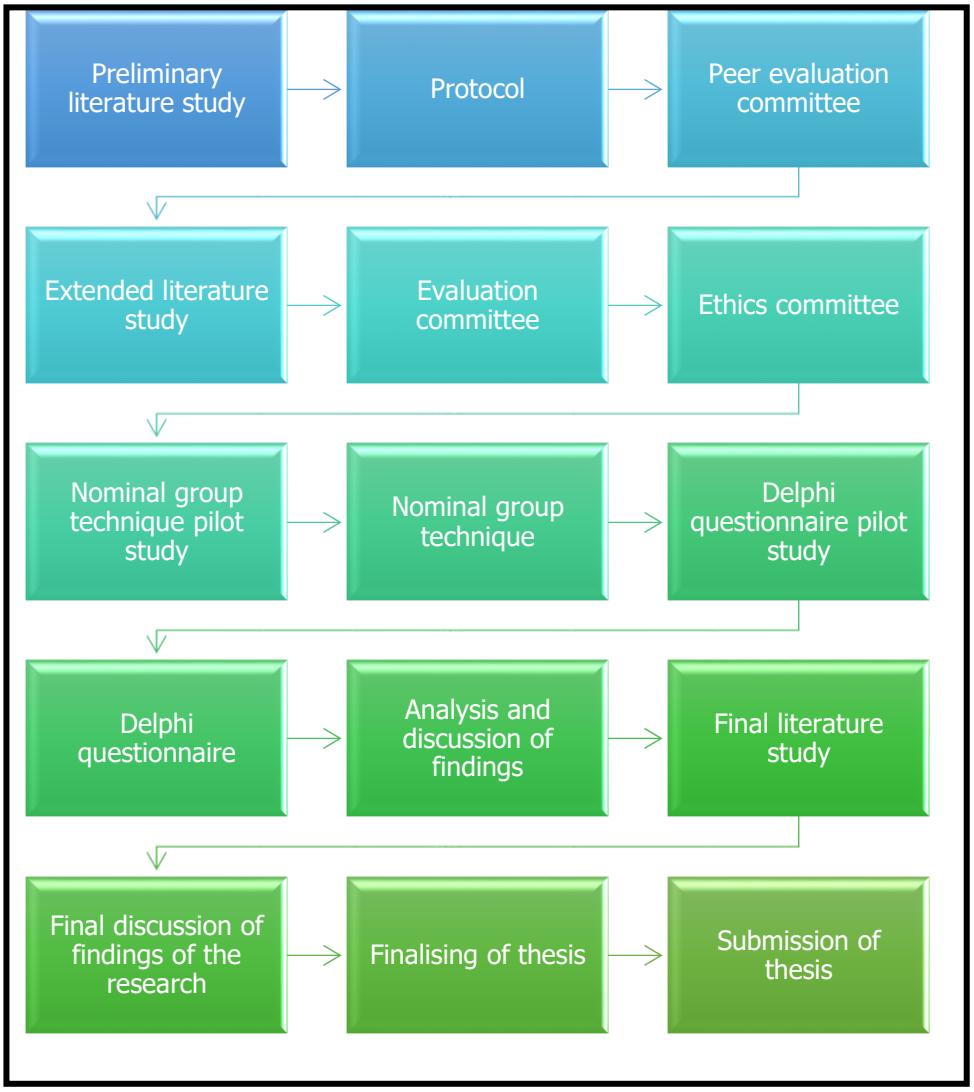


Figure 1.1: A schematic overview of the study (compiled by the researcher, Tlalajoe 2017)

1.8 DEMARCATION OF THE FIELD AND SCOPE OF THE STUDY

This study can be categorised as interdisciplinary. The research was done in the Division of Health Professions Education at the UFS, whereas the researcher is a lecturer in the DSLD. At the time of writing this report, she had occupied a lecturing role in teaching factual content and facilitating lifelong learning skills for seven years. The first three years had been dedicated to teaching factual content in the sciences, and the latter four years to facilitating lifelong learning skills. The researcher's interest in this study developed over time through her work of providing academic guidance to first-year undergraduate medical students (cf. Section 1.1.1).

The researcher, thus, set out to develop a responsive support framework for social learning and integration for first-year undergraduate medical students at the SoCM in the FoHS at the UFS. The study explored the perspectives of consenting undergraduate medical students who were registered for the five-year MBChB curriculum in the year 2019, on social learning and integration factors and skills. The researcher also analysed the perspectives of experts in student support and development who participated in the study. The data collection phase took place in 2019-2020 and the study was conducted between November 2016 and November 2020.

1.9 SIGNIFICANCE, VALUE AND CONTRIBUTION OF THE STUDY

The following sections of the chapter will describe the significance, value and contribution of the study.

1.9.1 Significance

The support framework that this study proposes could significantly improve the faculty's understanding of the importance of creating a balanced first-year undergraduate education environment for medical students, which takes appropriate account of social learning and integration factors when students transition to medical education from high school. A deeper understanding can also be gained about students' social relationships during the period that they are registered at university.

1.9.2 VALUE

The value of this research study lies in the data that was obtained from investigating factors affecting social integration and learning during the first academic year of medical education. Through the support framework for social learning and integration, the study might enable medical students to take control of their own learning schedules and manage their new study and social learning environments better. This can also encourage students to build

new social networks and friendships, which might aid their adjustment to the requirements of the SoCM in the FoHS at the UFS, as a new educational environment.

1.9.3 Contribution

The main contribution of the study in the discipline is applying the knowledge gained through the integration of elements of Bandura's (1969:217) social learning and Tinto's (1975:107) social integration theories and developing a new theory termed social learning and integration; which is defined as interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence. This theory was applied to provide a deeper understanding of the experiences of medical students in the faculty and university during their transition from high school to the medical education environment. The gained knowledge further allowed the structuring of a social learning and integration support framework. The support framework designed from the social learning and integration theory involves ways to ease the transitional phase from high school into first-year undergraduate medical studies, which could hold direct benefits for students.

The study could also contribute to guiding practitioners at the DSLD at the UFS who are responsible for student academic support, as the knowledge gained from this research could be applied in practice to the benefit of learning support practitioners and their practice.

1.10 IMPLEMENTATION OF THE FINDINGS

The findings of the study will be communicated to the head of the SoCM, programme director of the undergraduate medical programme, as well as the DSLD, to impact students' social adjustment and integration when transitioning into medical studies, by addressing the requirements of the social learning and integration support framework, and coordinating a support programme for undergraduate students. On a broader scale, the researcher will recommend that the findings of the study are adopted in medical education environments or at higher education institutions nationally. Implementation of the study recommendations could be modified to suit other institutions' goals in relation to easing the

transition phase of students from high school who enter the new education environment for medical education.

The findings will be submitted to accredited academic journals with a view to publication, as the researcher intends to make a contribution to the existing body of knowledge. The researcher will attend relevant conferences nationally and internationally to present the findings of the research.

1.11 ARRANGEMENT OF THE REPORT

Chapter 1 provided an **Orientation to the study**. This was achieved by giving an overview of and background to the research problem. The background was followed by a summary of the problem statement and research questions. The overall goal, aims and objectives of the study were also presented. The field and scope of the study was demarcated and the significance and value of the study to the profession and educators summarised. A brief synopsis of the research design and methods of investigation were provided, together with a schematic outline and summary of the study.

In Chapter 2, titled **First-year undergraduate medical students: factors affecting social learning and integration: facilitation through support programmes,** the literature overview aimed to conceptualise and contextualise issues affecting the social learning and integration of first-year undergraduate medical students during their transition into a new education environment. Thereafter, the researcher described support programmes that are available for facilitating the social learning and integration of first-year undergraduate medical students at SoCM in the FoHS at the UFS.

Chapter 3, the **Research design and methodology** will provide a thorough description of how data was collected from undergraduate medical students using the nominal group technique, and the way data was collected from experts involved in student support at health science institutions and higher education and training institutions using a Delphi

questionnaire.

Chapter 4, **Results and discussion of the nominal group technique findings**, will outline the data analysis, interpretation and discussion of results obtained.

Chapter 5, **Results and discussion of the Delphi technique findings,** will outline the data analysis, interpretation and discussion of results obtained.

Chapter 6, **A support framework for social learning and integration of first-year undergraduate medical students,** will present the support framework through a schematic representation that will include the data contribution of the nominal group technique and the Delphi technique.

Chapter 7, **Conclusion, recommendations and limitations of the study,** will provide an overview of the study, identify the significance and limitations of the study, and make suggestions for further studies and research that are needed in relation to the research problem.

1.12 CONCLUSION

This chapter aimed to orient the reader to research done on designing a support framework for social learning and integration of first-year undergraduate medical students. The researcher introduced the literature overview, which helped identify the problem statement, namely, the dearth of knowledge about social learning and integration of first-year undergraduate medical students. The aim of the study, the research questions and objectives were given, which primarily relate to making a contribution to addressing the absence of knowledge on social learning and integration support for first-year undergraduate medical students. The research paradigm was also addressed, followed by the design and research methodology. The chapter outline of the report was also provided, with a brief overview of each of the seven chapters.

The next chapter, **Chapter 2, First-year undergraduate medical students: factors affecting social learning and integration and the facilitation through support programmes,** will explore the two main objectives that required the literature overview, with a view to establishing the conceptual framework for the study.

CHAPTER 2

FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS: FACTORS AFFECTING SOCIAL LEARNING AND INTEGRATION AND THE FACILITATION THROUGH SUPPORT PROGRAMMES

2.1 INTRODUCTION

A literature overview aims to provide theoretical context for the research and illustrate where the research fits in with the existing body of knowledge. The purpose of the literature review is also to familiarise the researcher with the subject, so that she/he could become acquainted with the body of works relevant to the study (Springer 2010:42-43, 56; Botma *et al.* 2015:64). This overview intended to bring clarity and focus to the research problem, improve the researcher's knowledge in general and of methodology specifically, and contextualise the findings (De Vos, Strydom, Fouché & Delport 2011:135).

In this chapter, the literature overview will conceptualise and contextualise factors that affect the social learning and integration of first-year undergraduate medical students during their transition into a new education environment. Support programmes that are available to facilitate the social learning and integration of first-year undergraduate medical students generally, and at the UFS in the FoHS, in particular, will be described. Figure 2.1 gives a schematic overview of the chapter.

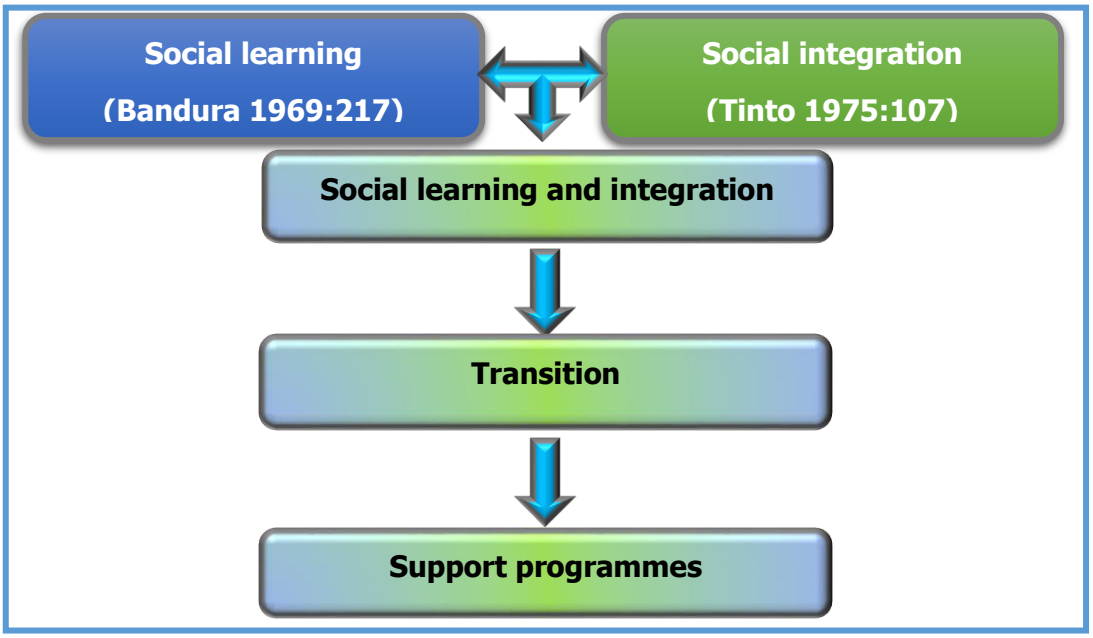


Figure 2.1: Conceptual framework (Compiled by the researcher, Tlalajoe 2019)

The following steps were followed to conduct literature searches. First, the researcher identified key terms (first-year medical students, framework, social factors, social integration, social learning, support programmes, transition). Second, she located relevant literature using databases such as Google Scholar, Scopus, and the EBSCO Host platform. Features of the databases were used under advanced search, such as the logical operators, AND and OR, "_", and or *, to expand the scope of search. A defined search period of 2008 to 2018 was applied for initial searches. Some of the most relevant articles on the databases were dated; others were in languages other than English and others only available at a cost. Due to the limited research found using the above-mentioned keywords, the researcher used the references listed in the articles retrieved to access additional papers. This process resulted in expanding the search period beyond 2008. Third, the researcher critically appraised the selected literature that would serve as the basis of the overview. For this purpose, the researcher organised the literature, and highlighted relations, gaps, contradictions and inconsistencies. A literature overview was done on the most relevant findings (American Psychological Association 2010).

The two main theories that were identified in the retrieved literature and which guided the study were social learning (Bandura 1969:217) and social integration (Tinto 1975:107; cf. Section 1.1) – referred to as social learning and integration in this study. Social learning

and integration are defined as the interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence. The two theories provide a deeper understanding of the dynamics of transitioning into a new education environment, and means of achieving successful transition.

2.2 FACTORS AFFECTING SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

This section will report on an analysis of factors that affect the social learning and integration of first-year undergraduate medical students, and will make use of both Bandura (1969:217) and Tinto's theories (Tinto 1975:107; cf. Section 2.1).

Little is known about university or faculty experiences encountered by students. This lack of information is sometimes referred to as the *"black box"* (Lane 2016:3). In certain instances, student experiences of a faculty may create a barrier in the institution, and prevent students from being successful. In this study, being successful refers to successfully transitioning into medical education. In order to overcome these barriers, students must acquire a combination of academic and context-specific (heuristic) knowledge (Lane 2016:3). In this study, the researcher specifically wanted to investigate context-specific knowledge (Lane 2016:3) on social learning and integration of first-year undergraduate medical students during their transition into a new educational environment.

2.2.1 Factors affecting successful transition into higher education

The education environment comprises all that is part of an education institution, namely, the atmosphere, lecturers, students, organisers, the learning that takes place and how it is affected by physical, psychological and social factors (Mogre & Amalba 2016:16; Naveed, Bhatti & Shahid 2017:355; Hongkan, Arora, Muenpa & Chamnan 2018:18). In this environment, the lecturers are viewed as sources of information, and it is their job to present information, while students are tasked only with the reception of information

(Shilkofski & Shields 2016:6).

Transition to tertiary study can be a daunting and often overwhelming and challenging experience, because students' expectations about university frequently do not match their first-year university experiences (Bolt & Graber 2010:193; Thalluri 2016:37). This is a global experience, which raises concern that even students who clearly have potential are not well prepared to cope with this transition (Thalluri 2016:37). Although students are ultimately responsible for managing their own transition experiences, education institutions should prepare students for transition from secondary to tertiary education (Bolt & Graber 2010:193). However, many institutions are underprepared for the students they accept (Van Zyl 2017:21). Scholars have identified several aspects that contribute to the students' sense of crisis during the transition phase, which include the disparity between the students' expectations and the new education environment, and social issues. These two aspects – expectation and social issues – appear to be the most common causes of concern (Bolt & Graber 2010:194-195).

Transition may involve students physically moving from one place to another, such as going from primary to secondary school or leaving a home town to study in another town, or leaving a home country to study at a university abroad (Hussey & Smith 2010:156; Badenhorst & Kapp 2013:465; Hayes, Mansour & Fisher 2015:27). There are two types of educational transitions. The first is described as changes of the personal context, and the second as transitions related to institutional settings (Hayes *et al.*, 2015:27). Both these transitions take place in higher education. Tinto (1975:107) opines that students find it difficult to adapt to a new education environment, because of the degree of separation from their past lives that is involved. Students have to separate from parents and family members, and students in minority groups may fear the loss of cultural identity. It has been observed, for example, that Latin students in predominantly white American universities experience increased levels of sociological distress (Hayes *et al.* 2015:27). In addition, students originating from countries other than the country in which the education environment is located, generally do not perform as well academically as their local counterparts. This underperformance might suggest that students experience challenges balancing academic and social life in the absence of practical family support (Mann, Canny, Lindley & Rajan 2010:787).

To become accepted members of academic disciplines, individuals are required to act, think, speak and write in accordance with the disciplines' ideological frameworks (Badenhorst & Kapp 2013:466). It is assumed that students are assimilated into the culture of the new education environment. In the South African context, however, this is not necessarily the case. When students do not readily assimilate, students' home identities and language are perceived as a "problem" that has to be "fixed" (McLean & Gibbs 2010:227; Badenhorst & Kapp 2013:466, Brouwer, Jansen, Flache & Hofman 2016:109). The requirement is reported to pose particular difficulties for first-generation students, and those not fully proficient in English, as well as those who came from impoverished home backgrounds and schools that did not adequately facilitate critical educational engagement (Badenhorst & Kapp 2013:466).

Language barriers, students' goals, aspirations and self-efficacy are highlighted as some of the personal context factors of education transition that are directly linked to formal academic integration factors. Students' goals, aspirations and self-efficacy also contribute to determine the success of the transition from high school to university (Bolt & Graber 2010:197).

It was established in literature that factors affecting successful transition to higher education stems from both personal context and the institutional setting. Personal context factors include language barriers, goal aspirations and self-efficacy. Meanwhile, the institutional setting entails students' expectations, social issues, separation from past life and originating from countries other than the country in which the education environment is located (Hayes *et al*. 2015:27).

2.2.1.1 *Factors affecting successful transition of first-year medical students*

It is a long-held dream of many young learners and students to secure admission to a medical school (Deepa & Panicker 2016:585). Regardless of their cultural backgrounds, when medical students enter university, they experience a broad range of changes that may affect every aspect of their lives (Severiens & Schmidt 2009:60). Experiencing these

changes may expose students to stressful situations that can have an emotional and academic impact on them (Pereira & Cardoso 2015:299). A number of factors play a role in making an education environment stressful and causing functional impairment in some medical students (Shah, Hasan, Malik & Sreeramareddy 2010:1). Three major factors result in stress for medical students, namely, academic stressors, financial difficulties and social factors (Kaufman, Mensink & Day 2009:138-139; Shah *et al.* 2010:1; Shankar, Balasubramanium, Ramireddy, Diamante, Barton & Dwivedi 2014:e49, Deepa & Panicker 2016:594). According to Naidoo, Van Wyk, Higgins-Optiz and Moodley (2014:261), some of the stressors in the South African context include academic and curriculum workload issues, personal problems, and communication and/or language difficulties.

Transitions in medical education are emotionally and socially dynamic processes, which may affect students' learning aptitude (Atherley, Hambleton, Unwin, George, Lashley & Taylor 2016:78). On entering medical school, many students are not as well prepared for the rigors of the curriculum, the demands of their new educational environment and their new lifestyle (Deepa & Panicker 2016:585) as is required. These medical students are reported to be required to switch from being "big fish" to being "small fry" as they move from a very protected, high-achievement environment, to one in which they are generally just faces among many other bright young individuals; which is a daunting prospect for even the most capable medical student (McLean & Gibbs 2009:3–4). Of course, not all medical students can be prepared for every possible challenge they will face during their medical training (Lack, Newman, Goyal & Torsher 2010:128). According to Badenhorst and Kapp (2013:466), students have to navigate an institutional "hidden curriculum" for studying at a university, which lies beyond the formal rigors of the curriculum of their medical studies and the culture of the new educational environment (Kiessling *et al.* 2004:504; Leidenfrost, Strassnig, Schütz, Carbon, & Schabmann 2014:102). They have to organise their own learning, manage their new study and social schedules, start building new social networks and friendships, and adjust to the requirements of university styles of learning and teaching (Badenhorst & Kapp 2013:466; Leidenfrost *et al.* 2014:102).

Because of the intense demands set by medical education environments and the cultural norms maintained through the "hidden curriculum", medical schools ought to understand how students from different cultural and learning backgrounds adapt to the new education

environment (Shilkofski & Shields 2016:2; Noyens, Donche, Coertjens, Van Daal & Van Petegem 2017:68). Student diversity should be considered when a first-year curriculum is formulated (Bolt & Graber 2010:196). As Kift's (2009) transition pedagogy rightly suggests, the first-year curriculum "must be accessible and inclusive to all students" (quoted by Asani, Farouk & Gambo 2016:55). This means that a student needs to become proficient in the dominant discourse, which entails negotiating values, attitudes, and beliefs that are substantially different from that of high school or home discourses. As a result, students often have to deal with challenging tensions around identity (Badenhorst & Kapp 2013:466).

The question is whether first-year undergraduate medical students are ready to take up such a big task, that of dealing with the dominant discourse in their new education environment (Badenhorst & Kapp 2013:466). Badenhorst and Kapp (2013:466) quote Christie (2008) and explain that students are not necessarily overloaded by work. Instead, students have to apply discretion concerning the activities they consider require their urgent attention. Students actively decide how to invest their time and focus in certain subjects rather than others at particular times as a result of structures of power, interactions with others, emotions and opportunity (Badenhorst & Kapp 2013:466).

Medical students who fail to make this transition to the education environment because they fail to meet the expectations of university life and its requirements, may finally drop out of their medical studies (Leidenfrost *et al.* 2014:102). References by literature to the university performance of undergraduate students, specifically in medicine, indicate that high attrition rates in this field might have social and financial consequences. These consequences may require adaptations in terms of student recruitment, curriculum development, teaching and learning, assessment and policy modification, in order to avoid high attrition rates and to promote successful integration (Hayes, Holden, Gaynor, Kavanagh & Otoom 2013:2).

2.2.2 Adapting to the new education environment

Educational transition encompasses institutional settings (Hayes *et al*. 2015:27; cf. Section 2.2.1). As mentioned, students are assumed to assimilate into the culture of the new

education environment, which can be experienced as a challenging – though not an impossible – task to learn during the transition phase (Badenhorst & Kapp 2013:466). Learning is regarded as a social process that takes place as an individual process, or as a process of interaction between individuals, as proposed by Bandura (1969:217). Furthermore, various factors affect learning in an education environment, such as teaching, curriculum type, stress, skills and knowledge of the lecturer, and motivation (Helmich, Bolhuis, Laan, Dornan & Koopmans 2014:349; Naveed *et al.* 2017:355).

Both the academic or social integration aspects can influence the transition further. Academic integration is a process of acquiring knowledge, as well as participating in practice that changes the learner's behaviour, skills and attitudes as a result of experiences in an education environment (Severiens & Schmidt 2009:60). Known academic integration contributors, such as language, learning styles, finances and academic study skills, are reported to lead to a sense of uneasiness during transition. This feeling could influence how students transition into a new education environment directly after high school. Thus, academic integration plays an important role in successful transition into higher education (Noyens *et al.* 2017:3).

Severiens and Schmidt (2009:60) view academic integration as being both formal and informal. On the one hand, formal academic integration encompasses contact related to the study material, faculty and institution. In turn, informal academic integration encompasses contacts between lecturers and students outside the direct context of the education environment (Severiens & Schmidt 2009:60). In the following sub-sections (2.2.2.1, 2.2.2.2), the researcher will describe formal and informal academic integration factors that could affect successful adaptation to a new education environment.

2.2.2.1 *Formal academic integration factors influencing adaptation of first-year medical students to the new education environment*

Ordinarily, medical students are required to possess an adequate amount of knowledge, skill, professional behaviour and attitude before taking responsibility as healthcare professionals (Eva, Islam, Mosaddek, Rahman, Rozario, Iftekhar *et al.* 2015:327). Eva *et*

al. (2015:327) explain that acquiring such knowledge and skills entails successfully participating in a curriculum of lectures, simulations, supervised practice, mentoring, and hands-on experience. Some aspects of the training process have unintended negative consequences for the medical students' physical and emotional health; hence, medical education is often characterised by a stressful academic atmosphere (Asani *et al.* 2016:55; Dagistani, Hejaili, Binsalih, Jahdali & Sayyari 2016:12; Kaufman *et al.* 2009:138; Shankar *et al.* 2014:e48).

A medical programme comprises medical students who originate from diverse cultural, socioeconomic and education backgrounds, and who vary in terms of their language and communication skills. All these medical students are exposed to a new education environment, and have to create new social circles and adapt to a different world during their training in the new education environment (Van der Merwe, Van Zyl, St Clair Gibson, Viljoen, Iputo, Mammen *et al.* 2016:80; Anandhalakshmi, Sahityan, Thilipkumar, Saravanan & Thirunavukarasu 2015:10, McLean & Gibbs 2010:227). The problem is that, because of these extreme academic demands, students feel overwhelmed and experience stress, and their perfectionism, which is fuelled by past academic achievements and high academic demands, fuels such behaviour further (Al-Sowygh 2013:98). Thus, because of this behaviour, they end up spending little or no time on social activities (McLean & Gibbs 2010:227).

Academic stressors relating to performance and evaluation concerns, as well as time and workload pressures, have been found to be the predominant stressors for medical students (Kaufman *et al.* 2009:138). Stressful academic atmospheres at medical schools may promote competition, rather than cooperation, among medical students (Dagistani *et al.* 2016:12; Naidoo *et al.* 2014:259; Thompson *et al.* 2016:175). Moreover, Bolt and Graber (2010:194-195) found social issues to be more common causes of social stress or concerns than academic stressors.

According to Bolt and Graber (2010:193), quoting Cook and Leckey (1999), and Lowe and Cook (2003), when students transition into university, they expect teaching methods to be comparable to those at high school, and they are not prepared for a different mode of

teaching (Bolt & Graber 2010:193; Hennis 2014:36). Academic study skills are also reported to be linked to university performance outcomes (Jansen & Suhre 2010:570, Nonis & Hudson 2010:230; Van der Meer, Jansen & Toerenbeek 2010:778). For instance, there is evidence that effective academic study skills are one of the top directly contributing factors to student academic performance and retention in higher education (Hayes *et al*. 2013:2). A delay in developing academic study skills may result in delayed adjustment to the new academic environment, low rate of class attendance, and lack of academic engagement (Hayes *et al.* 2013:2).

Related to academic study skills, is that students might not be aware of their learning styles or do not have an effective learning strategy, which could also lead to failure and frustration during their studies (Hennis 2014:32). Hence, students who were successful in high school, but lack the skill to learn independently, do not flourish in the university setting, or not as well as they did in the high school environment (Bolt & Graber 2010:197). In spite of students having various learning styles and strategies, possessing an effective study strategy and skill is essential for mastering the new education environment that learning and teaching demands (Hennis 2014:32).

The success of students who transition into the new education environment will depend on their autonomy to acquire new study habits or to adjust their study skills to suit the demanding semester model, in a less formal setting (Hennis 2014:34-35). Once students have developed a study skill, it will allow them to identify critical information in lectures, and integrate information across a wide spectrum of disciplines, to apply to a problem. In turn, this will result in students acquiring self-directed learning skills. Self-directed learning skills enable the facilitation of the information-seeking process from a variety of media sources, and enable active recall, reflection and self-examination (Bolt & Gaber 2010:198; Hennis 2014:35; Shilkofski & Shields 2016:6).

According to Hennis (2014:32), study skills could be enhanced further by active and interactive class experiences and the content that is delivered. Students are aware of the difference between an active and a passive learning environment. In the study by Shilkofski and Shields (2016:4), students noted that they started classes with their own culture of just

sitting back, relaxing and enjoying the lecture. The tendency of passively listening and absorbing whatever is taught, originates in secondary school and, unfortunately, continues into undergraduate degree studies (Shilkofski & Shields 2016:5-6). When the students arrived at their new education environment, they reported that they were encouraged by lecturers to ask questions and participate more. Lecturers generally encouraged this by creating an atmosphere that motivated students to speak up and share their opinions. This form of involvement encourages knowledge integration over rote memorisation; and Shilkofski and Shields found it apparent that students were becoming active listeners (2016:6).

Faculty involvement has been reported to be integral to achieving academic success (Fox & Stevenson 2010:146; Van der Meer *et al.* 2010:778). In a study by Carr, Taylor and Pitt (2018:496), first-year medical students were integrated into an education environment outside the classroom. Students reported on positive aspects of their experiences, which involved exposure to education environment settings that incorporated welcoming and supporting staff. Overall, factors that influence transition to the new education environment entail mastering study skills that are relevant and effective at the higher education level. Moreover, less formal settings ought to be introduced during the transition of students.

The incapability of first-year medical students to cope with extreme amounts of content, along with the high expectations of parents and peers, lead to an ideal pressure situation, and subjects' students to stress right from the start (Anandhalakshmi *et al.* 2015:9-10). Mehfooz and Haider (2017:566) report that the amount of stress experienced by first-year undergraduate medical students may be related more to academic factors than to social factors. Notably, stress may also lead to improved performance, which is a result of knowing how to cope with stress or with the environmental context. Therefore, stress can influence academic performance either negatively or positively (Mehfooz & Haider 2017:566).

In the South African context, it is suggested that medical programmes are overloaded with facts, and students inevitably spend many hours every day working to achieve the expected outcomes (Naidoo *et al.* 2014:258). The first-yearMBChB curriculum at the UFS involves a high workload and a full lecture schedule (UFS 2017a). Due to the workload, the "all-round"

achievers who were selected for the programme are forced to turn into bookworms in order to keep up, while also needing to maintain a compulsory 80% attendance of classes (Naidoo *et al.* 2014:259; UFS 2017a). Overloaded work programmes create a baseline level of stress that medical students may not be accustomed to, or be unable to adapt to (Naidoo *et al.* 2014:259).

2.2.2.2 *Informal factors influencing the adaptation of first-year medical students into the new education environment*

According to Tinto (1975:92), a student may perform adequately in the academic domain and still drop out, because of insufficient integration into the social life of the institution. Similarly, Szulecka *et al.* (1987, as reported by Pritchard & Wilson 2014:18) suggest that the major causes of attrition of first-year students relate to emotional rather than academic factors. Leafgran (1989, as reported by Pritchard & Wilson 2014:18), explains that emotionally and socially healthy students have a greater chance of succeeding in an education environment.

Therefore, a medical student's overall success in a new education environment is not determined by a single factor. Instead, it appears that there are multiple factors that influence the way medical students adjust to a new environment, including academic, social and emotional factors, which, furthermore, also contribute to their success in that specific education environment (Deepa & Panicker 2016:594, Fares, Tabosh, Saadeddin, Mouhayyar & Aridi 2016:77; Pereira & Cardoso 2015:299).

With the following sections namely; (i) social learning and integration theory aids successful transition, (ii) informal academic integration factors, (iii) social integration factors, (iv) formal social integration and (v) formal social integration, the researcher will elaborate on how there are multiple factors that influence the way medical students adjust to a new environment, focusing specifically on the social learning and integration perspective.

(i) Social learning and integration theory aids successful transition

Tinto's (1975:107) theory differentiates between academic integration and social integration (cf. Section 1.1). Social integration entails social adjustment, which describes how students manage sociocultural demands within the new education environment. Social adjustment, furthermore, involves attempts to understand psychological and physical distress while adapting to the new education environment, through being exposed to its academic challenges or lifestyle (McGarvey, Brugha, Conroy, Clarke & Bryne 2015:112).

Students' social integration or involvement "refers to the interactions between the student and the social system of their college or university, and can affect student learning and student persistence" (Noyens *et al.* 2017:4). It is apparent that social integration was conceptualised as student-to-student contact.

Academic integration was conceptualised as the interaction of students with academic staff, and as the students' academic performance. Hence, it is important to highlight the differentiation between academic integration and social integration (Severiens & Schmidt 2009:56-60; Noyens *et al.* 2017:4). However, although these concepts are different, searches for literature found that they are addressed together in most, if not in all, instances (Tinto 1975:107; Severiens & Schmidt 2009:56-60; Noyens *et al.* 2017:4).

Even though there is a difference between academic integration and social integration (Severiens & Schmidt 2009:56-60; Noyens *et al.* 2017:4), in practice, the two concepts occur simultaneously. During the transition into medical education, students are required to adapt to a new education environment that entails both academic challenges and lifestyle change (McGarvey *et al.* 2015:112). For this reason, in addition to the social learning and integration factors, informal academic integration will be discussed too. Informal academic integration encompasses contacts between lecturers and students outside the direct context of the education environment (Severiens & Schmidt 2009:60).

(ii) Informal academic integration factors

Research into informal academic integration reports that students who network with lecturers are likely to be more engaged in their coursework and become even more integrated into campus life. Once a student has initiated a primary connection with a lecturer, the connection can be developed further by the student asking questions in and after class, and seeking information on course resources on an appointment basis to discuss course-related matters (Hennis 2014:36). The role of lecturers is to give guidance on content-specific concepts of the coursework, by providing direction that is needed to become a strategic or a deep learner for that particular module. However, lecturers may not be trained mentors who possess professional skills to guide student development and facilitate academic, social and psychological support as a whole. Lecturers' informal but professional engagement could aid in creating the required sense of belonging in the students (Wilson 2009:273; McLean & Gibbs 2010:227; Hennis 2014:37; Deepa & Panicker 2016:585).

Shilkofski and Shields (2016:4) present findings on perceptions of international students from different backgrounds about the informal academic factors in medical education. Medical students mentioned that the relationship between lecturers and students, inside and outside of the classroom setting, could influence transition and cultural perspectives, such as language (McGarvey *et al.* 2015:112). For example, the students mentioned that the openness and approachability culture of lecturers could make a new education environment supportive and encouraging (Shilkofski & Shields 2016:4). International medical students reported, furthermore, that the transition was easier when they did not experience a hierarchical structure in an academic setting that had a traditionally hierarchical culture. One student reported that calling people by their first names and being treated as an equal, a friend, or a future colleague, created an inclusive atmosphere (Shilkofski & Shields 2016:6).

Typically, students who are motivated, who set their own goals, and have qualities of self-management, self-monitoring, self-directedness and high levels of interest, and who work to achieve those goals, are more likely to succeed academically (Brouwer *et al.* 2016:109).

These students are said to gain knowledge and understanding and develop study habits related to deep learning (Wilson 2009:272-273; Hennis 2014:36-37). In contrast, students with low self-esteem, who are less goal-oriented and who are driven by fear of failure have a tendency to engage in rote learning. They lack the desire to gain knowledge and understanding, and end up developing study habits that promote surface learning. These students are less likely to approach a lecturer for guidance on the coursework and may find that their learning is superficial, even though they are investing a great deal of effort into the process of navigating the workload (Wilson 2009:273).

Informal academic integration has been discussed as part of the academic integration that occurs within an education environment. The researcher will now discuss the social integration that occurs within an education environment.

(iii) Social integration factors

Considering the definition of social integration (cf. Section 1.1), Mehfooz and Haider (2017:567) explain that medical students are exposed to non-academic stressors, such as the teaching and learning environment, intrapersonal and interpersonal interactions/issues, group activities, drive and desire, and stressors related to the social environment. The social stressors refer to any form of community and societal relationships that cause stress.

Non-academic stress factors or social integration factors are similar, since both entail the possibility of individuals accessing valuable resources through social relations. These social relations enable individuals to attain their personal goals that, in turn, influences the student's education environment (Brouwer *et al.* 2016:109). For the sake of consistency, the researcher will be using the term social integration factors instead of non-academic stress factors.

It is important to note that social integration differentiates between formal and informal integration. Formal social integration involves mainly contact between peers on matters of learning. For instance, contact often revolves around collaborative work, i.e. the ways in

which students experience working together on tasks. Informal social integration is distinct in the sense that it encompasses factors such as frequent social contact and participation in student activities (Severiens & Schmidt 2009:60).

A few social integration factors that have been identified are living independently, homesickness, hostel issues, health issues, relationship issues with friends, the competitive education environment, lack of peer support, imbalance between personal and professional lives, and not having enough time for recreation (McLean & Gibbs 2010:227; McGarvey *et al.* 2015:112,115). Other factors include freedom of expression and friendliness, making friends, attitudes and practices, dress code, personal space, loneliness and depression. Students experience homesickness and loneliness when they have problems they are incapable of solving, and when they do not receive help from other students (Othman, Yusoff & Surienty's 2012:1).

According to Bojuwoye (2010:285), a common factor in students' experience of stress at South African universities is a threat to self in the context of basic survival needs. This threat is experienced in two main ways: firstly, inadequate financial support or money to make ends meet, and, secondly, a lack of information for decision-making and early adjustment to the new education environment of the university. Moreover, the situation at South African medical schools is that the majority of local first-year medical students enter university from high school. It was found that students entering university directly after school lack the skill set and emotional tools required to deal with a brand-new, task-saturated environment (Anandhalakshmi *et al.* 2015:10). This means they are underprepared for university life and academia (Hamid & Singaram 2016:99).

Social integration is promoted when students apply strategies that enhance feelings of being related to a specific, new education environment (Brouwer *et al.* 2016:109). The need for relatedness relates to feeling connected to others and experiencing love and care by others (Brouwer *et al.* 2016:109; Noyens *et al.* 2017:4). Noyens *et al.* (2017:4) report that this process could help in overcoming the loneliness and the void caused by being away from loved ones. Friends can provide direct emotional support, as well as buffering support in stressful events (Brouwer *et al.* 2016:109). Moreover, the social environment can play an

important role in promoting students' autonomous motivation, by fulfilling a basic psychological need, namely, the need to belong (Yang, Tai & Lim 2016:1276). Thus, once students feel that they belong, it facilitates the process of internalisation of academic motivation, which contributes to them being more willing to engage in education contexts that support fulfilment of relatedness needs (Noyens *et al.* 2017:4).

Hayes *et al.* (2015:27) are of the opinion that, when a medical education institution is set up in a particular country, it is usually the culture of that institution that interacts with the culture of students. Due to the absence of predominant factors related to social adjustment, incongruence and isolation or alienation, as opposed to when students have to travel to a medical education institution in a particular country. Thus, students' cultural identity remains preserved and can be practiced on a daily basis. This could suggest that, for students who are studying in their home country, the fear of losing cultural identity might not be predominant a factor; neither is the separation from parents and friends as great. Research concluded the findings were from a group of medical students whose university was located in their home town. These medical students were not forced to separate from their old lives and move away from home.

(iv) Formal social integration

Formal social integration can be promoted through tutorial attendance and students' engagement (Hayes *et al.* 2013:2). Literature emphasises that, through social integration, lecturers can be seen as more than individuals who are simply passing on information. Instead, lecturers become facilitators who help students by engaging them in higher cognitive level problem-solving tasks. In addition, students are not merely inactive receivers, but participants who are actively engaged in experiencing new content (Shilkofski & Shields 2016:6). This situation contributes to students engaging in collaborative learning, through group discussions and cooperative learning, which require lecturers to give students autonomy and the freedom to discover and derive their own meaning from occurrences (Hajhosseini, Zandi, Shabanan & Madani 2016:2).

(v) Informal social integration

Students who exhibit high self-esteem and who express greater feelings of self-efficacy have more informal social ties, compared to their counterparts who have low self-esteem and self-efficacy (Hennis 2010:38). This phenomenon builds on Bandura's social learning theory (1969:217), by highlighting that learning is facilitated by learning from each other. When transition occurs in a context where the majority of students are former high school peers, or at least know that they come from the same high school education background, students tend to relate better with their academic content (Hayes *et al.* 2015:27; Soltani, Allaa, Moosapour, Aletaha, Shahrtash, Monajemi *et al.* 2016:69).

Sharing a common background may create an additional sense of security, and facilitates the process of making friends further, as students find it easy to build social relations due to the shared culture between them (Hayes *et al.* 2015:27). Forming new friendships in a new education environment is important for helping students adjust to the academic and social environment in the first year of transitioning. Friends bring that sense of belonging; they offer advice and are a direct source of fun and enjoyment (Noyens *et al.* 2017:4). Hennis (2010:38) suggests that students from the same country and or high school would have been exposed to similar racial and social diversity, starting from the time they attended kindergarten, extending into primary and high school settings. Students would have developed integration skills, facilitated through parental associations and interactions. Many of these high school friendships and relationships continue into university.

Hennis (2014:37) discusses parental social support as a factor that also contributes to informal social integration. Turner, Chandler and Heffer (2009:337-338) also found parental support to be one of the most important factors for student success. Parents demonstrate their support through financial support and active involvement in their children's university journey, as well as providing an established family structure – in these cases, students usually live at home (Hennis 2010:38; Cheng, Ickes & Verhofstadt 2012:3).

2.3 SUPPORT STRATEGIES AND PROGRAMMES AVAILABLE FOR FACILITATING THE SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

This section will provide a literature overview on support strategies and programmes available for facilitating the social learning and integration of first-year undergraduate medical students. Moreover, the researcher will also link the identified factors mentioned in Section 2.2.2.2 with the available support programmes for facilitating the social learning and integration of first-year undergraduate medical students.

Awareness of stress factors includes the need to provide emotional and communication skills training in medical curricula (McLean & Gibbs 2010:227). According to McLean and Gibbs (2010:227), such training will enable students to detect, understand and manage emotions in themselves and others, and may contribute to physical well-being and satisfaction. Beginning such training early on in medical education may assist medical students to deal with the stress reported during medical training by other medical students (McLean & Gibbs 2010:227; McGarvey *et al.* 2015:112,115).

A sense of belonging, such as feeling cared for or connected to the university, is important for students (cf. Section 2.2.2.2). This is an important aspect of their overall success, according to Lane (2016:2). In essence, it is evident that students are troubled by being away from home, by academic pressures and faculty and institution-related challenges (Lane 2016:3). According to Deepa and Panicker (2016:594), the prevalence of these problems is higher in the first year of medical education.

The very early stages of a student's higher education career are to be used to "frontload" them with knowledge and skills that will improve student retention, rather than ignoring the situation until serious problems surface (Trotter & Cove 2005:31). Medical students are, thus, required to have coping strategies that will enabling them to adapt into a new education environment in a comfortable way, so they can utilise both the opportunities and challenges that the university offers (Pereira & Cardoso 2015:299). In addition, medical

educators should remain attuned to their diverse students' needs, and should engage with students' academic environment by instituting appropriate techniques and support strategies and programmes that will facilitate the social learning and integration of first-year medical students (McGarvey *et al.* 2015:112).

A study on improving integration and support efforts for students found that language, intercultural differences, and making friends were a few of the factors that were useful (Huhn, Huber, Ippen, Eckart, Junne, Zipfel *et al.* 2016:37). Factors that promote successful integration were divided into external and internal factors. Students from Europe, the Middle East, East Asia, Southeast Asia and Latin America who studied human medicine in Heidelberg, Germany, reported on factors that they used to integrate successfully into the new education environment (Huhn *et al.* 2016:37). Students reported external factors that facilitated the university's integration of minorities to be successful; they also indicated that the university could improve by creating a platform to raise awareness of intercultural issues (Shilkofski & Shields 2016:6). Students suggested that hosting culture-themed student parties on various culture-related topics could serve as a solution to culture shock. Such an initiative could create an opportunity to allow international students to showcase their culture in front of local students (Huhn *et al.* 2016:37).

Internal factors that are closely linked to personal attitudes, such as curiosity, shyness or openness, also contributed to successful integration. One of the students stated that it is best practice to confront oneself when in the company of other people and another one mentioned that it is good to deal with issues and not bottle them up (Huhn *et al.* 2016:37).

2.3.1 Personal context: coping strategies

Hamid and Singaram (2016:99) report that there is a dearth of research on the coping and adjustment skills of medical students generally, and particularly in the South African context. Coping strategies are suggested to be personal factors that increase people's capacity to recover quickly from difficulties (Thompson *et al.* 2016:175). Medical students use various coping strategies to process their stressors (Fares *et al.* 2016:76). Strategies that involve engagement, such as positive problem-solving, positive reinterpretation, and expression of emotions, facilitate student adaptation, which reduce anxiety and depression

and their effects on mental and physical health (Fares *et al.* 2016:76-77). Unfortunately, few medical students seek help, and distress often continues into residency and beyond (Fares *et al.* 2016:77). Medical students with good social functioning and support are more likely to recover quickly from difficulties (Thompson *et al.* 2016:175). Positive coping mechanisms are associated with the skill of seeking social support – to turn a negative experience into a personal growth experience (Thompson *et al.* 2016:175).

(i) Informal academic integration factors

Hennis (2016:36) asserts that if a student has initiated a primary connection with a lecturer; that can be regarded as a positive coping mechanism, and therefore an informal academic integration factor. The student can further develop the connection through asking questions in and after class, and seek information on course resources and discuss course-related matters through scheduling an appointment with the lecturer. Another benefit of such a connection is the influence on transition and cultural perspectives, such as making hierarchical structures less intimidating to approach in an academic setting (McGarvey *et al*. 2015:112, cf. Section 2.2.2.2).

(ii) Social integration factors

Social integration factors are associated with coping strategies with regards to how well students cope with living independently, homesickness, hostel issues, health issues, relationship issues with friends, the competitive education environment, lack of peer support, imbalance between personal and professional lives, and not having enough time for recreation (cf. Section 2.2.2.2). Unfortunately, the majority of first-year medical students enter university from high school and these medical students are said to lack the skill set and emotional tools required to deal with a new education environment (Anandhalakshmi et al. 2015:10). However, with sufficient support from the new education environment including strategies such as enhancing feelings of being related to a specific new environment, the need for feeling connected to others could help improve social integration. (Brouwer *et al*. 2016:109; Noyens *et al*. 2017:4; cf. Section 2.2.2.2).

(iii) Formal social integration

Collaborative learning on platforms allow the lecturer to become a facilitator and students to be more than inactive receivers of information. Students may cope better when they become participants who are actively engaging in experiencing new content presented at a higher cognitive level, e.g. problem-solving tasks (cf. Section 2.2.2.2).

(iv) Informal social integration

Informal social integration is a platform that allows students to build social relations based on common background, thus creating a sense of security. Forming new friendships is also pivotal to students because it contributes to a sense of belonging in order to adjust into a new education environment (Noyens et al. 2017:4; cf. Section 2.2.2.2).

2.3.2 Social and institutional context: support programmes

Because of the social challenges that medical students face when they transition from high school to the medical educational environment, McLean and Gibbs (2010:227) implore medical educational environments to provide time for students to pursue hobbies and to socialise within and outside the faculty. In their view, doing so will foster an atmosphere of trust and mutual cooperation. The faculty should also play a role in scheduling social activities that enable students and staff to interact informally, though professionally (McLean & Gibbs 2010:227). As Bandura (1969:217) asserts, social learning allows people to learn from one another through observation, imitation, and modelling.

Though there are support systems and professional help in place, students who are struggling and who may be most in need of assistance, often fail to seek it (Holland 2016:705). According to Lane (2016:2), medical students may need to be exposed to people they can relate to, people with similar experiences and backgrounds, and people who will make it easy for them to talk about their discomfort. Thompson *et al.* (2016:179), opine that medical students are capable of recognising mental health issues in themselves and

their peers. However, they feel more comfortable sharing those issues amongst themselves, hence, the low utilisation of available services.

2.3.2.1 *Support programmes that are used to facilitate social learning and integration*

As Tinto (1975:107) theorises, socially integrated students transition successfully to a university, and they tend to build new social networks and friendships and have a tendency of contacting academic staff members, hence, they are more likely to remain enrolled at an institution (Leidenfrost *et al.* 2014:102). Without social integration, it becomes harder to persist and, ultimately, to graduate. Those who feel at home, who take part in extracurricular activities, and who feel connected to fellow students and teachers are more inclined to persevere in their studies (Severiens & Schmidt 2009:60). Medical students may require various types of support to make their life easier in the medical education environment (Deepa & Panicker 2016:594).

Generally, the existing programmes are stand alone. Each of those programmes are coordinated by the specific Department or Division, little to no relationship exists among the programmes on Institution level. The idea behind the newly suggested framework was to formulate an inclusive working structure in house to assist students with all aspects of social learning and integration during transition into a new education environment. Emphasis is placed on the transition period which is a time sensitive phenomenon and none of the programmes highlighted mentioned strategies that they have in place to address transition on a social learning and integration level.

The researcher investigated existing programmes and why they possibly did not fully equip first year medical students in their transitioning into university.

(i) Institutional support at the UFS

Upon admission, several institutional support structures are in place for first-year students. For instance, at the UFS, the Division of Student Affairs creates opportunities to enhance and facilitate students' critical thinking skills and modes of being in a way that is consistent

with human rights and the principles of social justice (UFS 2017b). However, the participation of first-year medical students is limited in programmes such as the student representative council or even the faculty representative council. In order to participate in such programmes, the students must be well orientated about the educational environment and be aware of the gaps that must be filled. Most importantly however, they must be able to balance their academic activities so that they can join such programmes as an extra mural activity outside medical studies; which unfortunately appears to be a challenge to the first-year medical students as a result of their academic workload and limited time of more or less 16 academic weeks of completing their first year (first semester in the programme) successfully.

In addition, Student Counselling and Development promotes and enables students' self-direction (UFS 2013:5). The advantage of this division is the convenience of having academic, emotional and social guidance in the same building; thus serving as a one-stop facility. The disadvantage, however, is the long waiting period for a student to get attended to. As this division is expected to provide services for all the students at the university, in most cases, students can wait up to two months to get a booking and receive the required support. As mentioned above that transition is a time sensitive matter and if the right time for intervention is missed, one could lose out on having the opportunity to help the student when they most needed it. So even if the student does eventually get to be consulted, the impact of intervention might be in vain. Furthermore, accommodation support is offered through Housing and Residence Affairs, which enables students to experience the wholeness and joy of being a student at the UFS, and presents general opportunities for students to become leaders (UFS 2017c). Campus accommodation is unfortunately not available for every first-year that enrols, due to limited space that is available in the residences. Some first-year students find themselves staying off campus as a result of not securing accommodation on campus. The reasons could vary from either applying late for on campus accommodation, being accepted late into the programme hence missing out on applying in time for on campus accommodation, or financial related challenges that force students to stay off campus with relatives or find cheap accommodation until a permanent solution is available. Hence, there will always be a cohort of first-year medical students who might face other transition challenges of becoming acquainted with their new educational environment; because they will never fully understand their environment because after their classes they go off campus to a totally different environment.

Student safety is also prioritised at the UFS through protection services, safety, and security, and tools to navigate the campus (maps and locations) are provided (UFS 2017d). The following divisions attend to students' medical issues: Emergency Services on campus, Health and Wellness Centre, Kovsies Social Work Services, Centre for Universal Access, campus ministries and an HIV and Aids centre (UFS 2017d). These services are very significant and impactful. Every human being is supposed to feel secured and protected when they arrive at a new environment that might be strange to them. Unfortunately, this only applies on campus. The reality is that some first-year medical students who are also in need of such services and are not benefiting from them as a result of being off campus in a society with several security challenges. For example, if a first-year medical student who stays off campus and would like to join a campus ministry, the student must ensure that they have some form of security, such as walking in a group with other students who live in the same commune or surrounding area. That student must also think of ways in which they will have to be prepared if something were to happen, such as wearing comfortable clothing and shoes in case they were to be in a position where they have to run for their lives. More importantly that they will also have to weigh their options on whether it will be safe to carry their phone with them or not in case they might be ambushed at gun point. These challenges would not apply to a student staying on-campus.

(ii) Faculty support at the UFS

The FoHS provides academic support to medical students through the DSLD. The Division's mission "is to facilitate the acquisition of generic skills and graduate attributes that will improve student success and well-being as well as design programmes and strategies that will enhance the holistic development of students". One of the strategic actions of the DSLD focuses on academically developing students' self-learning skills (Student Academic Support and Development Strategic Plan, 2019). Part of this support entails helping students acquire skills for accessing and utilising information, making informed decisions about study methods for different modules, critical thinking, problem-solving, reflection and self-assessment. This support is presented in a 12-credit-bearing module (General Skills) presented in the first semester of the MBChB curriculum, as well as individual and group consultations (UFS 2017a). What is highlighted above is that the support is predominantly academically structured. In as much as the DSLD offers a comprehensive credit-bearing

module on development of lifelong learning skills for the first-year medical students, it does not incorporate the social learning and social integration components, thus does not contribute towards holistic student development.

(iii) Division of support within the SoCM

The SoCM provides a student support function, via Undergraduate Medical Programme Management, which supports undergraduate students regarding logistical and organisational aspects of the medical training programme, issuing study material, semester planners and guides and additional study material, articles, as well as regular student interaction (UFS 2017a). Furthermore, a qualified clinical psychologist gives mental health support to medical students, and makes referrals to other existing support structures. Student Administration at the FoHS provides support and advises on financial matters and bursaries (UFS 2017a). Although academic and social support is provided, it seems that social learning and integration support may be improved on.

While these programmes offer value, medical schools need to interrogate whether these support systems apply adequately to first-year undergraduate medical students who are transitioning from high school to medical studies. From literature consulted, the researcher could find no data on whether the abovementioned programmes have been interrogated on their adequacy in terms of supporting the transition of first-year medical students from high school to university. Medical education literature reports on the potential dangers facing medical students who isolate themselves physically from other medical students during the difficult time of transition; hence, support systems, such as mentoring, counselling and orientation during the emotional and unsettling transition phases, are required (McLean & Gibbs 2009:4). More individualised support may be offered to students who isolate themselves physically, which may include the following type of individualised support systems.

(iv) Individualised support systems

- **Preparation for Health Sciences workshop support**: Thalluri (2016:39) reports on workshops to prepare health sciences students that were carried out over a duration of a week. These intensive preparatory short course activities were introduced to provide students a smooth transition to university studies through positive experiences. The workshops accommodated first-year students who were new to university education and who desired aid to fill in the gaps in their background knowledge of science and health sciences. However, an exception was made for international students; they were allowed to enrol for the workshops even though they were above the age of 21 years, and they were not entering university directly after school. Their acceptance was based on having limited or no background in biology, chemistry and physics, and being anxious about starting university studies in health sciences. Meaningful engagement with the university was also facilitated by meeting the academic staff, networking and forming friendships with peers and becoming familiar with the campus and support systems available (Thalluri 2016:39).

- **Mentorship support**: According to a study by Pereira and Barbosa (2013:45), mentoring was identified as one of the support strategies that may be particularly important to new medical students, who often find themselves inadequately prepared for the new education environment. First-years' mentoring programmes have been found to be particularly effective (Pereira & Barbosa 2013:45). It is part of the medical school's duty to provide students with a platform where they can reflect on their feelings and emotions, a place where their vulnerabilities, limitations and conditions can be seen, understood, accepted, cared for and treated, when necessary (Pereira & Barbosa 2013:45).

- **Student-led group support**: According to Fares *et al.* (2016:78), students need to be equipped to formulate student-led groups, through the provision of career counselling, life coaching and confidential resources provided by a university's health insurance plan. These groups help students to process conflict, raise self-awareness and nurture empathy early on after arrival. This initiative could enable students to have

opportunities to express, analyse and share feelings. Shared reflection can help students to realise that their struggles are common and provide insight on how to solve or overcome these common problems.

2.4 CONCLUSION

The literature overview reported in this chapter enabled the researcher to address the two main objectives mentioned in Section 2.1. This was done by, first, understanding which social learning and integration factors confront first-year undergraduate medical students on transitioning from high school to a new education environment. The second objective entailed further investigations into whether there were support programmes in place, in general, as well as at the SoCM and at the UFS, to facilitate the factors that had been identified. Further chapters will collate findings and draw points on what could ease successful transition by first-year undergraduate medical students coming to university from high school.

Chapter 3 will address the research design and methodology of the study.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

This chapter will describe, in detail, the research design and methods that were used for this study. A literature overview provided context for the research and illustrated where the research done in this study fits in with the existing body of knowledge (cf. Section 2.1). In this chapter, literature on selected techniques, namely, the methods and procedure of generating consensus among experts using the nominal group technique and the Delphi technique, will be elucidated. The aim was to achieve a general agreement or convergence of opinions around the factors that need to be addressed in relation to social learning and integration for first-year medical students (McMillan, King & Tully 2016:656). The research sample, sampling procedure and the analysis of the findings will be described. The final part of the chapter will discuss the quality of the study and ethical considerations applicable to this study.

3.2 RESEARCH PARADIGM

This study used a qualitative social constructivism worldview (cf. Section 1.7.1), through which an understanding of first-year undergraduate medical students' experiences of social learning and integration on transitioning from high school to the UFS, in particular, the SoCM in the FoHS, was explored in a group setting. As mentioned (cf. Section 1.7.1), the knowledge that was gained guided the researcher to understand the lived experiences and the social relations that structured the experiences of the individuals being investigated (Creswell 2013:24; Botma *et al.* 2015:45).

The methods employed for this study used both quantitative and qualitative research approaches. Quantitative data that were collected provided numbers and frequencies of votes, while qualitative data involved participants' responses to open questions. Although both quantitative and qualitative methods were employed, the qualitative approach

dominated in answering the research questions through the use of the nominal group and Delphi techniques.

3.3 DESIGN OF THE STUDY

This study used a qualitative case study design (cf. Section 1.7.2). As stated by Silverman (2017:131, 133), the process of refining a research topic cannot be done as a purely technical activity. Hence, the researcher's intention in selecting a particular research design was to explore, in-depth, the process of students' social learning and integration when they transition from high school into the medical education environment. Had this been a quantitative research project, the researcher's interest would have been identified as a research topic that is derived from a model of science that treats "social facts" as existing independently of the activities of both participants and the researcher. Instead, this study is a qualitative study, and its approach was to explore and understand the meaning individuals or groups ascribe to a social problem (cf. Section 1.7.2).

The researcher's intentions were to understand how the occurrences are "experienced" or "constructed" in people's everyday activities. This was done by avoiding early hypotheses and simply designing the research study in a manner that allowed a range of concepts to be explained to the individual or groups of humans, in order to gather information on what was going on in that particular setting (Silverman 2017:133).

Table 3.1 presents the multiple phases in which the design of the study will be engaged in order to address the research questions of the study.

Table 3.1: Guideline to the multiple phases of the design of the study

Research Question	Data Source/sampling	Data Collection	Data Analysis
1. What factors affect the social learning and integration of first-year undergraduate medical students?	Literature overview and nominal group meeting with undergraduate medical students	Literature study and nominal group technique	Not applicable
2. What social learning and integration skills need to be developed by first-year undergraduate medical students?	Nominal group meetings with undergraduate medical students	Nominal group technique	Qualitative and quantitative analysis
3. What support programmes are available to facilitate the social learning and integration of first-year undergraduate medical students?	Literature overview	Literature study	Not applicable
4. What should a support framework designed to address social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS include?	Nominal group meetings with undergraduate medical students and Delphi experts	Nominal group technique and Delphi technique	Qualitative and quantitative analysis

3.4 METHODS OF INVESTIGATION

As mentioned in Chapter 1 (cf. Section 1.7.3), research methods refer to ways of doing data gathering (planning and implementing sampling, and the role of the researcher), data analysis and interpretation, as well as ensuring rigour in research (Creswell 2014:16; Botma *et al.* 2015:199).

As this study involved a qualitative case study inquiry, the data collection methods were applied in a natural setting that considered the manner in which medical students experienced their medical education environment. The research methods that were used in this study were a literature overview, nominal group technique and Delphi technique. Appropriate data analysis and interpretation methods were used to interpret the data gathered by these techniques.

3.4.1 Literature overview

The literature overview aimed to provide context for the research, and illustrated where the research fitted in with the existing body of knowledge (cf. Section 1.7.3). As demonstrated in Chapter 2 (cf. Section 2.1), the literature overview oriented the researcher to the subject, so that she became acquainted with articles applicable to the study (Springer 2010:42-43, 56; Botma *et al.* 2015:64). The overview served to bring clarity and focus to the research problem, namely addressing the apparent lack of a social learning and the absence of an integration support system that could facilitate the transition of first-year undergraduate medical students from high school into a new educational environment at the SoCM of the FoHS at the UFS. The literature overview also provided insight on how to improve the research methodologies of this study, to broaden the researcher's knowledge further and to contextualise the findings of this study (De Vos *et al.* 2011:135).

3.4.2 Nominal group technique

In qualitative research, there are various reasons for using group techniques, and various group techniques can be used. In this study, the researcher decided to use the nominal group technique. This technique uses an orderly procedure for obtaining relevant and reliable qualitative information from a group of experts in a focus group setting (Harvey & Holmes 2012:188; Vander Laenen 2015:5). In other group techniques, such as focus group discussions, dominant personalities can influence the discussion, and ideas that are generated are not prioritised to determine which issues are most pressing. During the

nominal group technique, equal participation is facilitated and all opinions are allowed and considered respectfully, thereby minimising the influence of dominant personalities and one particular viewpoint; a variety of ideas are prioritised, to highlight the most pressing issues (McMillan, Kelly, Sav, Kendall, King, Whitty *et al.* 2014:93).

The nominal group technique was developed by Delbecq and Van de Ven in 1971, as a process for "identifying strategic problems and developing appropriate and innovative programmes to solve them" (McMillan *et al.* 2014:6). The nominal group technique, along with the Delphi technique, are formal consensus development methods. Both are used to obtain views of experts on a given topic and bring about group consensus. Unlike the Delphi technique, the main feature of the nominal group technique is structured face-to-face group discussions. Furthermore, the ideas emerging from the discussion are prioritised, thereby enabling a clear outcome to be reached, which provides a sense of achievement for participants. Most importantly for this study, this technique requires less time and resources than the Delphi technique (Harvey & Holmes 2012:188; McMillan *et al.* 2014:92; Vander Laenen 2015:5).

Nominal groups involve between two and 14 participants; however, a maximum of seven is recommended per group. This technique generally involves a question or two, which are provided to participants prior to the actual meeting (McMillan *et al.* 2016:656). The technique comprises four key stages: the first stage commences with the participants being introduced to the topic and invited to engage in a silent generation of ideas for about 5–10 minutes. The second stage requires each participant to share one of their ideas with the rest of the group in a round-robin format. Ideas may be elucidated at this stage, to enable them to be listed, though no discussion takes place yet. Each of the ideas are recorded and displayed, normally on a flip chart, by a facilitator, until all ideas have been listed. These ideas are then discussed briefly in the third stage, for the purpose of clarification, categorisation, and removal of duplicates. The fourth and final stage involves the participants voting on and ranking the ideas listed by the group. Each meeting takes approximately 90 minutes in total (Rankin, McGregor, Butow, White, Phillips, Young *et al.* 2016:111; Cunningham 2017:69; Mullen, Kydd, Fleming & McMillan 2017:2).

3.4.2.1 *Target population*

A target population refers to a certain group of individuals who possesses the same specific characteristics (De Vos *et al.* 2011:14). The target population for the nominal group technique was all registered undergraduate medical students from first year to fifth year. The inclusion of senior students would allow rich viewpoints that could give an indication of a skillset needed already on first year level and further developed with each transitioning. All registered undergraduate medical students had entered university directly after completing high school, and successfully managed to pass all six modules, namely, The Doctor and the Environment, Concepts of Health and Disease, General Skills, Structure and Development of the Body, Tissues of the Body and Health Psychology. The modules, Structure and Development of the Body, Tissues of the Body and Health Psychology, are regarded as "high-risk", due to their large content volume and because students require intensive tutorial support. Furthermore, the researcher recruited all registered undergraduate medical students who had initially failed the first semester on entering tertiary education directly from high school. These students could reapply to enrol in the programme for a second time the following year, after successfully completing a Learning Development Programme (LDP). To qualify for the LDP, failing students were required to pass the modules, Integrated Anatomy and Physiology, Basic Human Anatomy and Physiology, Biophysics, and Medical Terminology, by obtaining an average mark of at least 70%. As indicated earlier, students' experiences of a faculty may create a barrier in the institution; and prevent students from successfully transitioning into medical education (Lane 2016:13; cf. Section 2.2). This brought about the researcher's interest in investigating the LDP students, specifically, to determine which aspects of the institution could have resulted in them being unsuccessful with their transition into medical education.

The LDP is a 108-credit-bearing programme presented over six months in the second semester. Structured modules, namely Biophysics, Integrated Anatomy and Physiology, Lifelong Learning Skills, Basic Human Anatomy and Physiology, Language Skills and Medical Terminology, are presented through compulsory didactic and practical sessions. If students had already participated or undergone an extended degree prior to admission into theMBChB curriculum, or had already obtained a qualification prior to being selected, or had failed more than 50% of their first semester modules, they could not apply to enter the

LDP (UFS, 2017a).

3.4.2.2 *Description of sample and size*

The description of the sample defines the target population and could include both inclusion and exclusion criteria (De Vos *et al.* 2011:14). The study population included all registered undergraduate MBChB students.

The LDP had had an average enrolment of 17 medical students per year over the past three years (2016–2018). The researcher assumed that they had all passed the LDP and managed to reapply the following year into the medical programme. The selection of participants from the LDP group was anticipated to include all LDP students present in one of the five academic years of the medical programme, from first year to fifth year. The number of participants who had successfully passed their first academic year on entering the tertiary education from high school was much greater, because there were more of these students. The selection of these students was aimed to include a maximum of 15 participants per year group from first year to fifth year – ideally, aiming to end up with a maximum total of 30 to 32 participants per year group for the medical programme.

Table 3.2 represents the registered MBChB undergraduate students who were recruited to participate in the nominal group meetings. The table shows that a total of N=32 participants, ranging from first to fifth academic years, were recruited for the nominal group meetings.

Table 3.2: Registered MBChB undergraduate students selected for participation in the nominal group meetings

Year inMBChB curriculum	1st year	2nd year	3rd year	4th year	5th year
Description of sample	0 passed 5 failed	7 passed 11 failed	5 passed 1 failed	3 passed 0 failed	0 passed 0 failed
Total	n=5	n=18	n=6	n=3	n=0
Grand total	**N=32** participants				

The researcher divided the participants further, into two groups. All those who had passed the first academic year were included as the first group to participate in the nominal group meetings, which the researcher denoted as the non-LDP group. All those who had initially failed their first academic year were included in the second group, and were denoted as the LDP group. The second group had n=15 participants, compared to the first group, which had n=13 participants, which required the second group of participants to be divided further for separate meetings, then brought together only after each group had achieved their prioritised statements. The reason for dividing the 15 participants into two small groups was because McMillan *et al*. (2016:656) suggest nominal groups to involve between two to 14 participants.

3.4.3 Exclusion criteria

All undergraduate medical students registered in the MBChB curriculum at the UFS, who had not entered the medical education environment for their first academic year directly from high school, were excluded. The reason for the exclusion of these students was that they had already been exposed to university culture. Thus, they did not fit the criteria of entering medical school directly from high school and experiencing the transition to medical education environment for their first academic year for the first time.

3.4.3.1 *The pilot study*

A pilot study is a small-scale version of the study, which is usually done on a few participants who meet the inclusion criteria (Botma *et al.* 2015:275). In this study, the researcher conducted a pilot study with undergraduate medical students registered in theMBChB curriculum at the UFS during the year 2019. Participants were selected on their willingness to consent to participate in a pilot nominal group meeting. The same selection criteria to participate as indicated in Table 3.2 applied. The initial idea was to select one participant per academic year for each of the two groups that were decided on.

Due to failure to recruit sufficient or any students in all academic years, the researcher decided on two participants from the non-LDP group and another two from the LDP group, giving n=4 participants for the pilot nominal group meeting, these students did not participate in the research sample. The pilot study was done to ensure that the questions were clear and not biased, and that the nominal group technique was well structured. The pilot study also helped to determine whether participants interpreted the questions correctly. This was done in an attempt to ensure that they understood what was required of them. The pilot also determined the time needed to complete the nominal group meeting.

The pilot study was also used to gauge the amount and type of data that could result from the nominal group meetings. The data collected during the pilot study were only used to streamline the questions and were not included in the data analysis. Based on the results of the pilot study, changes were made to the first question of the nominal group technique, by a minor rephrasing of the question.

3.4.3.2 *Data gathering*

In this study, a group of undergraduate students were brought together from different years of the five-year MBChB curriculum at the UFS. The researcher invited students by distributing announcements via the class communication groups, and recruited students by making in-person announcements during scheduled classes. The researcher had initially set out to recruit all the students who had previously completed the LDP in each of the five

years of the academic programme (cf. Section 3.4.2.2). For non-LDP medical students, a target of maximum 15 participants was anticipated per year group in the five years' academic programme. The recruitment of participants took place from March to April 2019. The researcher managed to recruit a total of 38 participants (n=22 LDP, n=16 non-LDP), though only 32 eventually participated in the nominal group meetings. Some of the participants could not attend on the day of the meetings, for various reasons (including personal and academic reasons).

In Table 3.2 (cf. Section 3.4.2.2), it can be seen that the smallest number of participants recruited was senior students (fourth and fifth years). From the fourth-year group, three non-LDP participants were recruited, and no LDP participants. From the fifth-year group, only one non-LDP participant volunteered to participate and no LDP participants volunteered. The majority of the fifth-year students reported that they were feeling too overwhelmed and burned out to volunteer their free time.

The researcher used the nominal group meetings to identify factors affecting social learning and integration of first-year undergraduate medical students. The objective was to determine what set of social learning and integration skills needs to be developed in first-year undergraduate medical students, to help them adapt during the transition process from high school to medical education. The findings of the nominal group meetings could, furthermore, assist in designing a support framework to address the social learning and integration of first-year undergraduate medical students at the SoCM of the FoHS at the UFS.

Health sciences education experts in the field of qualitative research facilitated the nominal group meetings. Their selection was on the basis of their previous research studies that were also carried out using the nominal group technique. What qualified them as experts was the fact that in addition to having used this method in their own postgraduate studies, they also facilitated many sessions for other colleagues. Five nominal group meetings were held. A total of three experts were used for all five meetings. One of the three experts facilitated only the non-LDP nominal group meeting, the other two experts individually facilitated the two small LDP nominal group meetings and both experts facilitated the LDP nominal group meeting which combined the two small LDP nominal group meetings, as well

as the pilot study group meeting. The advantages of selecting the three facilitators was that they were within the premises of the university where the meetings took place, and they were familiar with the context of the students. The disadvantages of not working with the selected facilitators would have been to hire facilitators from an agency, which could have come at a cost. As mentioned, there were no funds in the budget to cover ad hoc services, which could have compromised the research project.

The nominal group meetings were scheduled in accordance with the availability of the majority of the participants. The nominal group meetings took place at the seminar room at the DSLD at the FoHS, UFS. Each group met at the same venue, with a facilitator or two, depending on the group the participants represented. The researcher joined all meetings, where students were asked two questions once they had signed the consent form to participate in the nominal group meetings. After collecting the signed consent forms from the participants, the nominal group meetings were initiated using a guide with the following open-ended questions:

i. What affected your social learning and social integration during your first year of medical studies at the Faculty of Health Science, University of the Free State, Bloemfontein?
ii. Kindly determine what set of social learning and social integration skills you used or did not use to help you adapt during the transition process from high school to medical education.

The classification of statements was recorded with a digital voice recorder. The researcher acted as an assistant to the facilitators. She distributed clean paper for the participants to note their ideas, and colour-coded paper for voting purposes; the researcher was also responsible for collecting the voting papers from the participants and sorting them (from most important to least important), for the facilitator to note on the whiteboard. The researcher assumed the role of generally observing, and made detailed notes on paper, such as noting students who had to excuse themselves for other obligations, in addition to handling the logistics of the discussions.

Of the 32 participants who took part in the nominal group meetings, four participants were hosted in the first nominal group meeting during the pilot study (cf. Section 3.4.2.3). The second nominal group meeting hosted 13 participants from the non-LDP group on the 12 April 2019 and the third and fourth nominal group meetings hosted 15 participants on the 13 April 2019. During the third and fourth nominal group meetings, the 15 participants were divided into two (LDP-A n=8 & LDP-AA n=7) separate groups, which ran simultaneously. The two LDP nominal groups were only brought together after they had voted on their top five ranked statements. The fifth nominal group meeting was held for the two small LDP groups in one large group, and they discussed only the top five ranked statements. This was a continuation of the small group meetings that were held separately. There are no clear guidelines on the number of nominal group meetings necessary to reach saturation (Vander Laenen 2015:5). In this study, data saturation was considered to have been achieved when no new ideas were being generated from the meetings.

During the first stage of the nominal group meeting process, participants were encouraged to silently reflect and generate ideas on what had affected their social learning and integration during their first year of medical studies. Participants wrote as many responses to the question as they could think of, on a blank piece of paper. This stage of the process lasted 10 minutes. The second stage required each participant to share one of their ideas with the rest of the group in a round-robin format. The ideas were written on a flip chart or whiteboard by the facilitator. The elucidation of ideas at this stage was noted, to enable the ideas to be listed, but no discussion took place yet. All ideas were noted and listed until no responses were left to be expressed and noted, and saturation had been achieved.

The third stage entailed the facilitator reading out all the statements noted on the flip chart or whiteboard. This was done to confirm the statements and understanding of each of the statements. At this point, a brief discussion for the purposes of clarification and removal of duplicate statements took place. The potential categorisation of statements also took place, but only when the group agreed that it was still a true representation of their words. The fourth and final stage involved the participants voting on and ranking the ideas listed by the group. Each participant was given five separate colour-coded recording cards to prioritise the five most important statements that they deemed crucial for the support framework. The meetings lasted between 180 and 210 minutes. Figure 3.1 gives a

schematic overview on the step-by-step summary of the nominal group technique process that was followed.

This technique, therefore, enabled the researcher to involve participants in a face-to-face, structured meeting. This enabled first-hand information to be obtained straight from the source, that is, undergraduate medical students who experienced the transition when entering the UFS for the first time after high school. The technique capitalised on the experiences and expertise of the undergraduate medical students, with a view to identifying areas of consensus and establishing priorities for change (Harvey & Holmes 2012:190).

The nominal group technique has been used successfully with young people, proving that it is adaptable across age ranges. Thus, this technique was suitable for all age ranges of participants who had been selected to participate in the study (Cunningham 2017:69).

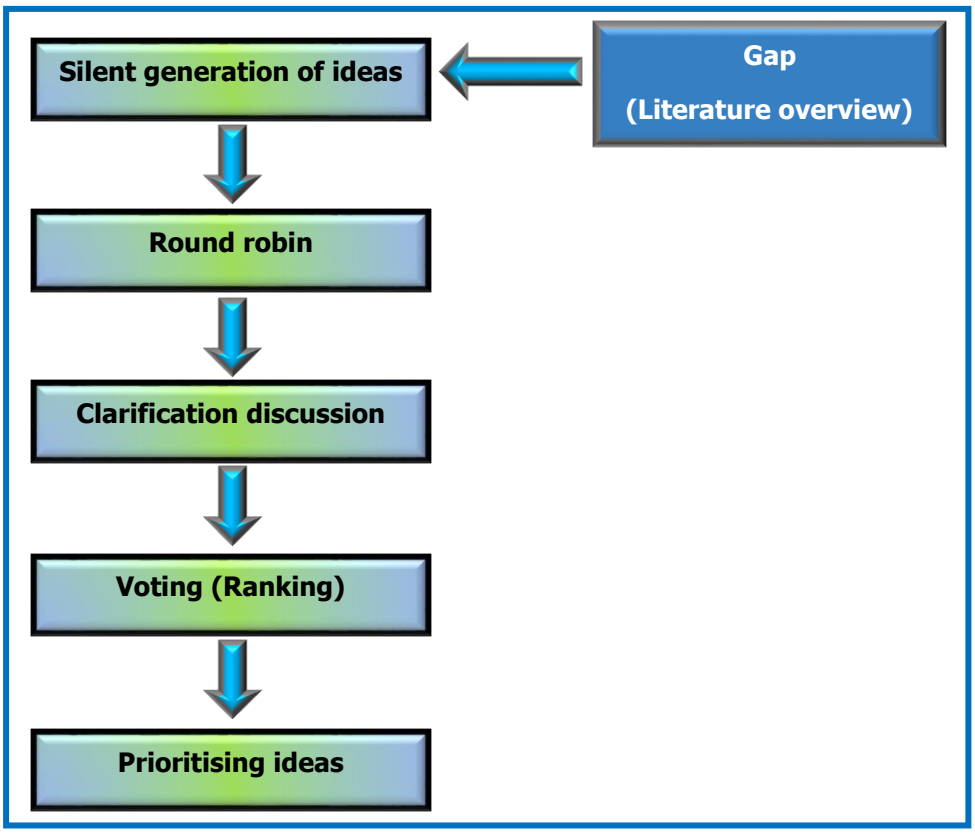


Figure 3.1: Schematic overview of the nominal group technique process used in this study

3.4.3.3 *Data analysis*

The nominal group technique yields data that can be analysed both quantitatively and qualitatively. Quantitative analysis of the data refers to the two last steps of the nominal group technique process. Statements are voted on and prioritised further, to yield a maximum of five top statements, ranked from the statement with the most votes to the statement with the least votes. For qualitative analysis, content analysis of the individual items can be done. This enables themes to be constructed out of the individual items noted on the flip chart. Moreover, the "discussion" sections of the procedure can be analysed by means of coding and standard computer-aided qualitative data analysis software (Vander Laenen 2015:8).

In this study, both approaches were carried out. The researcher worked on the quantitative data first. Immediately after the nominal group meetings, the researcher compiled an overview of the ideas of each group, the ideas with the highest scores, and the number of participants who scored a specific idea. In instances where two nominal groups responded to the same research question, as it was expected to happen in this study when the participants of the LDP group had to be divided into two separate groups and carried out two separate meetings simultaneously, this step required further comparative analysis, as each group generated a different list of items. However, literature advises that the group scores can be collated to give an overall list of priority items generated by the different groups. The LDP nominal group meetings required the researcher to develop a standard set of prioritised items derived from each of the two group meetings. This set was used in another meeting, where all participants could vote on both sets of the top five ranked statements (Vander Laenen 2015:8).

The researcher collected qualitative data from discussions of statements through text data transcription from the flip charts and whiteboards, as well as the digital voice recorder, and analysed it using code sources and NVivo 12 Pro Windows software, as a way to get acquainted with the data. NVivo 12 Pro Windows software is a qualitative data analysis application that allows researchers to collect, organise, analyse and visualise unstructured or semi-structured data (NVivo 12 Pro Windows software

https://latrobe.libguides.com/NVivo12). This software allowed the researcher to import the raw statements into a range of file formats labelled as follows: LDP and non-LDP question 1, and, LDP and non-LDP question 2. Code sources were allocated to raw statements. Raw statements that did not have a specific code allocated at that specific time were denoted as unknown. The researcher worked on the same data for an extended period of time, until she was acquainted with the data. In addition to allocating code sources to raw statements, the researcher grouped the raw statements that had similar or identical code sources. The use of the NVivo 12 Pro Windows software for analysis did not progress beyond the stage of naming the grouped items further, that is, allocating themes. This was due to the researcher learning about other methods by two authors who had applied qualitative methods with fewer steps. The methods described by Van Breda (2005:4) and McMillan (2014:93) were used for the further detailed analysis of the qualitative data. Further detail on the analysis will be provided in Chapter 4. All data was kept strictly confidential and was analysed as such. On receipt of the transcription data, the researcher read the ideas discussed by the participants to become familiar with the data as a whole. The data was examined repeatedly to identify concepts that respond to the research questions and objectives of the study. Thereafter, an initial code list, which acted as labels for the important concepts, was created.

The researcher also made use of the content analysis approach and created response codes to identify and refine themes and categories. The thematic categories were refined further to include a selection of words used by the participants. An independent colleague was asked to check the groupings and possible categories, to ensure authenticity (Van Breda 2005:4; McMillan *et al.* 2014:93).

For content analysis to reveal developing trends and patterns, statements in relation the same question by the two groups of participants were analysed simultaneously. In the final stage, the researcher derived meaning from the data by making disciplined interpretations of the themes with the help of the study supervisors.

3.4.4 Delphi technique

A Delphi technique is an anonymous, structured and iterative process that is carried out over a series of questionnaire rounds, to systematically collect and aggregate the opinions of a panel of experts, with the aim of reaching consensus on the research topic (Lambe & Bristow 2010:e348; McMillan *et al.* 2016:658). Although the authors state that a Delphi technique is anonymous, participants are known to the researcher, though not to each other. Confidentiality is maintained, though not complete anonymity. A sample of about 10 participants has been suggested, however, larger panels have also been used; though inviting more experts to participate increases the variety of expertise, however, it eventually leads to diminishing returns (Habibi, Sarafrazi & Izadyar 2014:12).

The purpose of using the Delphi technique in this study was to collect expert views and refine judgements on a series of ranked statements collected from the nominal group meetings, with the aim of developing a social learning and integration support framework for undergraduate first-year medical students' successful transition to the medical education environment. This technique provided qualitative data through the ranking of ideas, with aspects of quantitative information provided through statements communicated by participants. The researcher approached the Delphi experts on a referral basis and compiled a questionnaire from the nominal group meeting outcomes. The questionnaire enabled the participants to both rate the item, using a 3-point Likert-scale, and to write free-text comments explaining their rating or expressing disagreement with a statement's relevance (McMillan *et al.* 2016:658).

The technique recruited experts involved in providing student support at health science institutions and higher education and training institutions, nationally and abroad. The intention was to achieve general agreement or convergence of opinion around a particular content statement that had been generated in a nominal group meeting on the topic of the research study (McMillan *et al.* 2016:655).

3.4.4.1 *Target population*

The target population for the Delphi technique was experts involved in student support at health sciences and higher education and training institutions nationally and abroad, who had at least eight years' experience in this field. The aim of selecting these particular participants with eight or more years of experience was to ensure that knowledgeable individuals with vast experience were included in this study.

3.4.4.2 *Description of sample and sample size*

Experts in a particular field were purposefully selected to bring their expertise to bear on the specialist issue of the research topic under investigation. Purposive sampling is directed at capturing diversity in relation to a phenomenon, and involves participants being selected on the basis of their ability and willingness to provide information by virtue of their knowledge and experience (Lambe & Bristow 2010:e348). The researcher applied a judgemental or purposive sampling process to this study, which was based on the belief that the researchers' knowledge about the population could be used to hand-pick the sample population (Botma *et al.* 2015:200). The researcher solicited referrals to experts from senior colleagues, who suggested suitable participants for this study. After obtaining the list of names, an invitation email was sent out and further engagement followed from the experts' responses. In-depth details of the structure of the email will be provided in Chapter 5.

Experts, in the context of consensus methods, are individuals who possess knowledge about the topic of concern (McMillan *et al.* 2016:659). This study directed its Delphi questionnaires at experts who were currently or had previously been involved in student support at health sciences and higher education and training institutions for at least eight years. The researcher selected a sample of 10 panel experts, as suggested by literature (Habibi *et al.* 2014:12), as this number allowed a variety of expert opinions; six participants were from health sciences and four participants were from higher education and training.

3.4.4.3 *The pilot study*

The Delphi questionnaire was pre-evaluated by means of a pilot study to ensure that the questions were clear and not biased and that the questionnaire was well structured. The pilot study panel consisted of two experts from the field of student support for health sciences and the field of higher education and training respectively, who met the inclusion criteria. The participants involved in the pilot study did not form part of the final Delphi panel; also, the pilot study data was only used to evaluate the questions and was not included in the data analysis.

3.4.4.4 *Data gathering*

Experts were invited to participate in the study via email, and were requested to give their responses within a period of 10 days. Those who failed to respond received friendly email and/or telephonic reminders every three days. The body of the email included a detailed explanation of the questionnaire, and explained the importance of participation. In an attempt to encourage openness and willingness to express their views freely, the participants were informed from the start that their identities and the information they disclosed would remain confidential (Eubank, Mohtadi, Lafave, Wiley, Bois, Boorman, *et al.* 2016:57). Thus, in addition to the information leaflet (cf. Appendix B1), a consent form was made available (cf. Appendix B2). When the invitation to participate was accepted by the potential participants, they were asked to complete and return the signed consent form to the researcher via email.

The first round consisted of a self-administered questionnaire that was developed electronically using Microsoft Word® 2016, which presented a series of ranked and themed statements from the nominal group meetings that participants were asked to rate on a modified 3-point Likert scale, ranging from **must have/essential**, **good to have/useful** to **unnecessary**. The researcher also asked participants to write free-text comments that, for example, explained their rating or expressed disagreement with the relevance of themed statements (McMillan *et al.* 2016:658).

The responses to the first-round questionnaire were organised and used to create the second-round questionnaire. The second-round questionnaire presented the themed statements as before, on which consensus had not been achieved during the first round. All themed statements on which consensus had been achieved were omitted from the second-round questionnaire, and were only communicated as feedback on the first-round questionnaire, together with the consensus rating and the individual responses under the comments section. A similar process was carried out for the third round of the questionnaire (Chapter 5 will provide in-depth details). Consensus was considered to have been achieved on statements when a predetermined level of consensus of ≥70% was achieved. The individual comments by experts were taken to represent the scope of opinion of other experts. After considering the group consensus, as well as the comments made by other participating experts, participants could re-rate the statements in subsequent rounds, by giving either the same rating as before, or an amended rating (McMillan *et al.* 2016:658).

In most studies, two rounds are applied, since more than two rounds lead to panel attrition (McMillan *et al.* 2016:658); the Delphi process was repeated for three rounds in this study. However, if there is a need for more rounds, then more rounds should be done. The minimum time required for a two-round Delphi survey can be as long as 30 days, though it may take even longer if multiple reminders are needed or if the researcher is required to travel and personally collect the questionnaires from experts, if feasible. Moreover, the time required to organise the responses of the first round and the creation of personalised second-round questionnaires should not be underestimated (McMillan *et al.* 2016:658). The Delphi survey in this study was administered for three rounds, and the participants were requested to make their final submissions on the third round and provide comments about their choices in the free-text comment sections.

3.4.4.5 *Data analysis*

The researcher recorded and analysed the responses of each of the participants per themed statement with the assistance of her supervisors. Since an assessment criterion would have been developed when a predetermined level of consensus of at least 70% was achieved, the researcher calculated the percentages accumulated per statement.

The results were analysed for agreement and disagreement, and a specific statement needed to achieve ≥70% consensus from the expert participants on the response options of **must have/essential**, **good to have/useful** to **unnecessary**. Each statement also had a free-writing comment section to gather qualitative responses.

In relation to the free-text comments, a thematic approach was used to analyse the data by identifying concepts and categories. To ensure authenticity, the supervisors evaluated the groupings and categories (Keeney, Hasson & McKenna 2011:5). Figure 3.2 presents a brief overview of how the Delphi technique was undertaken by the researcher in this study.

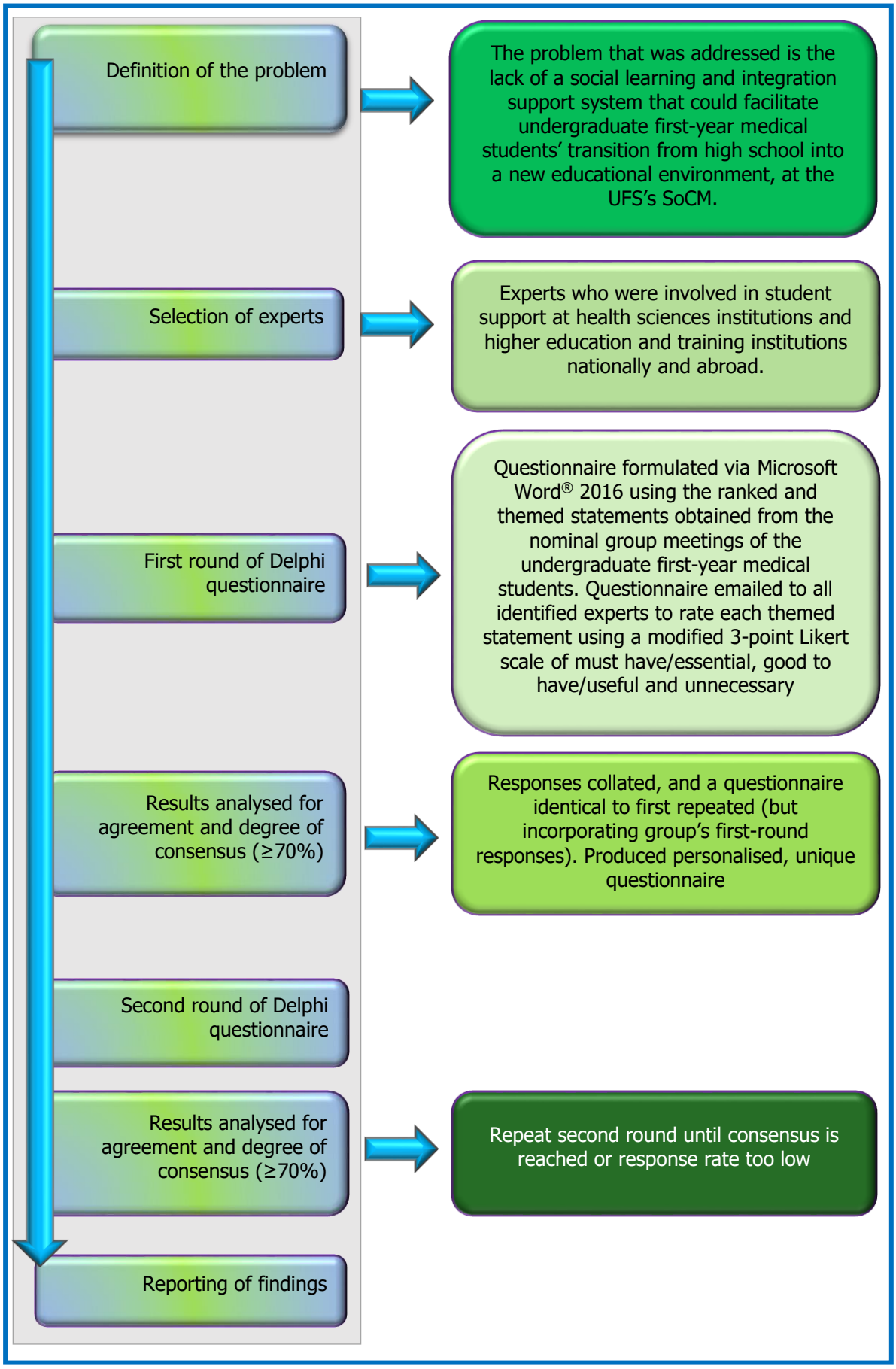


Figure 3.2: Brief overview of the Delphi technique that was used in the research study

(Modified from Jones & Hunter 1995:378; McMillan *et al.* 2016:658)

3.5 QUALITY OF THE STUDY

Qualitative inquiry is subject to criteria of quality. Quality could be achieved through a variety of flexible skills, depending on the goals of the study and preferences/skills of the researcher (Tracy 2010:839-840). The researcher discussed the four criteria for evaluation of the quality of the qualitative inquiry in this study, namely credibility, transferability, dependability and confirmability (Schurink, Fouché & De Vos 2011:420). These terms are alternative expressions for the constructivist paradigm's criteria, and ensure rigour in a qualitative research study (Botma *et al.* 2015:233).

Notably, although the consensus methods used in this study entailed aspects of quantitative data, the quantitative data was not significant enough to address the quality of quantitative findings. Hence, the study focused mainly on ensuring the quality of the qualitative data.

3.5.1 Credibility

According to Tracy (2010:842), credibility refers to the trustworthiness, reliability and plausibility of the research findings. In addition, Botma *et al*. (2015:233) state that credibility determines whether the researcher has established confidence in the truth of the findings, given the participants and the context in which the research was carried out. Furthermore, credibility is obtained from the discovery of human experiences as lived and perceived by the participants.

In this study, credibility was established from the data that was generated, of experiences lived and perceived by undergraduate medical students on entering the medical education environment at the UFS as expressed during the nominal group meetings. The participation of the panel of experts in the Delphi technique also established credibility with regard to the findings of the study, which had been generated from the nominal group technique, and which were judged and refined until consensus was achieved.

3.5.2 Transferability

Transferability can be achieved when readers believe the story of the researcher overlaps with their own setting and they intuitively transfer the research to their own setting. This means that the ideas created by the study's findings relate to what readers have experienced, in the same manner or in another arena, leading them to a decision that views the findings as transferrable, or not (Tracy 2010:845).

In this study, the data collection methods, namely nominal group technique and Delphi technique, were constructed so that other researchers can transfer the methods into their own studies. Transferability was addressed by presenting the findings in a manner that enables other researchers to decide whether the findings are transferable.

3.5.3 Dependability

Dependability considers whether the findings will be consistent if the inquiry is replicated with the same participants and in a similar context. This study's dependability strategy involved a dependable audit (an audit trail, which is a detailed description of how the researcher collected data and the kind of data that was collected), in the form of traceable variability that can be ascribed to identifiable sources. This means that a step-by-step replication of the study is possible by following the thick and dense description of the methodology, and triangulation of methods, data sources, and theories and investigators (Botma *et al.* 2015:233).

According to Petty, Thomson and Stew (2012:383), dependability is difficult to achieve in qualitative research, due to differences between individuals and contexts, as well as the passage of time. In this study, dependability was achieved by presenting coherent, well documented and audited research processes that were applied during the research study, as indicated by Schurink *et al*. (2011:420).

3.5.4 Confirmability

According to Botma *et al*. (2015:233), confirmability entails freedom from bias during the research process and results description, and refers to the degree to which the findings are grounded in the participants' voice, rather than researcher's motivation, interests or perspectives (Tavakol & Sandars 2014:844). The researcher achieved this goal by clarifying the links between the results and the data that was collected. Confirmability also entails the researcher being sincere, honest and transparent about biases, goals, and shortcomings, and the way these aspects play a role in the methods and mistakes of the research study (Tracy 2010:842). Moreover, the researcher used group techniques to collect data for the study – group techniques have been reported to counterbalance the direct impact of the researcher on the discussions (Vander Laenen 2015:5).

3.6 ETHICAL CONSIDERATIONS

This section will report on the ethical considerations that needed to be in place prior to commencing the study. Three main points that were taken into account to perform the study ethically, will be discussed, namely, approval, informed consent and rights to privacy and confidentiality.

3.6.1 Approval

Approval for the research project was obtained from the Health Sciences Research Ethics Committee (HSREC) at the UFS. Only upon receiving final approval from the HSREC did the study commence. The recorded ethics number for this study is UFS-HSD2018/1300/2711 (cf. Appendix C).

3.6.2 Informed consent

In this study, a short overview of the study and its purpose was provided to the nominal

group technique and Delphi technique participants, with an explanation of what would be required of them (cf. Appendices A1 & B1). A written informed consent form for the research study was made available to participants who were willing to participate in the nominal group technique (cf. Appendix A2 and A3) and the Delphi technique (cf. Appendix B2). There was no form of compensation for participants for participating in the study.

The participants were informed that participation in the research study was voluntary and that they were permitted to withdraw from the study at any time. Furthermore, participants were informed that they would not be penalised or lose benefits if they declined to participate or decided to terminate participation. They were also informed that the results of this study might be published and/or presented at congresses and academic meetings.

3.6.3 Right to privacy and confidentiality

The participants were asked to provide their names and student or staff numbers on the consent forms. All information gathered during the nominal group technique and the Delphi questionnaire was treated as confidential. However, the researcher's name and contact details were available to all participants at all times and participants will have access to any published results of the study.

Number coding was used to ensure the confidentiality of the participant responses. No names or personal identifiers appeared on any datasheet that was sent for analysis of obtained data. All information was managed in a strictly professional and confidential manner.

3.7 CONCLUSION

In this chapter, the research paradigm, design of the study and methods of investigation were discussed. In addition to the literature study as a method of investigation, two consensus methods, namely, a nominal group technique and Delphi technique, were used

to generate and determine priorities from a group of experts. The nominal group technique was used to explore medical students' views, while the Delphi technique was used to obtain expert opinions, which were used in the development of guidelines to design a support framework for social learning and integration of undergraduate first-year medical students.

The researcher further discussed the quality of the study by elaborating on the criteria that were used for evaluation of the quality of the qualitative inquiry in this study and then also discussed the ethical considerations in this study.

In the next chapter, Chapter 4, the findings and analysis of the nominal group meetings will be discussed.

CHAPTER 4

RESULTS AND DISCUSSION OF THE NOMINAL GROUP TECHNIQUE FINDINGS

4.1 INTRODUCTION

The first method used to collect data was the nominal group technique. In Chapter 3, the research design and methods used for this study were discussed. In Chapter 4, the researcher will report on the findings of the nominal group technique. The researcher will discuss the findings in line with the objectives stated in Chapter 1 (cf. Section 1.6). Before providing the actual results, the process of analysing the nominal group technique data will be explained, which involved adapting the methods of Van Breda (2005:5) and McMillan *et al*. (2014:93) for analysing data generated from multiple events applying the nominal group technique. The steps included the analysis of raw data, thematic analysis of the raw data, analysis of secondary coded data, and qualitative analysis; the process is summarised in Figure 4.1.

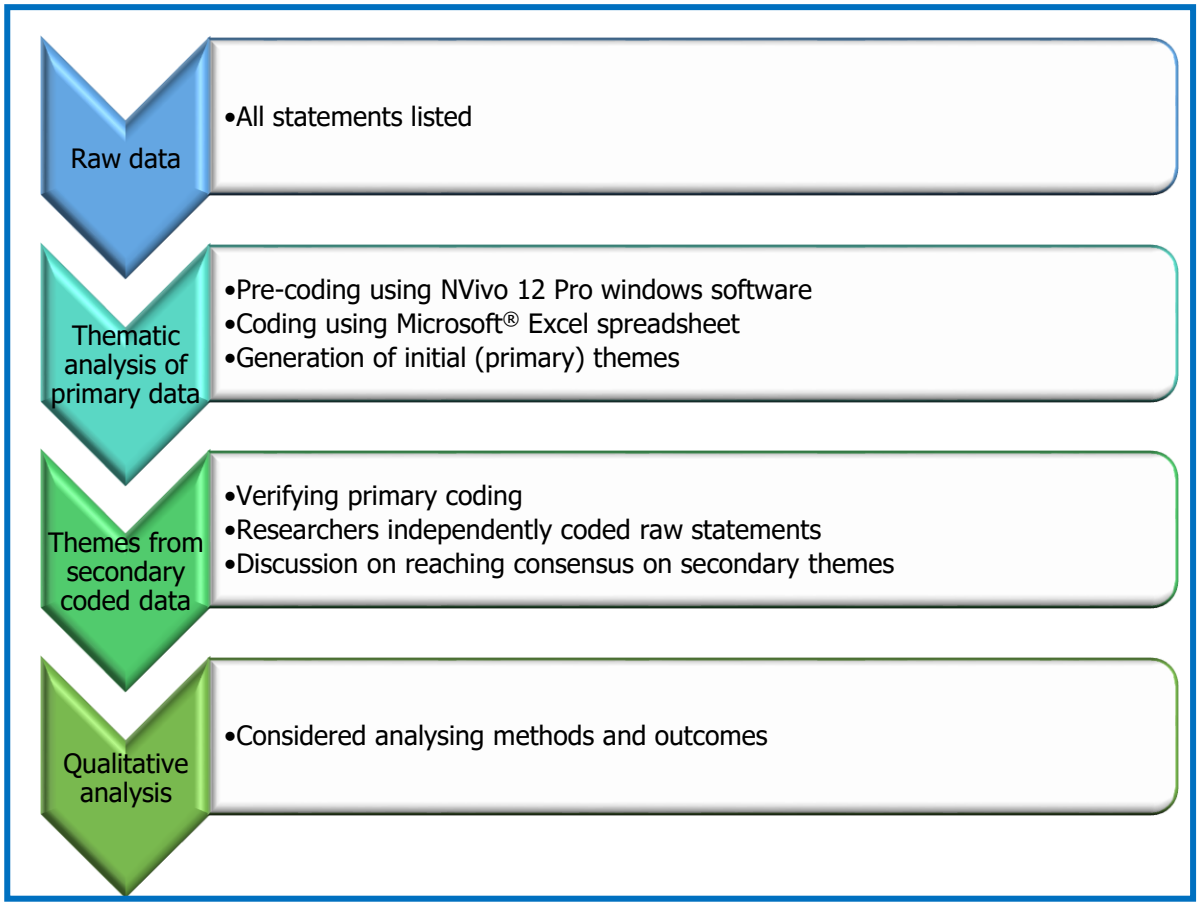


Figure 4.1: The nominal group technique data analysis process (adapted and modified from McMillan *et al.* 2014)

As mentioned in Chapter 3 (cf. Section 3.2.2.1), students who had passed their first academic year were denoted as the non-LDP group. All students who had initially failed their first academic year were denoted as the LDP group (cf. Section 3.2.2.1). Four nominal group meetings (three LDP groups and one non-LDP group) were conducted; the raw data is presented in Appendix D.

4.2 DATA ANALYSIS OF DATA GATHERED FROM THE NOMINAL GROUP TECHNIQUE

Analysis will be done in the context of three terms: ideas generated, priorities, and themes. Participants generated ideas in the silent generation and round-robin stages of each nominal group meeting. The ideas were then voted on and became priorities in the ranking

stage of each nominal group meeting (McMillan *et al.* 2014:104). In addition, the priorities and other remaining raw statements were then pre-coded using NVivo 12 Pro Windows software. On adapting Van Breda's method (2005:4-12), the priorities and an additional five to 15 other raw statements were coded using a Microsoft Office® Excel 2016 spreadsheet. After the generation of codes, themes were developed and analysed further to uncover the meaning of the data. The following systematic guide was used to carry out the analysis process:

Step 1: Capturing raw data on the computer (Microsoft Office® Excel 2016 spreadsheets)

The initial review of the raw data (i.e. the original data provided by participants) started with two sets of statements from the nominal group meetings that were generated in response to the first question. According to Van Breda (2005:5), only statements that were scored by the groups were used. From the non-LDP group, a maximum of 21 statements were scored. However, Van Breda (2005:5) suggests using only 20 of the statements and keeping the rest, as the researcher needs to return to those statements. In this instance, only one extra statement from the non-LDP group was retained, and was not discarded, as it would be used later to gain a better understanding of the problem being addressed by the nominal group technique. A spreadsheet file was created and the columns were labelled from left to right, as shown in Figure 4.2.

Column A	Group
Column B	Theme
Column C	Statement
Column D	Scores
Column E	Average
Column F	Top five

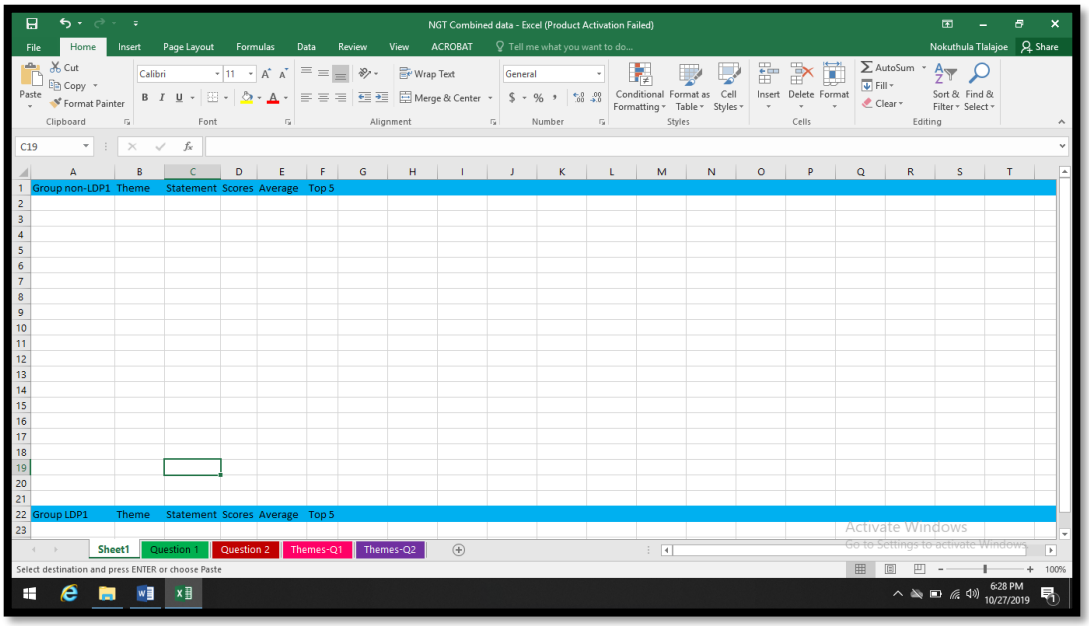


Figure 4.2: Microsoft Office® Excel spreadsheet with columns A-F
(Click zoom level to enlarge image)

In column A (Group), the researcher typed non-LDP in the first 20 rows of the column. This was followed by the same headings as illustrated in Figure 4.2; then 10 rows of the column were labelled LDP. The two sets of statements from the nominal group meetings could be differentiated easily from one another at first glance. The reason the LDP group only had 10 statements, was because the two small groups (LDP A and LDP AA) came together after each group had reached consensus for the top five statements. Column B (Theme) was left blank, as there were no themes at that point. All statements were listed, one statement per row, in column C (Statement) in the order of listing on the flip chart.

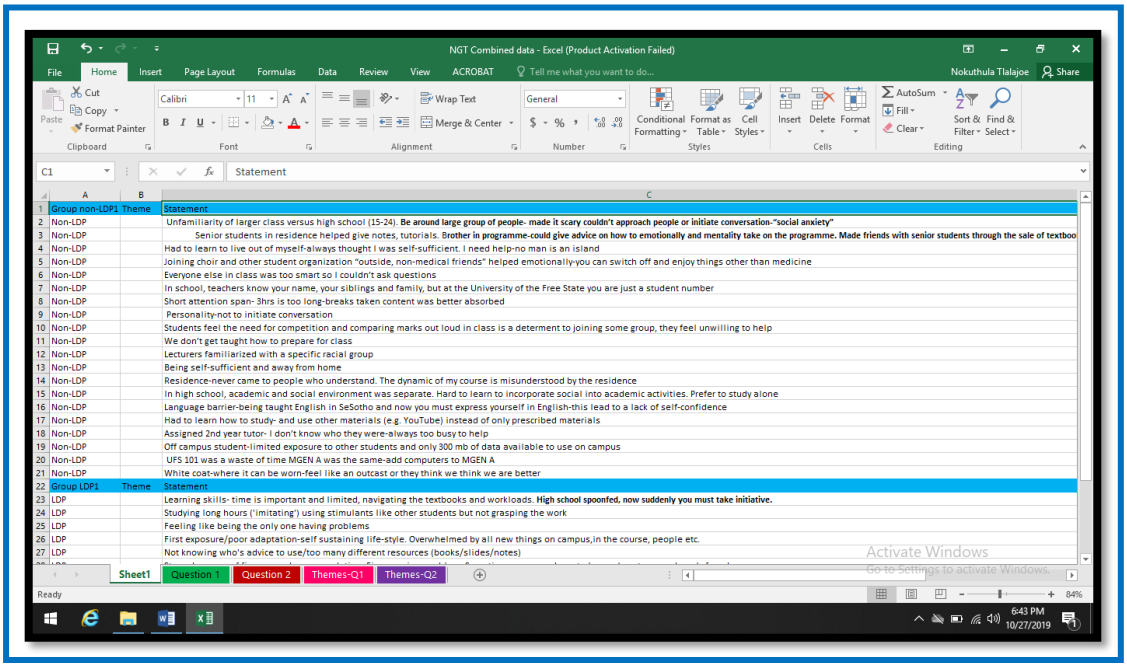
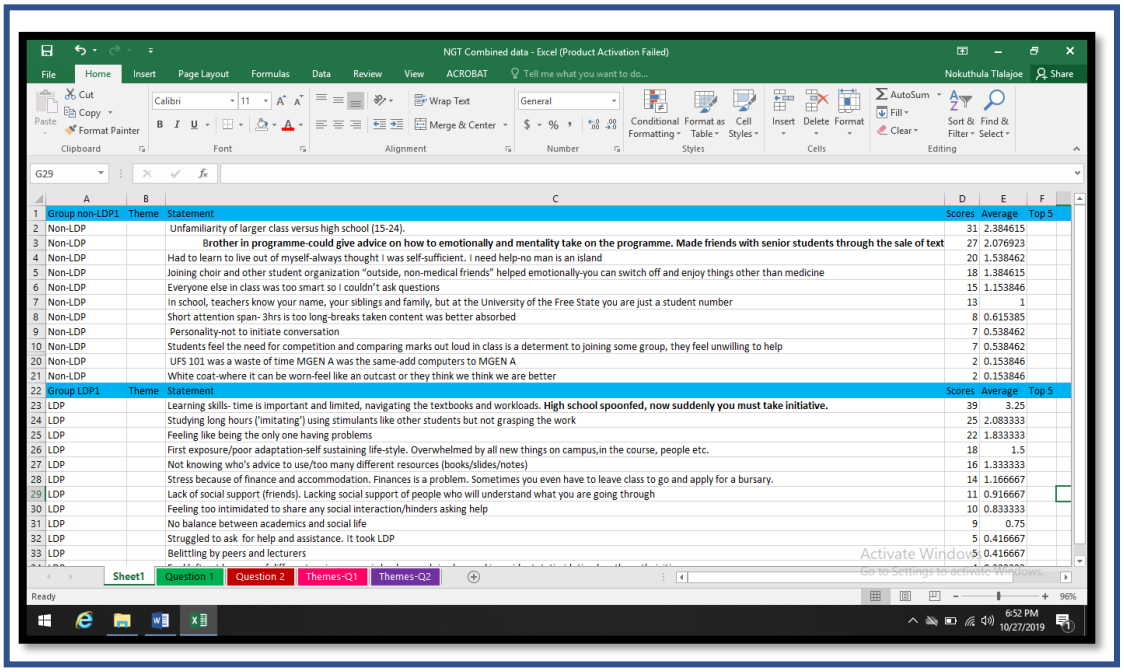


Figure 4.3: Microsoft Office® Excel spreadsheet populated with column A (Group) and column C (Statement)

In column D (Scores), the total scores for each statement were typed in a row. According to Van Breda (2005:4), column E (Average), entails the total score being divided by the total number of participants in the group meeting, to obtain the average of each of the total scores. The researcher calculated each of the groups' averages and populated the Microsoft Office® Excel spreadsheet. Column F (Top five) was left blank at that point.



Group non-LDP1	Theme	Statement	Scores	Average	Top 5
Non-LDP		Unfamiliarity of larger class versus high school (15-24).	31	2.384615	
Non-LDP		**Brother in programme-could give advice on how to emotionally and mentality take on the programme. Made friends with senior students through the sale of text**	27	2.076923	
Non-LDP		Had to learn to live out of myself-always thought I was self-sufficient. I need help-no man is an island	20	1.538462	
Non-LDP		Joining choir and other student organization "outside, non-medical friends" helped emotionally-you can switch off and enjoy things other than medicine	18	1.384615	
Non-LDP		Everyone else in class was too smart so I couldn't ask questions	15	1.153846	
Non-LDP		In school, teachers know your name, your siblings and family, but at the University of the Free State you are just a student number	13	1	
Non-LDP		Short attention span- 3hrs is too long-breaks taken content was better absorbed	8	0.615385	
Non-LDP		Personality-not to initiate conversation	7	0.538462	
Non-LDP		Students feel the need for competition and comparing marks out loud in class is a determent to joining some group, they feel unwilling to help	7	0.538462	
Non-LDP		UFS 101 was a waste of time MGEN A was the same-add computers to MGEN A	2	0.153846	
Non-LDP		White coat-where it can be worn-feel like an outcast or they think we think we are better	2	0.153846	
Group LDP1	Theme	Statement	Scores	Average	Top 5
LDP		Learning skills- time is important and limited, navigating the textbooks and workloads. **High school spoonfed, now suddenly you must take initiative.**	39	3.25	
LDP		Studying long hours ('imitating') using stimulants like other students but not grasping the work	25	2.083333	
LDP		Feeling like being the only one having problems	22	1.833333	
LDP		First exposure/poor adaptation-self sustaining life-style. Overwhelmed by all new things on campus,in the course, people etc.	18	1.5	
LDP		Not knowing who's advice to use/too many different resources (books/slides/notes)	16	1.333333	
LDP		Stress because of finance and accommodation. Finances is a problem. Sometimes you even have to leave class to go and apply for a bursary.	14	1.166667	
LDP		Lack of social support (friends). Lacking social support of people who will understand what you are going through	11	0.916667	
LDP		Feeling too intimidated to share any social interaction/hinders asking help	10	0.833333	
LDP		No balance between academics and social life	9	0.75	
LDP		Struggled to ask for help and assistance. It took LDP	5	0.416667	
LDP		Belittling by peers and lecturers	5	0.416667	

Figure 4.4: Microsoft Office® Excel spreadsheet populated with column D (Scores) and column E (Average)

Step 2: Identifying the top five

In this step, the scores in column E (Average) were ranked in descending order. This enabled the researcher to identify the top five statements for each of the two groups for the responses to Question 1. The highest scores were marked with an "x" in column F (Top five) alongside each of the five statements.

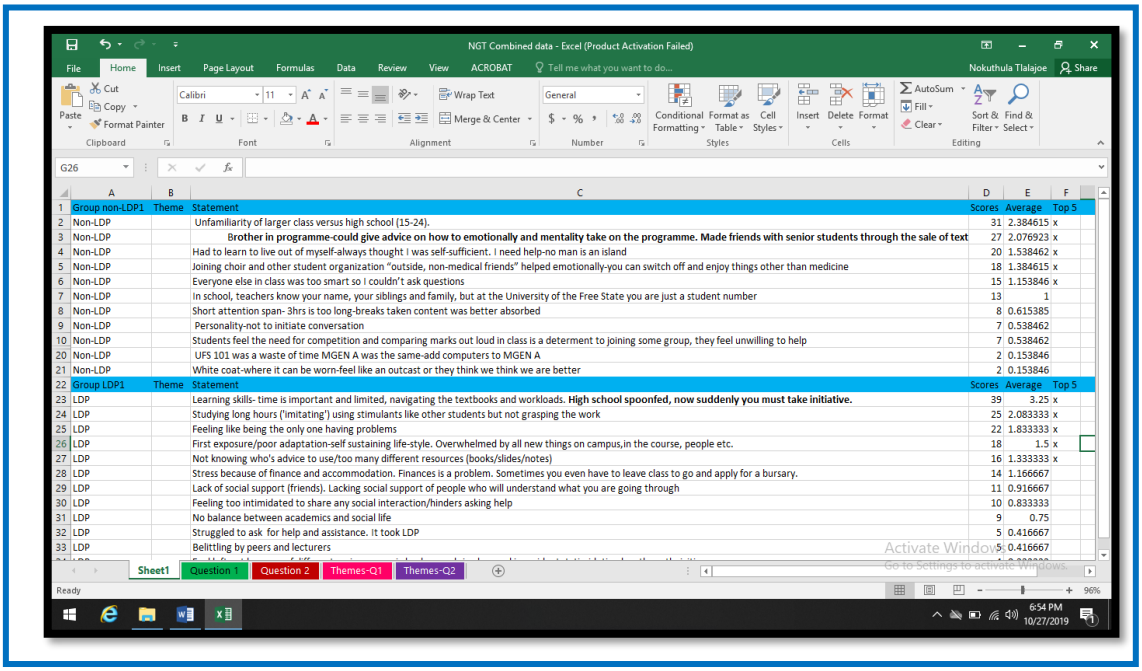


Figure 4.5: Microsoft Office® Excel spreadsheet populated with column F (Top five)

Step 3: Content analysis of the raw data

Content analysis is the process of combining individual statements into themes and sub-themes (Van Breda 2005:5). In this third step, the researcher independently read the listed and ranked statements, to identify statements that had similar meaning. The researcher initially carried out a pre-coding exercise using the NVivo 12 Pro Windows software programme. The software allowed statements to be uploaded, after which it could be systematically read and each statement coded as they were read. Using NVivo 12 Pro Windows software presented an opportunity to become acquainted with the data early on, while also keeping record of the code sources created. In addition to the software used, the Excel spreadsheets were used to analyse codes. As the researcher read the statements, the first thought was written down using a pencil in the margin of the hard copies against the specific response statement. A pencil was used to make changes as the researcher went over the response statements and suggested codes. A code, which served as a concept of meaning, was given to each statement. The process of using a hard copy of the Excel spreadsheet was repeated five times after weekly or two-weekly intervals.

The themes/codes assigned to each statement were written next to each statement on the

hard copies. After the process had been repeated five times, the researcher used the hard copies to determine whether the same themes kept appearing each time the researcher went through the process. Statements that were not easily allocated to a theme were left as "unclassifiable", as suggested by Van Breda (2005:6). Once the researcher reached saturation on new themes, the Excel sheet was populated in column B (Theme).

Step 4: Confirm the thematic analysis (optional)

McMillan *et al.* (2014:93) report that the literature describing the use of the nominal group technique conducts thematic analysis in many different ways. According to Van Breda (2005:7), the fourth step requires a lot of extra work, but it also serves to increase the scientific credibility of the research by demonstrating the reliability of the content analysis. This step also enhances inter-rater reliability, which means that several researchers all come to the same conclusions independently; which serves as a test of the content validity of the themes. On that basis, despite it being an optional step, the researcher chose to implement it. A small group meeting was held, with two colleagues who had not been involved in the content analysis. Both colleagues are independent experts in qualitative research, and have extensive experience in health sciences education. In addition, one of the experts has extensive experience in nominal group techniques and the other expert is involved in health sciences student's academic support and development. The two experts were given a brief background on the study, as well as the questions that were used during the nominal group meetings. The researcher presented the list of statements to the colleagues without themes and shared another document in which the researcher had listed the themes, and explained each of them to the colleagues.

The colleagues were asked to read each statement and decide whether the themes that had been decided on by the researcher matched the statement. They were asked to indicate if they thought the statement and theme did not match, and come up with a more appropriate theme. The colleagues worked through the process individually, then met to discuss their themes; they ensured that consensus was achieved with the researcher on which of the themes should be kept. The researcher and the other two colleagues now formed a group of three members. The discussion among the three colleagues was to

amalgamate the themes produced by the researcher, as well as those that were produced by the two colleagues. Column B (Theme) was updated accordingly.

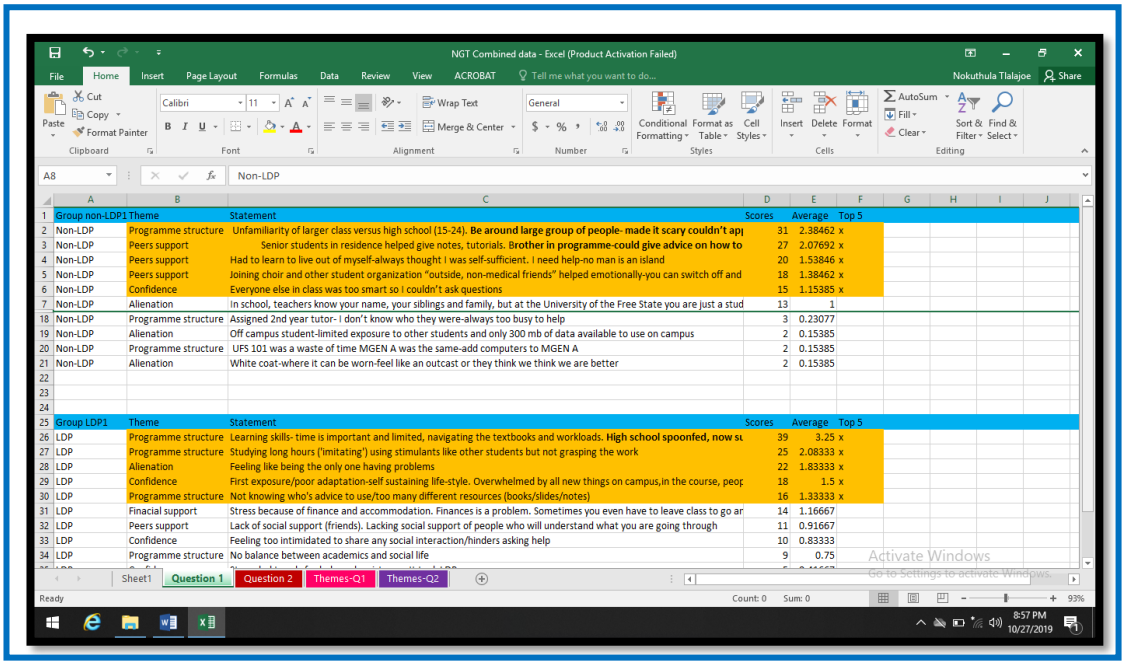


Figure 4.6: Microsoft Office® Excel spreadsheet populated with column B (Themes)

Furthermore, for additional quality control purposes, the researcher sent the generated themes – a secondary coding framework review (McMillan *et al.* 2014:102) – to the study leaders. The study leaders independently reviewed the secondary themes, then later met with the researcher to discuss and reach consensus on the tertiary coded data (cf. Figure 4.7).

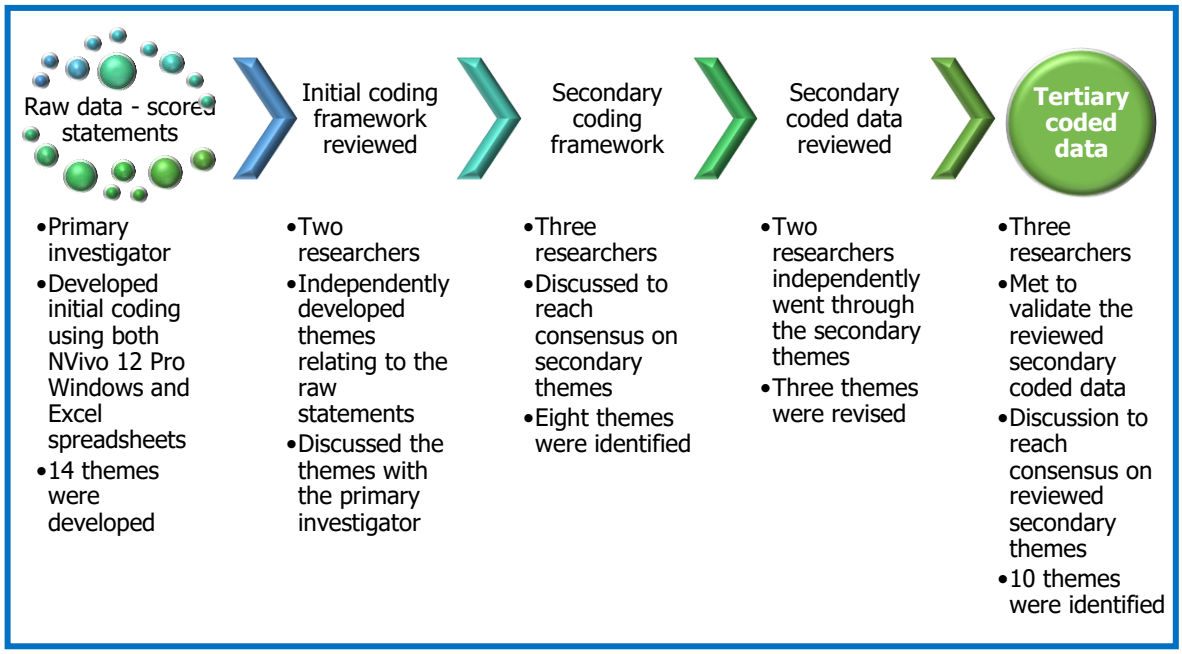


Figure 4.7: Thematic analysis process (Adapted and modified from McMillan *et al.* 2014:100)

The study leaders and researcher identified three themes (programme structure, shared understanding, and overcoming lack of confidence) for review, as it was indicated that the themes did not complement the statements that they were allocated to. The discussion between the researcher and the study leaders was to amalgamate the three revised themes. Column B (Theme) was updated accordingly. Figure 4.8 shows the updated version of the themes.

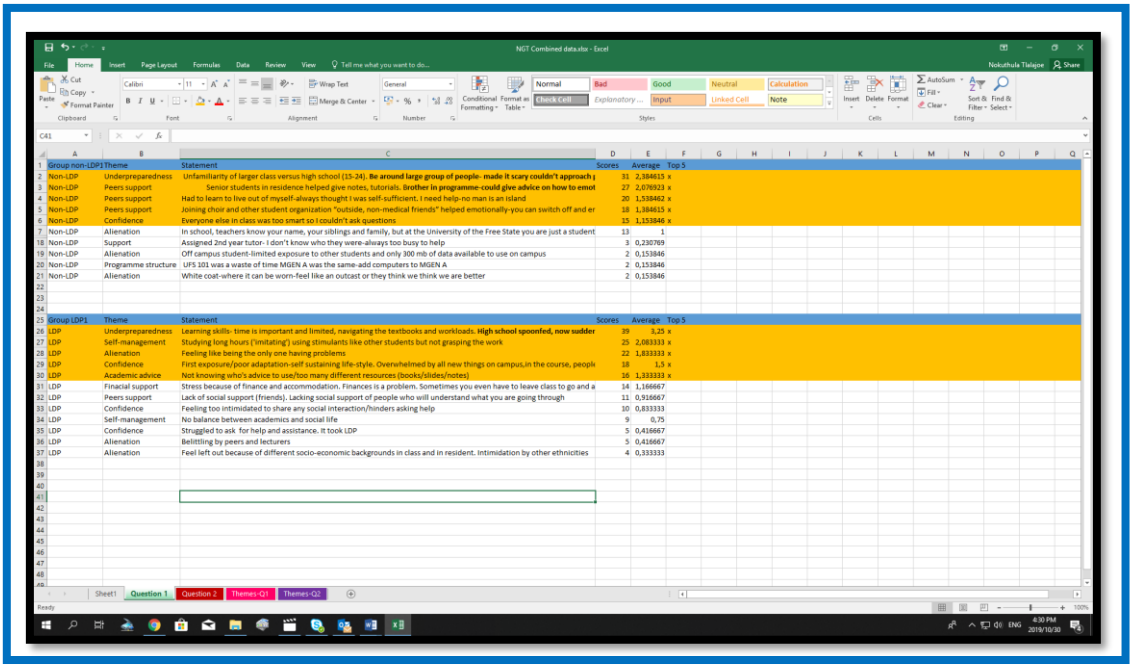


Figure 4.8: Microsoft Office® Excel spreadsheet populated with column B (Themes) reviewed secondary themes

Van Breda's steps 5 and 6 (2005:7) were not applicable to the analysis of the data collected for this study. According to Van Breda (2005:7), step 5 calculates combined ranks. This meant, furthermore, adding up of scores on statements that had already been decided on. Van Breda (2005:10) suggests that, in addition to considering the top five themes, a holistic and multidimensional consolidation can be formulated if the researcher also considers the frequency of participants' references to a theme or issue. Van Breda suggests that the more often a theme is mentioned, the more important it is likely to be, even if the statement did not receive many votes. The researcher preferred to use only the top five statements, as statements that the participants felt strongly about as priorities in the process of establishing a support framework. Implementing Van Breda's step 5 in this study would have meant risking losing the top five statements' rankings as initially voted on by the participants; hence, this step was not applied by this study.

Moreover, Van Breda's step 6 (2005:10) involves analysing the demographics of the groups that participated. In this study, the demographics were not taken in account, as this data was not relevant to the research questions. The last step, Van Breda's step 7 (2005:11), formed step 5 of this study, and will be discussed next. All the steps discussed above were repeated for Question 2 of the study.

4.3 REPORTING OF THE FINDINGS OF THE NOMINAL GROUP TECHNIQUE

This section of the chapter will provide detail on the final step, that of assigning meaning to data obtained from nominal group meetings. According to van Breda (2005:11), this is step 7, however, in this study, it represents step 5. The fifth and last step applicable to this study involves the reporting of the data.

Step 5: Reporting the nominal group meetings' data

Tables 4.1 (a) and (b) and 4.2 (a) and (b), presented in this section, summarise the findings on the statements generated by the nominal group meetings. Table 4.1 (a) and (b) present the findings generated from Question 1 by both the non-LDP and the LDP groups. Table 4.2 (a) and (b) present the findings of both groups as generated from Question 2. The tables are summarised to include only the top five statements. The full tables of the data are presented in (cf. Appendices E). The tables will be substantiated further with figures (Figures 4.9–4.12, summarised below) in order to create a holistic understanding by presenting the overall themes referenced by both the non-LDP and the LDP groups in response to both Question 1 and 2.

4.3.1 Reporting on data offered in response to Question 1 by the nominal group meetings of non-LDP and LDP students

The responses to Question 1 by the nominal group meeting of the non-LDP students are reported in Table 4.1 (a), which lists the top five ranked and themed statements. Figure 4.9 summarises all themes found for this group in response to Question 1. This will be followed by Table 4.1 (b), which reports on responses to Question 1 by the nominal group meeting of the LDP students. Figure 4.10 summarises all the themes identified for this group in response to Question 1.

- *Question 1: What affected your social learning and social integration during your first year of medical studies at the Faculty of Health Sciences, University of the Free State, Bloemfontein?*

Table 4.1 (a): Top five themed and ranked statements in relation to Question 1 of the nominal group meeting of non-LDP students

Group	Theme	Statement	Score	Top five
Non-LDP	Underpreparedness	The unfamiliarity of larger class versus high school (15–24). Being around large group of people - made it scary couldn't approach people or initiate conversation –"social anxiety"	31	**1**
Non-LDP	Peer support	Senior students in residence helped give notes, tutorials. Brother in programme – could give advice on how to emotionally and mentally take on the programme. Made friends with senior students through the sale of textbooks	27	**2**
Non-LDP	Peer support	I had to learn to live out of myself – always thought I was self-sufficient. I need help –no man is an island	20	**3**
Non-LDP	Peer support	Joining the choir and other student organisation "outside, non-medical friends" helped emotionally – you can switch off and enjoy things other than medicine	18	**4**
Non-LDP	Confidence	Everyone else in the class was too smart so I couldn't ask questions	15	**5**

The top five ranked statements consisted of three themes. The theme *underpreparedness* was ranked the most important statement. The second most important, third most important and fourth most important ranked statements were themed *peer support*. The statement ranked as the fifth most important statement, was themed *confidence*.

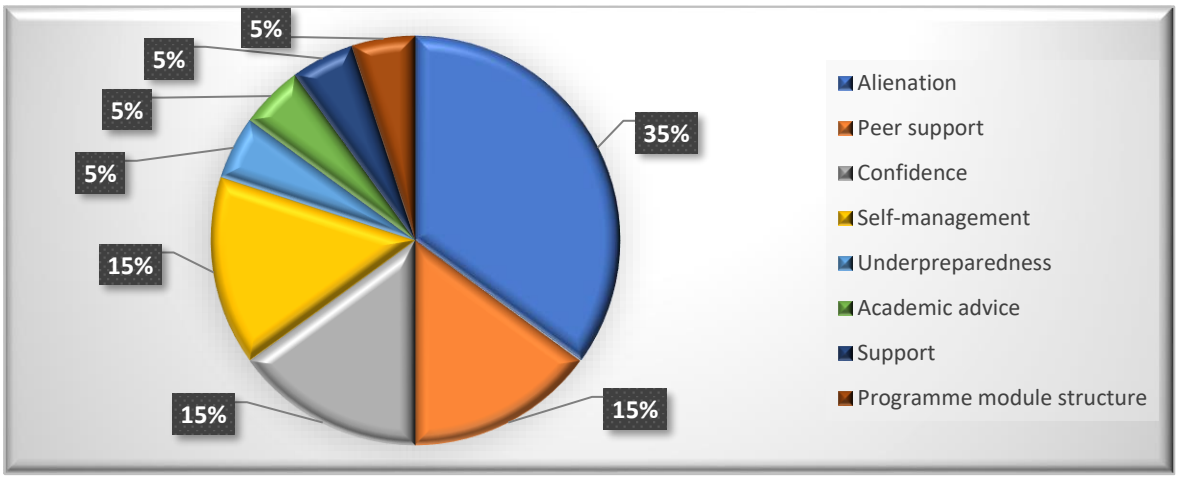


Figure 4.9: A summary of the remaining ranked and themed statements; in addition to the top five themed and ranked statements

Figure 4.9 indicates eight themes that were obtained from the nominal group meeting of non-LDP students in response to Question 1. The theme *alienation* garnered the majority of ranked statements, namely 35%. The themes *peer support*, *confidence* and *self-management* followed, with each of these themes attracting 15% of the ranked statements. The remaining themes, namely *underpreparedness*, *academic advice*, *support* and *programme module structure* each attracted 5% support each.

Table 4.1 (b): Top five themed and ranked statements in relation to Question 1 of the nominal group meeting of LDP students

Group	Theme	Statement	Score	Top five
LDP	Underpreparedness	Learning skills – the time is important and limited, navigating the textbooks and workloads. High school spoon-fed, now suddenly you must take initiative	39	**1**
LDP	Self-management	Studying long hours ('imitating') using stimulants like other students but not grasping the work	25	**2**
LDP	Alienation	Feeling like being the only one having problems	22	**3**
LDP	Confidence	First exposure/poor adaptation – self-sustaining life-style. Overwhelmed by all new things on campus, in the course, people, etc.	18	**4**
LDP	Academic advice	Not knowing whose advice to use/too many different resources (books/slides/notes)	16	**5**

The top five ranked statements comprised five themes. The first, most important, ranked statement is *underpreparedness*. The second most important ranked statement was themed *self-management*. The third most important ranked statement was themed *alienation*. The fourth most important ranked statement was themed *confidence* and the fifth-ranked statement was themed *academic advice*.

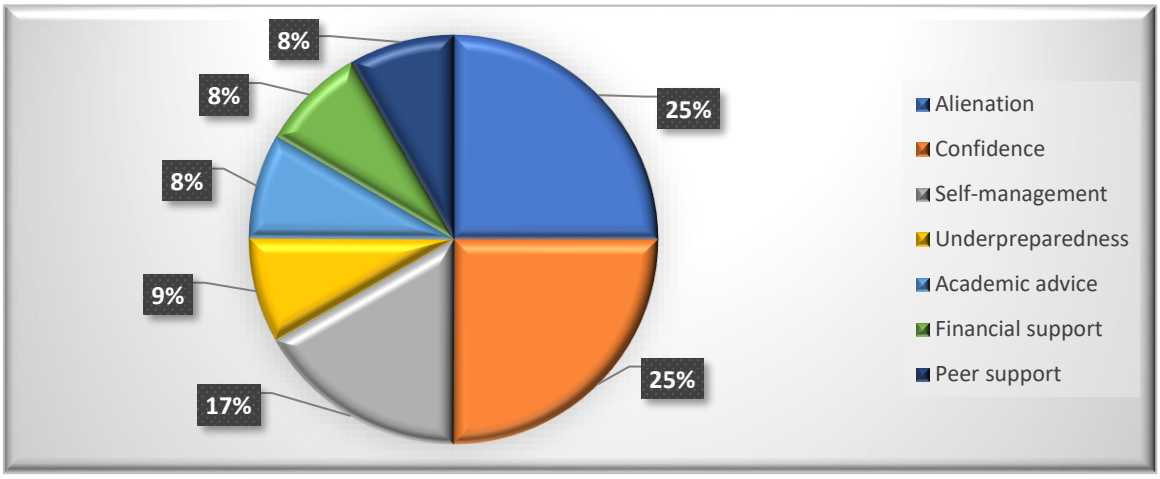


Figure 4.10: A summary of the ranked and themed statements in response to Question 1 posed to the nominal group meeting of LDP students

Figure 4.10 indicates that seven themes were generated from the nominal group meeting. The themes *alienation* and *confidence* each accounted for 25% of the ranked statements. The s*elf-management* theme followed next, accounting for 17% of all the ranked statements. The theme *underpreparedness* followed, at 9%, and the remaining three themes, namely, *academic advice*, *financial support*, *peer support*, each accounted for 8% of the ranked statements.

4.3.2 Reporting on data from Question 2 of the nominal group meetings with non-LDP and LDP students

The responses to Question 2 in the nominal group meeting of the non-LDP students are reported in Table 4.2 (a), which highlights, specifically, the top five ranked and themed statements. Figure 4.11 summarises all themes identified for this group in response to

Question 2. Table 4.2(b) reports on responses to Question 2 in the nominal group meeting of the LDP students. Figure 4.12 summarises all the themes identified for this group in response to Question 2.

- *Question 2: Kindly determine what set of social learning and social integration skills you used or did not use to help you adapt during the transition process from high school to medical education.*

Table 4.2 (a): Top five themed and ranked statements in relation to Question 2 of the nominal group meeting of non-LDP students

Group	Theme	Statement	Score	Top five
Non-LDP	Peer support	Having someone who's been here before – you realise it is not a sprint but a marathon. Talk with a person I can relate to/resonate with – share how they overcame their academic struggles and venting and complaining to the right people	23	**1**
Non-LDP	Peer support	Socialising with people who share your religious beliefs	15	**2**
Non-LDP	Confidence	Emailed lecturer – one-on-one face-to-face session booked – still cannot ask questions in class. Write questions on a piece of paper and ask lecturer during a break	14	**3**
Non-LDP	Peer support	"Plugs" – would have liked to know who the plugs are. Resources people –- scopes, notes, past tests and slides that are not given	13	**4**
Non-LDP	Self-awareness	Positive thinking, not catastrophising a situation, optimistic people around (not alone with positive thinking people)	13	**5**

The top five ranked statements comprised three themes. The theme *peer support* was ranked as the most important ranked statement, second most important ranked statement and fourth most important ranked statement. The third most important ranked statement was themed *confidence*. The last statement, ranking in the fifth position, was themed *self-awareness*.

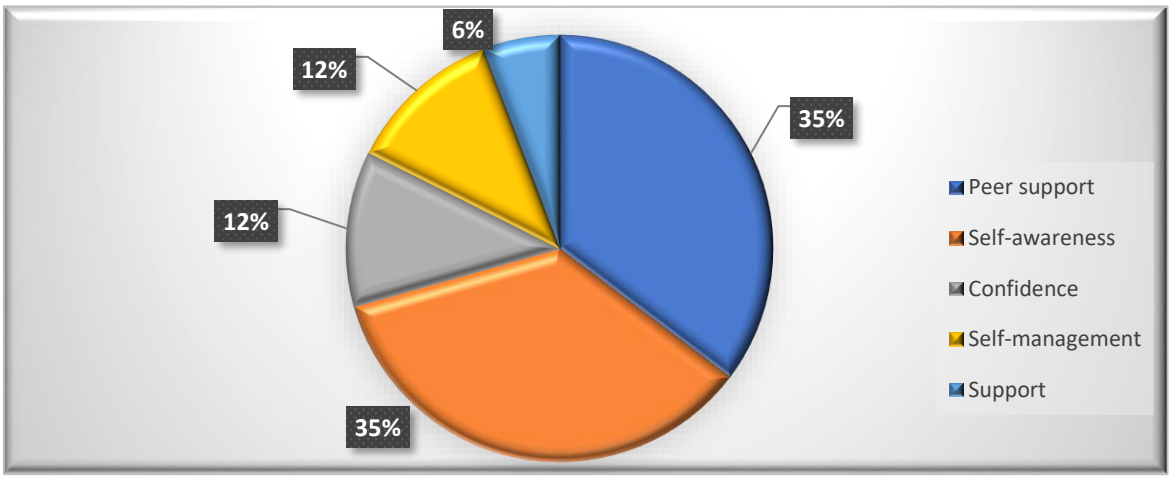


Figure 4.11: A summary of the ranked and themed statements in response to Question 2 of the nominal group technique of non-LDP students

The themes *peer support* and *self-awareness* each accounted for 35% of the total ranked statements, followed by the themes *confidence* and *self-management,* which each accounted for 12%. The last theme is *support,* and it accounts for 6% of the ranked statements.

Table 4.2 (b): Top five themed and ranked statements in relation to Question 2 of the nominal group meeting of LDP students

Group	Theme	Statement	Score	Top five
LDP	Self-awareness	Ability to identify own study skills	37	**1**
LDP	Self-management	Inability to self-manage/not able to say 'no'	34	**2**
LDP	Self-awareness	Coping mechanisms (unhealthy)/support system that understands your struggle/spiritual	25	**3**
LDP	Self-awareness	Not recognising the need for help/ too independent	21	**4**
LDP	Self-awareness	Preparing for class	20	**5**

The top five ranked statements comprised two themes. The theme *self-awareness* was ranked as the first, third, fourth and fifth most important ranked statements. The second most important ranked statement was themed *self-management*.

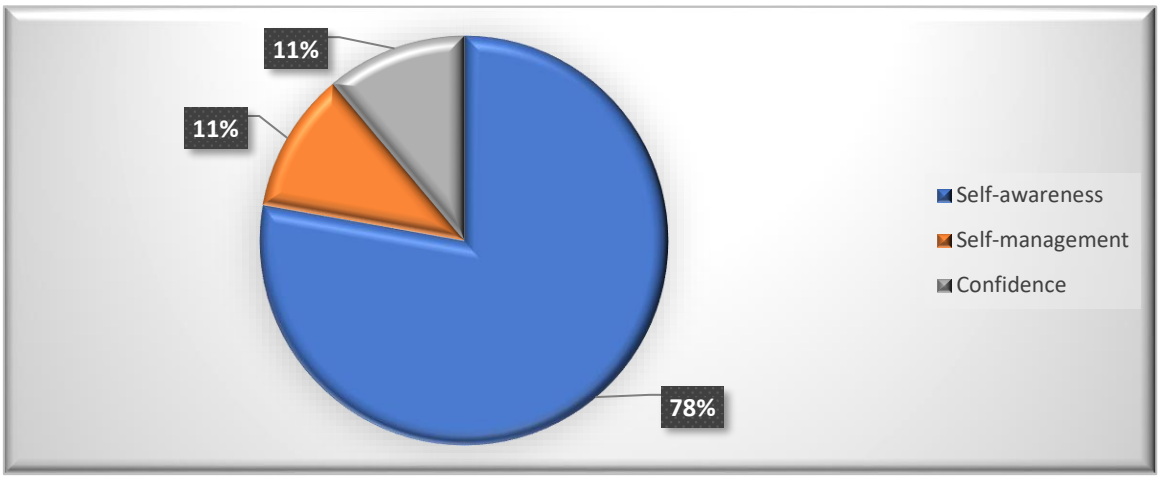


Figure 4.12: A summary of the ranked and themed statements in response to Question 2 of the nominal group technique of LDP students

The figure indicates three themes that were obtained from the nominal group technique of LDP students in response to Question 2. The theme *self-awareness* accounted for 78% of the overall ranked statements. Both the *self-management* and *confidence* themes each accounted for 11% of the overall ranked statements.

4.4 INTERPRETATION AND DISCUSSION OF THE FINDINGS FROM THE NOMINAL GROUP TECHNIQUE DATA

In this section, the findings of the nominal group meetings will be interpreted and discussed for both groups of students who participated in the study. Note that only the top five ranked statements of the non-LDP and LDP students to Questions 1 and 2 will be interpreted and discussed (cf. Table 4.1 (a) and (b)-Table 4.2 (a) and (b)); the reason for doing so is to ensure that the emphasis remains on the top five ranked statements. The top five statements take priority, despite higher percentages for other themes that did not necessarily appear among the top five ranked statements.

4.4.1 Interpretation and discussion of responses to Question 1 in the nominal group meetings with non-LDP students

In this section, all ranked statements in response to Question 1, obtained from the nominal group meetings with non-LDP students, will be interpreted and discussed.

Question 1: What affected your social learning and social integration during your first-year of medical studies at the Faculty of Health Science, University of the Free State, Bloemfontein?

In response to Question 1, the non-LDP participants achieved consensus on the top five statements listed in Table 4.1 (a). The top ranked statement that affected students' social learning and integration during their first-year of medical studies was themed *underpreparedness,* which accounted for 20% in the top five, and 5% of the total. The participants stated that the effect of being in a large group of people made them fearful of approaching one another, with one of the participants stating,

"*Be around large group of people – made it scary couldn't approach people or initiate conversation – social anxiety"*.

Being at university was different from their experiences at high school, where there were only 15–24 learners in a class.

On entering medical school, many students are not as well prepared for the rigors of the curriculum, the demands of their new education environment and their new lifestyle (Deepa & Panicker 2016:585). This is what the *underpreparedness* theme iterates, as the students clearly felt uncomfortable about being surrounded by a large group of people. This finding is consistent with literature, which states that transition to tertiary study can be a daunting and often overwhelming and challenging experience, because student expectations about university frequently do not match their first-year university experiences (Bolt & Graber 2010:193; Thalluri 2016:37). It is a global experience, and is accompanied by concerns that even students who clearly have potential are not well prepared to cope with this transition (Thalluri 2016:37). Of course, as pointed out by Lack *et al.* (2010:128), not all medical students can be prepared for every possible challenge they will face during their medical

training. However, Van Zyl (2017:21) argues that many institutions are, at least, equally as underprepared for the students they are accepting.

The second to fourth most important statements that were ranked all fit under the theme of *peer support*, which was the dominant theme in the top five 60% and was made up of 15% statements of the total. The three statements mostly highlight the importance of forming relationships with senior students who are in the same field of study or other students, in general, on campus. The students mentioned that it is even more advantageous if you have a sibling in the same field, as they could give advice on how to talk about the programme, emotionally and mentally. In addition, realising that one needs help when one has reached the limits of one's own self-sufficiency, is vital. The last of the three statements referred to the importance of being involved in other organisations that do not necessarily involve students from theMBChB curriculum, as formulated by one of the participants:

> *"Joining the choir and other student organisation "outside, non-medical friends" helped emotionally – you can switch off and enjoy things other than medicine"*.

The statements under the *peer support* theme refer to students' social integration. Literature supports the statement that students' social integration refers to interactions among students and their social system within their education environment. The authors report that these interactions can affect the students' learning and persistence in the second year of higher education (Noyens *et al.* 2017:4). It is apparent that social integration is conceptualised as student-to-student contact (Severiens & Schmidt 2009:56-60; Noyens *et al.* 2017:4). Students referred to the close relationship between social learning and integration, in addition to academic integration, as seen in this statement:

> *"Senior students in residence helped give notes, tutorials. Brother in programme could give advice on how to emotionally and mentally take on the programme. Made friends with senior students through the sale of textbooks"*.

The statement ranked fifth in the top five was themed *confidence,* and accounted for 20% in the top five and 15% of the total. The students demonstrated a lack of confidence regarding asking questions in class, due to the assumption that other classmates were smarter than they were, for example,

"*everyone else in the class was too smart so I couldn't ask questions"*.

What is obvious about this statement is that personal context factors also play a role in students' successful transition from high school to university (cf. Section 2.3.2.1). These results add to the notion that medical students are reported to switch from being "big fish" to being "small fry", hence, the self-doubt in their ability, as made clear in the statement. The students move from a very protected, high-achievement environment, to one in which they are generally just faces among many other bright, young individuals – which is a daunting prospect for even the most capable medical student (McLean & Gibbs 2009:3).

The top five ranked statements of the non-LDP students, themed *peer support*, *underpreparedness* and *confidence*, underlined mostly positive social learning and integration factors under the *peer support* theme. The other two themes – *underpreparedness* and *confidence* – however, highlighted the negative social learning and integration factors that they experienced, and those factors link to the personal context factors. As mentioned in Section 2.2.1, transition to the higher education context may involve a physical move from one place to another, such as going from secondary school or leaving home to study at a university (Hussey & Smith 2010:156; Badenhorst & Kapp 2013:465; Hayes *et al.* 2015:27). In addition, educational transitions extend to two types. The first is described as changes in personal context, and the second as institutional settings (Hayes *et al.* 2015:27). Transitioning to a new personal context means that, during transition into a higher education institution, to become accepted members at the new educational environment (institutional setting), individuals must act, think, speak and write within a discipline's ideological frameworks (Badenhorst & Kapp 2013:466). However, in an attempt to become a member of the new education environment, personal attitudes, such as *confidence* and *underpreparedness* due to "social anxiety", could hinder the process, as reported by the non-LDP students (Huhn *et al.* 2016:37).

4.4.2 Interpretation and discussion of responses to Question 1 from the nominal group meetings with the LDP students

In this section, all ranked statements obtained from the nominal group meetings with LDP students from Question 1 will be discussed and interpreted.

Table 4.1 (b) summarises the top five statements of the LDP students in response to Question 1. These are factors that they strongly indicated to have affected their social learning and integration during their first year of medical studies. The first, most important ranked statement was themed *underpreparedness,* which accounted for 20% in the top five and 8.3% of the total. This finding is consistent with literature, which states that, generally, first-year medical students who entered medical school straight from high school could find themselves lacking the skill set and emotional tools required to adapt in their new education environment (Anandhalakshmi *et al.* 2015:10). This means they are underprepared for university life and academia (Hamid & Singaram 2016:99). The students emphasised the rapid adjustments that were required of them, and they indicated that, at school, they had been spoon-fed. However, when they transitioned into their new education environment, they had to take the initiative and master learning skills by the time they had completed their first academic year.

> *"Learning skills – time is important and limited, navigating the textbooks and workloads. High school spoon-fed, now suddenly you must take initiative"*.

In addition, when students transition into university, they expect teaching methods to be comparable to those at high school, and they are not prepared for a different mode of teaching (Bolt & Graber 2010:193; Hennis 2014:36). Likewise, academic study skills are reported to be linked to university performance outcomes (Jansen & Suhre 2010:570, Nonis & Hudson 2010:230; Van der Meer *et al.* 2010:778). For instance, there is evidence that effective academic study skills are one of the top, direct contributing factors to student academic performance and retention in higher education (Hayes *et al*. 2013:2). A delay in developing academic study skills may result in delayed adjustment to the new academic

environment, low rate of class attendance and lack of academic engagement (Hayes *et al.* 2013:2). By taking note of the ranked statements made by the LDP students, it is evident that they needed more time to adapt their learning skills, and to navigate the workload and prescribed textbooks. If they delay in acquiring all the necessary skills, they could fail to adapt quickly enough to take the initiative in their academic life.

The statement that was ranked second most important was themed *self-management* and it accounted for 20% of the top five and 16.7% of the total. The skill that was highlighted in the statement relating to this theme is that participants imitated other students' methods of studying. Nonetheless, even by following this approach and studying for long hours, they still found themselves failing to grasp the content that they were engaged with:

> *"Studying long hours ("imitating") using stimulants like other students but not grasping the work"*.

Hennis (2014:32) mentions that students who might not be aware of their learning styles or who do not have an effective learning strategy could experience failure and frustration during their studies. Hence, students who were successful at high school but lack the skill of learning independently, do not flourish in the university setting, or do not perform as well as they did in the high school environment (Bolt & Graber 2010:197). In spite of students possessing various learning styles and learning strategies, possessing an effective study strategy and skill is essential for mastering the new education environment. So, as students transition into the new education environment, success will depend on their autonomy to acquire new study habits, or to adjust their study skills to suit the demanding semester model, in a less intimidating setting (Hennis 2014:34-35). Once students have developed a study skill, the skill will enable them to identify critical information in lectures and integrate information across a wide spectrum of disciplines for application to a problem. Students need to acquire further skills to self-direct, by seeking information from a variety of media sources, and they must engage in active recall, reflection, and self-examination (Bolt & Gaber 2010:198; Hennis 2014:35; Shilkofski & Shields 2016:6). However, the ranked statement by the LDP students shows that they had not mastered effective study skills. Thus, in spite of imitating other students' approaches and investing long hours of

study, they still failed to grasp the content.

The statement ranked third most important was themed *alienation,* and accounted for 20% in the top five and 25% of the total. This statement refers to students' feelings when their academic progress was not going well, and they were not passing the modules. Participants believed they were the only ones having problems, both general and academic:

> "*Feeling like being the only one having problems"*.

Holland (2016:705) reveals that, even though there are support systems and professional help available, students who are struggling and who are most in need of assistance, often fail to seek it. This ranked statement is evidence of their failure to seek help. Literature reveals that few medical students seek help, and that distress often continues into residency and beyond (Fares *et al.* 2016:77). The LDP students dealt with this hardship by alienating themselves, because they thought that they were the only students with problems. Students who experience problems they are incapable of solving, and who do not receive help from other students, are said to experience both homesickness and loneliness (Othman *et al.* 2012:1).

The statement ranked fourth most important was themed *confidence,* and accounted for 20% in the top five and 25% for the total. This ranked statement reports that students did not adjust well on first exposure to their surroundings, the city, campus, faculty, and the SoCM. They experienced it as overwhelming, and reported that they struggled to develop an independent lifestyle:

> *"First exposure/poor adaptation – self-sustaining life-style. Overwhelmed by all new things on campus, in the course, people etc"*.

This is similar to Al-Sowygh's report (2013:98) of students feeling overwhelmed and

experiencing stress as a result of these demands, and their perfectionism, which is fuelled by past academic achievements and high academic demands. Moreover, due to these extreme academic demands, students spend little or no time on social activities (McLean & Gibbs 2010:227). This stress leads to students failing to find information needed for decision-making and early adjustment to the new education environment of the university, which later poses threats to students (Bojuwoye 2010:285).

The fifth ranked statement of the top five was themed *academic advice,* and it accounted for 20% in the top five and 8.3% for the total. Students mostly shared their frustrations and the confusion they experienced about advice about the large variety of academic resources. For example, they did not know who to listen to in relation to navigating their academic material, as there were too many different resources available:

> *"Not knowing whose advice to use/too many different resources (books/slides/notes)".*

Hennis' (2014:34-35) assertion that students' success will depend on their autonomy to acquire new study habits or to adjust their study skills to suit the demanding semester model, in a less intimidating setting, includes the requirement of possessing the skills to navigate multiple resources.

The top five ranked statements by the LDP students, themed *underpreparedness*, *self-management*, *alienation*, *confidence* and *academic advice*, relate to negative social learning and integration factors. The struggles students undergo during transition refer mostly to personal context changes, rather than institutional context changes (Hayes *et al.* 2015:27). Tinto (1975:107) is of the opinion that students' struggles to adapt to a new education environment could be due to the degree of separation that is required from their past lives. Students fear losing cultural identity as a result of separating from parents and other family members, and now being members of minority groups. In the setting of this study, the fear expressed by the LDP students possibly stemmed from the separation from their past lives that was required.

4.4.3 Interpretation and discussion responses to Question 2 from the nominal group meeting of non-LDP students

After generating ideas on factors affecting social learning and integration during the transition from high school to university, students were asked to generate ideas on the social learning and integration skills they used, or did not use, to help them adapt during the transition process from high school.

In this section, all ranked statements obtained in response to Question 2 from the nominal group meeting of non-LDP students will be interpreted and discussed. Tables 4.2 (a) and 4.2 (b) follow the same approach as the analysis of the first two tables (Tables 4.1 (a) and 4.1 (b)). Table 4.2 (a) provides a summary of the top five ranked statements given in response to Question 2 in the nominal group meeting of non-LDP students; this will be followed by the interpretation and discussion of the data in Table 4.2 (b).

The statement ranked the most important was themed *peer support*; this theme comprised 60% of the top five-ranked statements, since the second and fourth-ranked statements were also themed *peer support*. Overall, the theme involved 35.3% of the statements. All three statements under this theme referred to the positive impact of socialising with peers, whom students found easy to relate to in their new education environment. The first statement refers to having the right people to talk to about their academic struggles and to vent about general concerns:

> *"Having someone who's been here before – you realise it is not a sprint but a marathon. Talk with a person I can relate to/resonate with – share how they overcame their academic struggles and venting and complaining to the right people"*.

As mentioned in Section 2.2.1, students develop high self-esteem and express their feelings of self-efficacy through informal social ties (Hennis 2010:38).

The statement ranked second referred to the importance of being surrounded by peers who shared the same religious beliefs:

> *"Socialising with people who share your religious beliefs"*.

A common background may create an additional sense of security and facilitate the process of making friends, as students can easily build social relations due to an existing culture or belief that is shared among themselves (Hayes *et al.* 2015:27).

Lastly, the statement ranked fourth most important referred to the importance of knowing the right fellow students. The slang used to describe fellow students who always had the relevant resources, such as scopes, notes, past test papers and slides that were not made widely available, is "plugs". Students declared that knowing the right people could make the workload bearable, by providing access to additional resources. However, because students did not necessarily know these fellow students during their transition, non-LDP students meant this statement as negative, which implies that Bandura's social learning theory (1969:217) was not fully applied through imitation and learning from one another.

The statement ranked third was themed *confidence*, and comprised 20% of the top five ranked statements and 11.8% of the total. The non-LDP students mentioned that one of the skills they needed was to showcase the attitude of confidence to email the lecturer to book a one-on-one contact session. Additionally, the students said that they would write their questions on a piece of paper and approach the lecturer during a break session, instead of asking a question in class. For instance, one of the students said they

> *"emailed lecturer … one-on-one face-to-face session booked … still cannot ask questions in class. Write questions on piece of paper and ask lecturer during break"*.

This suggests that students achieved informal academic integration by interacting with lecturers via email, or approaching them in person during class break times. Such students are likely to be more engaged in their coursework, as illustrated by non-LDP students. Once a student has initiated a primary connection with a lecturer, the connection can be developed further, by the student asking questions in and after class, and seeking

information on course resources on an appointment basis to discuss course-related matters (Hennis 2014:36).

The statement ranked fifth in the top five was themed *self-awareness*. This theme comprised 20% of the top five ranked statements and 35.3% of the total. The participants mentioned the importance of avoiding catastrophising a situation. The key element of coping is to think positively and surround oneself with optimistic people.

> *"Positive thinking, not catastrophising a situation, optimistic people around (not alone with positive thinking people)"*.

The literature reports that positive coping mechanisms are associated with the skill of seeking social support and turning a negative experience into a personal growth experience (Thompson *et al.* 2016:175). Medical students use various coping strategies to process their stressors; these include engagement, such as positive problem-solving, positive reinterpretation, and expressing emotion (Fares *et al.* 2016:77).

The top five ranked statements for non-LDP students were themed *peer support*, *confidence* and *self-awareness*. Four of these themed statements underlined positive social learning and integration factors – only one of the themed statements underlined a negative social learning and integration factor. Two themed statements under *peer support* emphasised the importance of having social relationships with individuals whom you can relate to on a spiritual or religious level, and share the academic competencies they have in relation to studying medicine. As reported by literature, spiritual or religious interactions aim to create a safe space for students to have meaningful discussions about religion, spirituality and the relationship it might have in medical studies (Abbasi, Farahani-Nia, Mehrdad, Givari & Haghani 2014:242). The third statement under the *peer support* theme refers to some students having access to additional supporting material, which aided the process of coping with the academic workload. The negative side of the statement is that only a few students benefited, as not all students knew who the elite group of students, the "plugs", were, and additional, helpful resources were only shared by those in the know.

The *confidence* theme was regarded as positive, as it pointed out the initiative students took to engage with lecturers on content students felt they needed more clarity on. The last statement themed *self-awareness* can also be regarded as positive, and showed the ability of students to utilise positive coping strategies.

4.4.4 Interpretation and discussion of responses to Question 2 from the nominal group meetings of LDP students

In this section, all ranked statements obtained in response to Question 2 from the nominal group meetings of LDP students will be interpreted and discussed.

In Table 4.2 (b), the responses to Question 2 by LDP students are presented. There were 15 students in this group. Two nominal group meetings were held with the LDP group; one combined meeting was held to discuss the top five ranked statements. During this combined meeting, the top five ranked statements were relisted and voted on for consensus, which was achieved on nine statements. Table 4.2 (b) summarises the top five statements in response to Question 2 of the LDP participants during the second meeting. As before, after the top five ranked statements had been analysed, the remaining ranked statements listed in Table 4.2 (b) were analysed.

The statement ranked most important was themed *self-awareness,* and comprised 80% of the top five ranked statements (the third, fourth and fifth most important ranked statements were also themed under *self-awareness)*. Overall, the *self-awareness* theme consisted of 77.7% of the ranked statements. All seven of the ranked statements refer to a maturing mind-shift in LDP students, which made them pay close attention to their surroundings. The statement ranked first referred to LDP students' "*ability to identify own study skills"* – a skill that was not used from the start. Apparently, LDP students experienced a delay in developing their academic study skills, which may have resulted in a delay in their adjustment to the new academic environment (Hayes *et al.* 2013:2), leading to them failing to complete their academic year successfully on their first attempt.

The statement ranked second pointed to wellness, as the students mentioned coping mechanisms to deal with unhealthy habits. For example, reaching out to support systems that understood their struggles, even on a spiritual level:

> *"Coping mechanisms (unhealthy)/support system that understands your struggle/spiritual"*.

The LDP students mentioned that they had failed to use coping mechanisms during their transition from high school to the new education environment. Thompson *et al*. (2016:175) suggest that coping strategies are personal factors that increase people's capacity to recover quickly from difficulties; therefore, the students should have instituted them earlier than they did.

The statement ranked third referred to a skill that was not used during the crucial period of transitioning from high school into the new education environment, namely, recognising that they needed help and relying on their independence:

> *"Not recognising need for help/too independent"*.

This ranked statement, again, refers to skills that LDP students lacked, namely asking for help. Medical students are often reluctant to seek help for mental concerns, due to the stigma of mental health problems, which are seen as signs of weakness. This stigma appears to be rooted in the medical culture, and leads to medical students experiencing distress (Naidoo *et al.* 2014:259; Dagistani *et al.* 2016:12; Thompson *et al.* 2016:175).

The statement ranked fourth under the theme *self-awareness* was the importance of maintaining consistency in preparing for class. The statement ranked fifth under the theme *self-awareness* referred to the timeout concept. Students mentioned that they struggled to balance their academic and social life – this was a habit they failed to apply.

> *"Relaxation time. Time for myself. Self-reflect – to know when you are most effective to study".*

These two statements confirm what Naidoo *et al.* (2014:258) mention, namely, that in the South African context, medical programmes are overloaded with facts, and students have to spend many hours every day working to achieve the expected outcomes. This means they seldom have time for themselves, or, as a result of their demanding programme, do not allocate time to attend to all their modules by consistently preparing for class.

The top five ranked statements of LDP students, themed *self-awareness* and *self-management*, were all positive in relation to social learning and integration factors. However, as much as these themed statements were positive in nature, the LDP students mentioned they had failed to use these skills during the transition phase, and this failure had had a negative effect on their transition process from high school to the new education environment. Moreover, four of the five ranked themed statements highlighted factors linked to social integration, not academic integration. This confirms the statement of Tinto (1975:92) regarding students dropping out due to insufficient integration into the social life of the institution. (Dropping out, in this context, refers to dropping out of the main programme to enrol into the remedial LDP, and not necessarily dropping out of the medical programme.) Pritchard and Wilson (2014:18) assert that the major causes of attrition of first-year students are emotional rather than academic factors, and that emotionally and socially healthy students have a greater chance of succeeding in an education environment.

The other top five ranked statements were preparing for class, and academic integration skills. Medical students' overall success in a new education environment is not determined by a single factor. Instead, it appears that there are a multitude of factors that influence the way medical students adjust to a new environment, and affecting their success in that specific education environment (Pereira & Cardoso 2015:299; Deepa & Panicker 2016:594; Fares *et al.* 2016:77).

4.5 FINAL OUTCOME OF THE NOMINAL GROUP MEETINGS

The overall consensus among the medical students at the UFS, FoHS at the SoCM who participated in this study indicates that social learning and integration factors during their

transition were affected by four main themes, namely ***alienation***, ***confidence***, ***peer support*** and ***self-management***. Moreover, they expressed how they managed or failed to manage these social learning and integration factors through two skills, themed ***self-awareness*** and ***peer support***.

In addition, the top five ranked and themed statements suggested by students in relation to the social learning and integration factors that affected them during the transition summarised six ranked themes, namely, ***underpreparedness***, ***peer support***, ***confidence***, ***self-management***, ***alienation*** and ***academic advice***. Students also expressed how they managed or failed to manage the factors encompassed by these top five ranked and themed statements through skills for social learning and integration, namely, ***peer support***, ***confidence***, ***self-awareness*** and ***self-management***.

To address the top five ranked and themed statements on social learning and integration factors among students in this study, the researcher aligned the top five ranked and themed statements on factors affecting social learning and integration and skills. However, as seen in the previous paragraph, the ranked and themed statements referred to skills that were used or not used to address social learning and integration, and do not entirely address all six factors that were identified as possibly affecting social learning and integration. Thus, in addition to the top five ranked and themed statements, the researcher aligned the top five ranked and themed statements under factors associated with social learning and integration skills.

The process of aligning the top five ranked and themed social learning and integration factors with skills that promote social learning and integration included sourcing recommendations made by students regarding factors that affected them during their transition into the medical school education environment. In total, 14 recommendations were identified and included in a Delphi technique, in order to seek consensus. This process will be discussed in the following chapter.

4.6 CONCLUSION

In Chapter 4, the nominal group meeting findings were discussed. The findings underline that medical students were able to identify social learning and integration factors that affected them during transition into the UFS, FoHS at the SoCM. Students recommended methods to address these factors, which indicates that students are aware of their education environment and can make valuable contributions to helping other students during the transition process. These recommendations formed the basis of the subsequent Delphi technique.

In Chapter 5, the results of the findings of the Delphi technique will be presented and discussed.

CHAPTER 5

RESULTS AND DISCUSSION OF THE DELPHI TECHNIQUE FINDINGS

5.1 INTRODUCTION

The second method used to collect data in this study was the Delphi technique. In Chapter 3, the research design and methods used for this study were discussed. Chapter 4 provided the findings obtained through the nominal group technique. In Chapter 5, the researcher will report on the findings of the Delphi technique, by discussing the findings in accordance with the objectives stated in Chapter 1 (cf. Section 1.6). Before providing the results of the Delphi technique, the process that was applied to analyse the Delphi technique data will be explained. The data was generated in multiple rounds of the Delphi technique.

5.2 THE DELPHI TECHNIQUE

An in-depth description of the Delphi technique was provided in Chapter 3 (cf. Section 3.2.3). A Delphi questionnaire was administered to experts in health sciences at higher education and training institutions nationally and abroad. A total of 17 experts were approached to participate in the Delphi questionnaire. It was anticipated that seven would participate in the pilot study, and the remaining 10 in the main study. Participants were sent the protocol of the study and their attention was drawn to the requirements for participation. They were requested to confirm their willingness to participate by email. In total, 13 participants replied, of whom three were allocated to the pilot study and 10 to the main study, Table 5.1 summarises the characteristics of the panel of experts that participated in the Delphi process. It is also important to note that as much as this study is done in South Africa and in the context of the University of the Free State, the theories that guided the study are international and it was important to include international expert views on this basis.

A pilot study, of which the data were excluded from the main study, was done with two of the initial three experts identified – the third participant could no longer participate due to

personal reasons. The Delphi questionnaire consisted of a list of 14 statements that had been recommended by medical students, on social learning and integration. The questionnaire was sent to the participants by email. Participants were sent email reminders to complete the questionnaire every three days (three emails in total), and follow-up telephone calls were made to accompany email reminders after the second reminder, to prospective participants who had not responded to the email communication (two telephone calls per person).

Table 5.1: Characteristics of experts who participated in the Delphi process

Participants initials	Duration of employment	South Africa/Abroad	Type of support offered to students (academic, emotional, social, psychological etc.)	Group of students to which support is offered (Undergraduate, Honours, Masters or PhD level)	Field of work- Health Science Education/Higher Education and Training or other
C	8	South Africa	Academic, emotional	All academic levels	Higher Education and Training
MC	34	Abroad	Academic	Undergraduate	Higher Education and Training
JF	14	South Africa	Student success programme(academic success focus with appropriate links to emotional, social and psychological aspects)	Undergraduate	Higher Education and Psychology
HMVE	8	South Africa	Academic	First-Year Undergraduate Students	Higher Education Teaching and Learning
GM	10	South Africa	Academic reflection & holding accountable to access university academic support, emotional, social & financial	Undergraduate	Health Sciences Education
MM	8	South Africa	Psychological	All academic levels	Higher Education
SH	16	Abroad	Personal and professional development, closing the feedback loop for assessment and feedback information from the programme	Undergraduate	Health Sciences Education
F	8	South Africa	Academic	Undergraduate	Health Sciences Education

The purpose of the pilot study was to ensure that the questions were clear and not biased, the questionnaire was well structured, to clarify unclear terms or statements and the time it would take to complete the questionnaire, as well as the turnaround time for distribution and return of the questionnaire.

The pilot questionnaire comprised 14 statements that were derived from recommendations by medical students (cf. Section 3.2.3.4). Participants were asked to rate their opinions on a modified 3-point Likert scale that included the options **must have/essential**, **good to have/useful** and **unnecessary**. The researcher also asked participants to write free-text comments (cf. Section 3.2.3.4). One of the participants in the pilot study mentioned that some of the statements were repeated, and that one question was difficult to read; they suggested that it be framed differently. After thorough scrutiny, one of the statements commented on was split into two. The final questionnaire comprised 15 recommendations, distributed over six themes, namely,

*A. Underpreparedness (**2** recommendations)*
*B. Peer support (**4** recommendations)*
*C. Confidence (**6** recommendations)*
*D. Self-management (**1** recommendation)*
*E. Alienation (**1** recommendation) and*
*F. Academic advice (**1** recommendation)*

The Delphi questionnaire for Round 1 was sent to 10 participants on 28 February 2020, Round 2 was sent on 30 April 2020 and the third and final round (Round 3) was sent on 7 July 2020. The total period of data collection for all three rounds of the Delphi technique was five months. Responses to the second round were delayed, possibly due to the Covid-19 pandemic lockdown period. Round 1 involved the analysis of data contributed by eight participants who responded to the questionnaire on time – eight experts participated in all the rounds of the Delphi questionnaire, with the exception of the final round, in which only seven participated. The results are presented below.

5.3 REPORTING OF THE FINDINGS OF THE DELPHI TECHNIQUE

The following sections will report the findings and analysis of the three rounds of the Delphi technique.

5.3.1 Round 1 of the Delphi questionnaire

In Round 1, emails were sent to the 10 participants who had shown interest in the study. The email outlined the process of the Delphi technique, such as a request to complete the questionnaire within 10 days and that reminders would be sent every three days. This information was followed by detailed instructions on how to complete the questionnaire. The HSREC-approved consent and information document was attached in the email (cf. Appendix B2) and the participants were requested to sign and return it with their first-round responses.

Once the responses from the participants had been received for Round 1, consensus was calculated for 8 of 10 prospective participants. Notably, one participant did not respond to the Delphi questionnaire on time and one participant withdrew. These participants were excluded from data analysis. Consensus of statements was reached when a predetermined level of ≥70% agreement was achieved (Keeney *et al.* 2011:5; cf. Section 3.2.3.5).

Of the 15 recommendations in the first round, consensus was reached on six, which are highlighted in green (cf. Table 5.1). Comments made by the panel of experts are also shown in Table 5.1. The layout of each theme on which consensus was achieved is outlined below:

*A. Underpreparedness (consensus achieved on **1 of 2** recommendations)*
*B. Peer support (consensus achieved on **1 of 4** recommendations)*
*C. Confidence (consensus achieved on **2 of 6** recommendations)*
*D. Self-management (consensus achieved on **1 of 1** recommendation)*
*E. Alienation (consensus achieved on **0 of 1** recommendation) and*
*F. Academic advice (consensus achieved on **1 of 1** recommendation)*

After thorough scrutiny of the qualitative data from the first round of responses, recommendation eight was merged into recommendation nine, as it was indicated to be repetitive; thus, reducing the remaining nine recommendations to eight.

The findings were shared with all participants by individualised email messages when Round 2 of the Delphi questionnaire was distributed. The email included the results of the first round, a letter of appreciation for completing the first round, as well as the Delphi questionnaire for the second round (cf. Appendix F1).

Table 5.2: Delphi questionnaire: Round 1: Findings

Study title: A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

No.	Themed Statements and Recommendations	Comments
A	**Underpreparedness (2)**	
Medical students expressed that the unfamiliarly of larger classes in a university setting in comparison to high school settings with smaller numbers made it scary to approach people or initiate conversation. They reported it resulted in "*social anxiety*".		
Recommendation:		
1.	The DSLD academic staff and the Gateway orientation programme should create a platform that can integrate social activities that will enhance social interactions among the first-year medical students (i.e. team building).	Rather than a program, I recommend creating opportunities for interaction This will provide a safe space to develop new networks I would think students have their own social networks? It is a good idea, however, it does not tend to the academic setting (in class) specifically. It is assumed that the difficulties students face in class are only academically related but it may be much broader (e.g. Low self-esteem, learning disability, etc.). I think it would be good to integrate these activities to help build a sense of community amongst medical students. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I have to be clear that there is enough supporting literature ensuring that social anxiety is a result of a fear of social situations – including being observed by other individuals within or outside the social setting. According to Laidlaw (2009) in the paper "Social anxiety in medical students: Implications for communication skill teaching", if this is not addressed (social anxiety), then it has an impact/effect on participation of a collaborative nature, specifically in workshops or situations related to communication skills teaching. Therefore, if not addressed, it will influence the way social skills teaching is performed, and subsequently, have an effect on the communication skills the medical student has when they need to apply it. The caution that I take with this, however, is that the creation of a platform that integrates social activities to

		enhance interactions between first-year medical students require a different approach to how gateway programmes are currently structured within South Africa. If I refer to the South African National Resource Centre (SANRC), they have an abundance of literature on Gateway programmes. The problem with most of the literature is that they either detail the techniques/approaches certain programmes took that worked "well" - but can only be applied in the context of their study, or they list challenges and recommendations so that the same approach does not have to be repeated. Either way, I could not find specific literature around the proposed platform, or a potential platform that is considered best-practice to enhance social interactions among first-year medical students.
Medical students highlighted the importance of taking initiative by applying effective learning styles when navigating their academic workload		
Recommendation:		
2.	The DSLD academic staff should put emphasis on the importance of preparing for class, as this will give the students an indication of what learning styles might be required to navigate the content.	The first part of the statement is important because it is easy to follow the discussion or lecture if one has prepared for class The link between the first part of the statement (preparing for class) and the section on learning styles is not clear. At this level the students are not yet aware of the different learning styles. It is the responsibility of the lecturer to use a range of teaching strategies to accommodate diverse learning styles of the students. Not sure if this will lead to insight in learning styles, what if the learners' style is just not fit for purpose/ efficient? Staff should be more aware of the different learning styles and should ensure that the mode of teaching learning material cover those. The emphasis is only places on the student, however, they need to be met halfway, as the majority of entrants are not "tertiary ready". I think preparation is very important. I disagree with learning styles since learning styles research has empirically been shown to not have an impact on student success. I will share an article in this regard. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. The problem arises when it comes to reinforcement across programmes and within programmes. Let me try to qualify this statement from firstly my own anecdotal teaching and learning perspective in a student support role. If a student (any student) learns Time management, note taking, referencing, preparing for class, setting realistic goals, learn study skills, learn study styles etc. and it is not reinforced in any other space in the curricula, then the skill will not be acquired. In other words, if a student did not receive the time required to effectively learn and apply the skills in other modules/courses/workshops in regular intervals (depending on the skill) – then it will only be effective for very few students who take the advice to heart, engage with the content, and constantly work on improving those skills – because they take so long to acquire. This school of thought is supported with the notion of Graduate Attributes and the implementation of value rubrics to map the curriculum against. The problem here is that the HPCSA informs the criteria for a Medical Officer, and the criteria of a MP/MO does not include some of the co-curricular skills proposed here – so these will be treated as ad-hoc, rather than a vital part of the medical student's learning and journey to learn for the development their

		undergraduate career.
B	**Peer support (4)**	
Medical students highlighted the important role of having siblings studying medicine or senior students in the same residence. They propose guidance such as informal tutorials and providing previous notes on an academic level. Socially they offer advice on how to mentally and emotionally take on the programme and how to make friendships.		
Recommendation:		
3.	The School of Clinical Medicine should consider starting a "big brother" or "big sister" initiative in which senior students could adopt preceding students and have meaningful engagements.	A "Big Brother/Sister" Initiative is difficult to manage and results from such programs are often inconsistent This is important Could work, it needs a meaningful, fit for purpose structure though. To ensure that senior students are equip to take on such a task, as seniority is not equivalent to competence. First years` personality and character needs to be considered in doing so. I think this can be a good idea as long as it does not result in an "initiation-type" relationship where junior students are abused. We have significant evidence of the presence of a "hazing" culture in South Africa. One would have to clarify very carefully what is expected of different parties in such a system. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. There words used in the recommendation is not specific enough in the context of medical students. A lot of literature have shown conflicting results regarding social support/peer support for medical students. For example, in a study by Rospenda *et al.* (1994) "Effects of social support on medical students' performances", they showed that social support should only come from senior medical students within the same programme and not senior students. In addition to this, Park *et al.* (2015) in the article "The relationships between empathy, stress and social support among medical students" wrote about the impact of stress (and other factors) on first-year medical students, especially first-year female medical students. Quite a few other authors have written about this – and this is not new knowledge – so I support this notion on the premise of literature. However, the wording used in this particular indicator are problematic regarding the gender based pronouns (brother, sister). Furthermore, the lack of specificity regarding which senior students are used need clarification. In addition to this, the words "meaningful engagements" is vague and could be interpreted in a variety of ways. I propose that the words highlighted in red require more specificity regarding the context of the study: "The School of Clinical Medicine should consider starting a "big brother" or "big sister" initiative in which senior students could adopt preceding students and have meaningful engagements."
4.	The School of Clinical Medicine should consider scheduling open meetings once a month where first-year medical students can	This is also important but having open meetings monthly may not be feasible taking into consideration the busy schedules of senior students. Not always well attended – where the "big brother"/"big sister" concept might work better. Facilitate by creation of a common room (see other comment)

	interact with all year group seniors in the programme.	It will be good to forge constructive relations and engagements. This could contribute to a sense of community and collaboration instead of the very competitive culture that often characterise highly selective programmes. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. Logistically, I can see this as a challenging task but it has a variety of contextual value that has been proven to improve peer support. Furthermore, this practice does improve student engagement, which in turn improves student performance, retention and throughput. • Richardson (2013) "Allies in learning: critical insights into the importance of staff–student interactions in university education" • William & Myron (2012) "Themed Residential Learning Communities: The Importance of Purposeful Faculty and Staff Involvement and Student Engagement. • "Katherine Pollard's PhD on "Non-formal learning and interprofessional collaboration in health and social care: the influence of the quality of staff interaction on student learning about collaborative behaviour in practice placements"

Medical students highlighted that although they entered the environment of medical studies perceiving themselves as self-sufficient, it is necessary to learn how to depend on others		
Recommendation:		
5.	During class, students should be encouraged to have courage to seek help from fellow-classmates whom they perceive to be more competent	Students may be uncomfortable about publicly seeking help from other students in the classroom. It might be more useful to schedule regular study groups and invite students to attend. Not necessarily competent – distinguish between perceived as competent and competent. For me peer learning, i.e. "figuring it out together" is more important Big burden on those 'competent' ones... what is in it for them? Such engagement is dependent on individual personalities and characteristics. How the student will be received and attended to, will determine the success of such engagements. This is essential as it would help to create a more collaborative and supportive culture. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I agree, however, in the recommendation I cannot discern who takes onus of this and how this encouragement will be disseminated to the students. Also, what qualifies the statement "competent" is vague in this recommendation. At this point, I cannot discern the details of the recommendation because it will make a difference if this is an intervention that is implemented across the entire curriculum in each class, or if this is imbedded in a peer support

		group, or if lecturing staff posts this as a reminder at the end of each lecture, or posted as announcements. I am also concerned of the use of the word competent in this context because it can potentially create social hierarchies within very dichotomous first-year students.
Medical students highlighted the importance of joining student organisations outside the medical school (e.g. university choir). This could help the students emotionally and allowed them to switch off from medicine and enjoy other social activities outside the Faculty.		
Recommendation:		
6.	When setting the class timetable, free time should be allocated to allow students to participate in extra-mural activities.	Already identified as extremely important in medical studies (literature) All time-on-task is needed, for which the students need time It will enhance and create work – balance, thus reminding students to tend to themselves in a holistic manner. I think it is critical to help students realise the importance of more balance and that they need to make time for other aspects of their life. It can also help with stress relief I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. Unfortunately, I do not have enough supporting literature to have a constructive opinion on the matter of the impact of non-medical related extra mural activities and their effect on medical student transition, academic performance and/or the effect of "switching-off" and their medical journey. Extra mural activities in this context and in this programme can be minimised within L1 and L2, just on the premise of the lack of "free time" these students have and how much time they need to transition into this demanding programme from term to term, semester to semester.
C	**Confidence (6)**	
Medical students mentioned that everyone in the class appeared too smart and that hindered them from asking questions in class		
Recommendation:		
7.	Lecturers should constantly encourage students to send them emails to get clarity on concepts	Students who need help are less inclined to seek help from lecturers. I recommend integrating the support in the course or within study groups mentioned about. We instituted "Academic Support Studios" that focus on a specific topic Emails from large groups of students will be too much to cope with. Rather run tutorial sessions or have online group sessions where students send questions, and other students may response to some of the questions and the lecturer also responds. Difficult to really explain concepts per email – email might be used for other reasons/ communication The questions should be prepared, showing that the student worked on it, discussed with peers and still needs clarity, perhaps the topic is too complex? It can also be due to the design of teaching... or the teaching material... As long as what lecturers say to students' manifest in practice, this could be most valuable. I think this can result in a culture of dependency developing. I think students should be encouraged regularly but

		not constantly The staff student interaction is extensively sited (whether it is verbal, non-verbal, or both) and has been shown to have a positive influence on student transition. I support this notion from experience as well. Students who engage with staff regarding subject matter, even as a referral point, tend to have a better student experience than those who don't. • Trowler (2010) "Student engagement literature review. The higher education academy" • Coates (2007) "A model of online and general campus-based student engagement" • Atack *et al*. (2000), "Student and staff relationships in a clinical practice model: impact on learning" • Vaidya *et al*. (2017), "September. Influence of staff-student interaction on student engagement" Marquis *et al*. (2019), "Promoting and/or evading change: the role of student-staff partnerships in staff teaching development"
8.	Lecturers should constantly encourage students to make use of their breaks during a contact session to seek clarity on concepts	Not time effective and not focused As long as what lecturers say to students manifest in practice, this could be most valuable. I think this can result in a culture of dependency developing. I think students should be encouraged regularly but not constantly I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. Please refer to the previous comment. I will caution that this recommendation is specified to include realistic expectations of both students and parties. This is currently too vague for me to recommend as a suggestion.
9.	Lecturers should constantly encourage students to book one-on-one appointments to get clarity on concepts	One-on-one appointments are generally less-efficient If this can work within the context of resources? Students must be prepared when they come to these sessions As long as what lecturers say to students manifest in practice, this could be most valuable. I think this can result in a culture of dependency developing. I think students should be encouraged regularly but not constantly I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. Please refer to the previous two comments. I will caution that this could be challenging on the premise of time and availability and currently this too vague in terms of the wording used in the recommendation.
Medical students highlighted lacking the ability to achieve a balanced lifestyle as a result of poor adaptation during the transitioning period into medical studies		
Recommendation:		
10.	DSLD academic staff should encourage senior medical students to share insight through	Yes, might work, Good recommendation. An information session in the 1st lecture by a senior student (s) on what is to be expected, what he/she/they have done to manage, etc could be helpful.

	2-5 minute videos on how to acclimatise at the School of Clinical Medicine at the University of the Free State during transition.	I think this is a very good idea and if done correctly would help students to see that everybody find it hard, but that it is possible to adapt. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. This is in part because of the timing of this suggestion. If this is prior to the start of class, it will have a different impact than regular updates (once a term) would have. I am also unsure of which transition is being referred to here – first-year L1, L2, Term 1 to term 2 of L1 etc.
11.	DSLD academic staff should collaboratively work with senior medical students to share study method tips with the first-year medical students thus manage academic workload.	Buddy system good idea, create meaningful learning activities for this, what is the benefit for the senior students? Good recommendation. An information session in the 1st lecture by a senior student (s) on what is to be expected, what he/she/they have done to manage, etc. could be helpful. I think this can be very powerful. Agree.
Medical students mentioned feeling overwhelmed by all the new things on campus, in the course, people etc.		
Recommendation:		
12.	The faculty social worker should be invited to present interactive sessions on healthy coping mechanisms during the first 3 weeks of transitioning into medical studies.	Relevance not always clear for students, not well attended = one-on-ones more effective if this has been identified as a challenge for a specific student Good point, but 3 weeks is not a good timing, hence 2 crosses, if it is really 3 weeks, then it is unnecessary, not effective. make it just in time, fit for purpose, students already have a lot to deal with, take up in the 1st 3 weeks Being overwhelmed, should firstly be normalised, before starting with coping mechanism. I think this is a good idea. One might need to repeat the session in the beginning of the second semester to help students. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. If the social worker's strategies are tailor made for first-year medical students on the premise of previous year students experiences/challenges and needs, then yes. However, if the interactive sessions are generic – then perhaps students can benefit more from seeing the social worker/psychologist on a one-to-one basis rather than an information session regarding healthy coping mechanisms.
D	**Self-management (1)**	
Medical students highlighted how they invested in studying for long hours, using stimulants like other students, however, still end up not grasping the work.		
Recommendation:		
13.	The faculty social worker and psychologist should facilitate workshops on personal	Relevance not always clear for students, not well attended = one-on-ones more effective if this has been identified as a challenge for a specific student (See comment above – relevance? Attendance?) Create a mentoring system, mentoring relationship with a staff member

	development that will address both academic and social growth (e.g. short attention span, study breaks, balancing academics and social life etc.)	Students must also be made aware of the fact that every individual have their "ceiling" when it comes to academic functioning. This is very important to help students adapt and develop resilience in competitive environments. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I agree that this type of support is necessary, however, I need to reflectively ask how this differs from other co-curricular interventions within the institution intended to support student transition. I am concerned that there might be content overlap.
E	**Alienation (1)**	
Medical students expressed a feeling of being the only ones facing problems such as the need to compete and comparing marks among each other, the unwillingness to help each other out, thinking less of one self-due to socio-economic background etc. Hence, they never felt comfortable coming forward to seek help despite knowing of the various support systems available.		
Recommendation:		
14.	The faculty social worker should schedule social sessions once a month to facilitate open discussions that will result in a new culture among students to address issues experienced in their environment.	i.e. Debriefing, extremely important in my opinion Give students access to a common room, it must be worthwhile to come there, e.g. one can meet peers, lunch, social interaction, or the possibility to learn and study together. And meet experts there (staff members scheduled to be there on request, with a prepared question(s) Keep in mind, this is dependent on the individual and the trust they perceive to be present. Strongly supported Agree.
F	**Academic advice (1)**	
Medical students highlighted that they did not know whose advice to use when it comes to navigating different resources (books/slides/notes) that were made available.		
Recommendation:		
15.	The DSLD academic staff should collaborate with undergraduate first-year lecturers, to integrate lifelong learning skills (e.g. study skills and preparing for class) into core modules during contact sessions in order to facilitate application of soft skills.	Also in mentoring setting/ system Very good recommendation. I would suggest that the faculty makes better use of existing support such as UFS101, Library along with mention and integration of the skills in selected modules. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I agree that this type of support is necessary, however, it is currently phrased too vaguely with regard to the following terms: "core modules" and "undergraduate first-year lecturers". Additionally, these types of interventions that are proposed in the recommendation are currently in both the academic and co-curricular space – with various faculty specific approaches across various institutions.

5.3.2 Round 2 of the Delphi questionnaire

Round 2 of the Delphi questionnaire had eight recommendations. The idea behind sharing the feedback of the first round was to enable the participants to reflect on their earlier responses and re-rate the statements, by either giving the same rating as before, or amending their initial rating (McMillan *et al.* 2016:658) of Round 1.

The participants were requested to complete the questionnaire within 10 days and to expect reminders every third day if they failed to respond in time. The instructions for completing the second round of the Delphi questionnaire were similar to those of Round 1.

The second round took a bit longer to complete, possibly due to the Covid-19 pandemic and lockdown period. Participants reported having been swamped from working remotely and they took longer to respond to emails. However, once responses had been received from all eight participants, only three of the eight recommendations had achieved consensus of ≥70% (highlighted in green in **Table 5.3**, which also shows the comments made by the panel of experts). Five recommendations were included in the third and final round.

The layout of each theme that achieved consensus is outlined below:

*A. Underpreparedness (consensus achieved on **0 of 1** recommendation)*
*B. Peer support (consensus achieved on **2 out of 3** recommendations)*
*C. Confidence (consensus achieved on **1 of 3** recommendations)*
D. All recommendations had achieved consensus
*E. Alienation (consensus achieved on **0 of 1** recommendation)*
F. All recommendations had achieved consensus

After thorough scrutiny of the qualitative data from the second round of responses, a few recommendation statements were modified, based on suggestions from the panel of experts.

The findings of Round 2 were shared with all participants by individualised email messages when Round 3 of the Delphi questionnaire was distributed. The email included the results of the second round, a letter of appreciation for completing the second round, as well as the Delphi questionnaire for the third round (cf. Appendix F2).

Table 5.3: Delphi questionnaire: Round 2: Findings

Study title: A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

No.	Themed Statements and Recommendations	Comments
A	**Underpreparedness (1)**	
Medical students expressed that the unfamiliarly of larger classes in a university setting in comparison to high school settings with smaller numbers made it scary to approach people or initiate conversation. They reported it resulted in "*social anxiety*".		
Recommendation:		
1.	DSLD academic staff in collaboration with first-year MBChB lecturers should create opportunities that integrate social skills (i.e. team building) during the academic module orientation sessions. These opportunities can be in the form of workshops; thus enhancing social interactions among first-year medical students and the academic staff.	Depending on the format. Of course students need to feel staff and peers are approachable, that there is a save working environment. This can also be emphasized, worked on during teaching activities where there is attention for collaborative skills, giving feedback etc. A separate workshop/ or workshops for this purpose, not sure if would be meaningful, it will depend on the format. This is critical to create a "sense of belonging" that is so critical to academic success (See Terrell Strayhorn's work in this area) I agree that the creation of unique opportunities can lead to an increase in social capital among the first-year medical students. Although this was only used as an example, I would caution against using the words "team-building" and will include different terms (like "peer learning", or "learning community seminar") to avoid the potential stigmatisation surrounding events like this. First-year students with very limited knowledge about their journey ahead, are not always aware of the challenges to come, and perhaps it can be useful to include prior knowledge (an infographic or throughput and retention statistics from the previous first-year students) to show them the realities that they might face, but that events like these have been proven to have a measurable effect on student transition, and student transition to have a measurable success on student

		success. This will assist with the socializing process. Staff to ensure that topics are covered that will normalise the "new students'" experience.
B	**Peer support (3)**	
Medical students highlighted the important role of having siblings studying medicine or senior students in the same residence. They propose guidance such as informal tutorials and providing previous notes on an academic level. Socially they offer advice on how to mentally and emotionally take on the programme and how to make friendships.		
Recommendation:		
3.	The School of Clinical Medicine should consider implementing a coordinated schedule where second and third-year senior medical students can mentor first-year medical students. This should be a peer support system that also provides guidance on how to deal with stress; therefore, addressing the emotional and psychological challenges that most medical students face. The senior students should volunteer and be trained so that they are equipped with the skills to provide such support.	Again the format is important, I think this can be useful, and it should have a low threshold, scheduled meetings might be artificial. A type of common room where student study and meet, and seniors are present would be meaningful. For the senior students, this would give useful skills. Mentoring is a high-impact practice that has proven effective. However, the selection and matching of mentors and mentors is a serious endeavour to ensure the relationship supports student success. This intervention may work, if and only if the right people volunteer and training are provided. This implies that there needs to be some selection criteria in place for selecting volunteers and the type of skills provided. In addition to this, there need to be strong referral systems in place, should a mentee require support outside the scope and capacity of the mentor. Good idea, however, be careful of overburdening senior students. Showing first years "the ropes" versus addressing their emotional and psychological challenges, maybe too much to ask of a person almost their same age.
4.	The School of Clinical Medicine should consider creating opportunities where under- and postgraduate medical students (Registrars) and academic staff can be involved in regular	It needs to be fit for purpose, the timing/ at what time in the curriculum this is meaningful needs to be considered. In most medical programmes, students work as clerks on the clinical work floor, then they meet and work with the registrars. If they have seen these registrars earlier, there may be more sense of community (albeit registrars move on and may not be the same). The topic and context of these regular interactive and collaborative sessions is then again important. The registrar would then be a clinical teacher

	interactive and collaborative sessions, thus create a sense of community.	in a teaching activity(?) and share post-grad experiences? Or clinical experiences? The advantage could be that the registrars are younger and students would easier approach them. Agree that this is important. However again the selection of academic staff (and professional development) who engage in this process is very important. In particular, areas related to cultural competency would be an important training component. Unfortunately, if this is not formally integrated into the undergraduate curriculum, then it might not yield the desired results. If this is structured around learning communities, rather than "opportunities", then there could be clear goals and objectives that create the "collaborative sessions". Currently, the terminology used in this recommendation is not specific enough and as a result, does not nuance the required guidance for peer support. Yes. Students need to be informed what the purpose of these sessions re. In doing so they will realise how important their well-being are to the Faculty/Department.
Medical students highlighted that although they entered the environment of medical studies perceiving themselves as self-sufficient, it is necessary to learn how to depend on others		
Recommendation:		
5.	During tutorial sessions, lecturers should further coordinate small working groups to allow peer learning in which students are encouraged to work together in clarifying concepts.	Team learning is useful, to create opportunities could help. The tutorial is already a smaller group, and a break out to discuss with 2-3 peers and then discuss in the whole group can be useful for learning. I would also facilitate that students can work together outside tutorials and lectures. That also means the infrastructure needs to be in place, there needs to be a place where study can meet and work in teams, easily. Building the capacity of students to support each other and understand the power of collective/collaborative efforts is important I agree with what is written, but only because I assume I understand the depth of this statement. Therefore, I will say both "Must have" and "Unnecessary". If you consider Upcraft and Gardner's (2012) large classroom teaching strategies and include activities like "think-pair-share" or activities in which the smaller breakaway groups are fun and interactive around the chosen topic, then this recommendation is effective. However, the way in which this is currently phrased is too open for interpretation, and does not guide policy or teaching and learning practices. Therefore, I would endorse that you could add a qualifying statement to provide guidance for the audience of this recommendation, making reference to action verbs or pedagogic jargon to

		strengthen the statement. This will assist student who has challenges with social anxiety to function better, as they will not feel too overwhelmed.
C	**Confidence (3)**	
Medical students mentioned that everyone in the class appeared too smart and that hindered them from asking questions in class		
Recommendation:		
7.	Lecturers should be encouraged to facilitate brief question sessions during their didactic contact sessions, specifically directed to more complex concepts after students have had time to collaboratively clarify concepts. This should be followed by a reflection or answer session at the end of the lecture.	Yes could work, again this is small group work in a bigger group. And more active instead of just listening to the lecturer. Not all lecturers would be able to do this, they would need support. I agree. Extra care should be taken to ensure maximum participation – otherwise stronger students may dominate these sessions. I will say both "Must have" and "Unnecessary", as this is dependent on the lecturer, as well as the learning environment that is created to do so. As a point of temperament, the initial group that might ask questions might be the students who are comfortable in doing so. In both literature, and from experience, reflective practice is a powerful tool, but takes time to implement. Therefore, I am unsure of the practical implementation at the end of each lecture. If this is intended for only select few lectures, then perhaps qualify it so in the recommendation? If it is intended to be a continuous practice within the classroom, then perhaps add support to academic staff in the recommendation? This will ensure that complex concepts are consolidated. However, staff may feel burdened and those who struggle with their own anxiety, may start to feel despondent.
9.	Lecturers should in addition provide systems such as emails, scheduled appointments in which students can communicate with them if they need further clarification of concepts.	This may be demanding for the lecturers (many emails? And quite impersonal). Why not the peers first, and then for a scheduled Q&A session, the questions can be posed that the small student groups were not able to solve Open communication between staff and students related to academic concepts are important. It must be noted that the student cohort makes a difference in this recommendation. For example, if there are more than 200 students per lecturer, then tools such as expectations etc. must be outlined. This task is vital, but can quickly become a burden if not approached correctly. Will be helpful to those students who has confidence / language/ personality issues.
Medical students highlighted lacking the ability to achieve a balanced lifestyle as a result of poor adaptation during the transitioning period into medical studies		

Recommendation:		
10.	DSLD academic staff should request senior medical students to share their experiences through 2-5 minute videos, as well as inviting seniors to address first-year classes on how to adjust to medical studies after high school.	Yes helpful, and if there are buddies, and a place to meet, the 1st years can follow-up This is a great idea. It will be important to get feedback for students about this initiative. I agree, I must just caution that the timing of this is important (prior to term 1, during term 1, term 2 etc.) Will be helpful to those starting out, as it will normalise what they think and feel, as well as equipping them with various strategies on how to balance all their commitments and to get through the course successfully.
E	**Alienation (1)**	
Medical students expressed a feeling of being the only ones facing problems such as the need to compete and comparing marks among each other, the unwillingness to help each other out, thinking less of one self-due to socio-economic background etc. Hence, they never felt comfortable coming forward to seek help despite knowing of the various support systems available.		
Recommendation:		
14.	The faculty social worker should schedule social sessions once a month to facilitate open discussions that will result in a new culture among students to address issues experienced in their environment.	Not sure of the students would feel safe to ask question in open sessions. A mentoring system would probably be more helpful. This very important, I recommend that issues are addressed as they organically emerge so that challenges are resolved in "real time." Agree. If anonymity or confidentiality can be ensured, students may be more willing to share. It could be advised, that should a serious issue arise during these sessions, the social worker brings it to the staff`s attention without "naming and shaming". However, it should be made explicit at the beginning of such sessions, should possibility of harm to a student(s) become evident, the social worker will be obliged to report it, with the necessary discretion and professionalism.

5.3.3 Round 3 of the Delphi questionnaires

Round 3 of the questionnaire, consisting of five recommendations, was sent to the participants via individualised emails. Participants were informed that this was the third and last round, and were made aware that they were free to change or retain the choices made in previous rounds. Furthermore, they were requested to reflect on their individual comments, as well as those of the entire panel.

The participants were requested to complete the questionnaire within 10 days, and to expect reminders every third day if they failed to respond in time. The instructions for completing the third round of the Delphi questionnaire were similar to those of previous rounds.

Responses to the third round were expected from only seven of the eight participants – one participant had withdrawn due to personal reasons. When the responses had been received from all seven participants, three of the five recommendation statements had achieved consensus of ≥70% (highlighted in green) and shown in **Table 5.4** with the comments made by the panel of experts. Most studies use two rounds, since more than two rounds lead to panel attrition (McMillan *et al.* 2016:658). However, there was a need for the third round in this study, thus, a third round was done. The five recommendations remaining after Round 2 were regarded by the researcher and promoters as being too many to be left unresolved, thus, the third round was implemented.

The layout of each theme that achieved consensus is outlined below:

*A. Underpreparedness (consensus achieved on **0 of 1** recommendation)*
*B. Peer support (consensus achieved on **0 of 1** recommendation)*
*C. Confidence (consensus achieved on **2 of 2** recommendations)*
D. All recommendation statements had achieved consensus
*E. Alienation (consensus achieved on **1 of 1** recommendation)*
F. All recommendation statements had achieved consensus

The findings of Round 3 were collated, as had been done for the previous two rounds. The results of the third round, with the statements on which consensus had been reached, are highlighted in green in **Table 5.4**.

Table 5.4: Delphi questionnaire: Round 3: Findings

Study title: A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

No.	Themed Statements and Recommendations	Comments
A	**Underpreparedness (1)**	
Medical students expressed that the unfamiliarly of larger classes in a university setting in comparison to high school settings with smaller numbers made it scary to approach people or initiate conversation. They reported it resulted in "*social anxiety*".		
Recommendation:		
1.	DSLD academic staff in collaboration with first-year MBChB lecturers should create opportunities that integrate social skills during the academic module orientation sessions. These opportunities can be in the form of workshop (i.e. "learning community seminar"); thus enhancing social interactions among first-year medical students and the academic staff.	The format needs to fit and be meaningful. As a form of showing good practice and that this is the way we work together. To get a learning community you will need more/ other activities/ facilities Students should be made aware that unlike school they are responsible for their own learning, and thus need to access support services and participate in activities like these described to equip themselves for success Learning community seminars should not just be the label given to the session, but should be supported by the required theoretical underpinnings within the student support framework. The assumption is made that students struggle with social interaction. Other factors should be kept in mind, such as the language of communication may not be the students` mother-tongue, low self-esteem, personality type, etc. However, having workshops, especially in smaller numbers, would be beneficial to first-year students. This should be ongoing, and not only during orientation = this comment can also be addressed by adding more opportunity for engagement with lecturers in smaller groups.
B	**Peer support (1)**	
Medical students highlighted the important role of having siblings studying medicine or senior students in the same residence. They propose guidance such as informal tutorials and providing previous notes on an academic level. Socially they offer advice on how to mentally and emotionally take on the		

programme and how to make friendships.		
Recommendation:		
4.	The School of Clinical Medicine should consider integrating opportunities where under- and postgraduate medical students (Registrars) and academic staff can be involved in regular interactive and collaborative sessions at appropriate times in the first year, thus create a sense of community. The participants and content of these sessions should be planned and structured carefully.	I don't think this will be practical and will be challenging logistically. The content could be meaningful (in hearing stories), but I doubt this will create a sense of community. For the first year, I think this is just not 'in time' (they will meet other registrars in their clinical years), or a fit-for-purpose format. I agree that the inclusion of collaborative sessions strengthens the recommendation. I further support the caution, in that participants and the content should be planned and structured carefully. This infers that dedicated and experienced staff on student support should be involved within its implementation. To have a Mentor would benefit the students. Could also be extended to all study years and not only 1st year.
C	**Confidence (2)**	
Medical students mentioned that everyone in the class appeared too smart and that hindered them from asking questions in class		
Recommendation:		
7.	Lecturers should be encouraged to facilitate brief question sessions during their didactic contact sessions, specifically directed to more complex concepts after students have had time to collaboratively clarify concepts. This should be followed by a reflection or answer session at the end of the lecture, with appropriate support for academic staff to	The break-out sessions will create opportunities for students to interact, check concepts/ their own understanding. And the answer session will show the questions of other groups The Academic Staff support is important. The addition of academic support does strengthen this recommendation. Students` confidence may increase, as time goes by, when they experience these sessions as non-threatening. It might also be done in an online environment, which is less "threatening" than the class set-up

	implement this.	
Medical students highlighted lacking the ability to achieve a balanced lifestyle as a result of poor adaptation during the transitioning period into medical studies		
Recommendation:		
10.	DSLD academic staff should request senior medical students to share their experiences through 2-5 minute videos, as well as inviting seniors to address first-year classes at specific times in their academic calendar on how to adjust to medical studies after high school.	Yes, this could be helpful, and just in time and fit for purpose. The senior medical students are then (probably) more approachable outside these sessions I agree with this. It must be said with caution that the specific times have to be strategic to when a) it will have the biggest impact for students and b) in a timeous manner (well before a test or exam) Definitely. Making use of other support services, such as the Writing Centre, Psychological support (Adjustment Disorder, Anxiety Disorder, etc.), Library services, etc. This will have GREAT value!!
E	**Alienation (1)**	
Medical students expressed a feeling of being the only ones facing problems such as the need to compete and comparing marks among each other, the unwillingness to help each other out, thinking less of one self-due to socio-economic background etc. Hence, they never felt comfortable coming forward to seek help despite knowing of the various support systems available.		
Recommendation:		
14.	The faculty social worker should schedule social sessions once a month to facilitate open discussions that will result in a new culture among students to address issues experienced in their environment. The sessions must be mindful of anonymity, confidentiality and psychological safety.	I am hesitant that this type of 'obligatory' sessions will give the outcome that is sought. How can anonymity be ensured in a 'social session'? If this is to be organized, sessions need to be small, with indeed careful measures for psychological safety, and fit for purpose. I do not believe students will just sit around and share their difficulties in a big group with a social worker, just for the sake of it. This might work/ be meaningful with small group mentoring Having a safe space within the academe, but not a part of the curriculum could be a viable resource for students who otherwise would not have access to this. Definitely. If possible, try to ensure that students are aware that ALL of them will have a session once a month with the Social Worker, as a way of supporting them. I think this could also be done in an online environment, which is less threatening = students could even log in with "alias's"

5.4 INTERPRETATION AND DISCUSSION OF THE FINDINGS OF THE DELPHI TECHNIQUE

In total, 15 recommendations were included in the initial Delphi questionnaire, to seek consensus. One recommendation was merged with another, as suggested by participants in Round 1, reducing the recommendations to 14.

The results were analysed for consensus – agreement or disagreement at ≥70% – on recommendations, using the given options of **must have/essential**, **good to have/useful** to **unnecessary**. At the end of Round 3, consensus had been achieved on 12 recommendations. Of the 12 recommendations on which consensus had been achieved, 11 were regarded as **must have/essential,** and the remaining recommendation was regarded as **good to have/useful.** None of the recommendations on which consensus was achieved were judged **unnecessary**. Tables 5.5–5.10, with sub-divisions A-F, show the recommendations for which ≥70% consensus was obtained. The information in brackets indicates in which round consensus was achieved (R1, R2, R3) and the percentage consensus. The paragraphs beneath each recommendation are the free-text comments made by the panel of experts during the Delphi technique.

In relation to the free-text comments made by the panel of experts, a thematic approach was used to analyse the data of all three rounds by identifying concepts and themes (Keeney *et al.* 2011:5). As indicated in Chapter 4 (cf. Section 4.3; step 4), the researcher had prior experience of developing themes, so she navigated the free text confidently, and highlighted themes. What was apparent from the comments made by the panel of experts, was an emphasis on who the role players are who can facilitate social learning and integration factors for first-year undergraduate medical students. When she analysed the free-text comments, the researcher intentionally searched for statements that mentioned role players and themed them. Four themes were identified from the free-text responses by the panel of experts, now denoted in this study as levels of engagement, namely **community: SoCM**, **Individual**, **Group setting** and **Collaborative relationships**.

Complementary to the levels of engagement, the researcher mentioned proposed actions through which the role players could participate, the application of these actions was likely to resolve the main social learning and integration factors that had been identified. Chapter 2 highlighted support programmes currently in place to facilitate social learning and integration. Support programmes refer to means of coping, in which personal characteristics are engaged to increase an individual's capacity to recover quickly from difficulties (Thompson *et al.* 2016:175). Literature identifies four main categories of support systems, namely institutional, faculty, division and individualised support (McLean & Gibbs 2009:4; UFS 2017a-d). Individualised support includes three sub-categories, namely, preparation for health sciences workshops, mentorship and student-led group support (Thalluri 2016:39, cf. Section 2.3). The support programmes identified correspond to social learning and integration factors that were recognised as prominent. As Deepa and Panicker (2016:594) mention, medical students require various types of support to make their lives in the medical education environment easier.

Table 5.5 (A): Recommendations on which consensus was achieved in the Delphi questionnaire

A. Underpreparedness	Round (R1,R2,R3) of consensus (≥70%)
Medical students highlighted the importance of taking initiative by applying effective learning styles when navigating their academic workload	
2. The DSLD academic staff should put emphasis on the importance of preparing for class, as this will give the students an indication of what learning styles might be required to navigate the content.	**R1:71% Must have**

In this context, underpreparedness refers to the inability of medical students to apply effective learning skills to manage the academic workload of various modules, thus, not necessarily referring to underpreparedness for entering university. The panel of experts suggested that, since it has been established that the students might not be aware of the required learning style for a specific module, it was important for the **lecturing staff** to meet the students halfway, by using a range of teaching strategies that will accommodate diverse learning approaches to their modules. This would enable students to learn how to adjust their individual learning styles, so that it suits that particular module(s) better. According to Hennis (2014:32), study skills could be enhanced further through active and

interactive class experiences and the content delivered (cf. Section 2.2.2.1).

Furthermore, to ensure that the learning approach and learning style skill is embedded in the students, lecturing staff need to ensure that there is reinforcement in their programmes. This means that change will only be lasting if skills are practised repetitively, and do not only receive attention at first-year level, or in some modules and not others. Students of the **SoCM** are enrolled for their first academic year for only 16 to 18 weeks – quite a short period. Not all of them are able to acquire the skills then, because some students might take longer to acquire skills than others. For this reason, reinforcement is essential.

Thalluri (2016:39) reports on a concept that involves preparatory workshops for health sciences students that take place over a week, and which serve as a support programme. The workshops accommodate first-year students who are new to university education and who require some help to fill in the gaps in their background knowledge of science and health sciences. This concept can be introduced at each transition phase of the academic programme of the SoCM, to gauge prior knowledge in order to identify possible gaps that exist, before engaging with the content, with the assumption that students possess the acquired knowledge. In addition to gauging prior knowledge, it could also be beneficial to monitor students' approaches to assimilating knowledge.

Table 5.6 (B1): Recommendations on which consensus was achieved in the Delphi questionnaire

B. Peer Support	**Round (R1,R2,R3) of consensus (≥70%)**
Medical students highlighted the important role of having siblings studying medicine, or senior students in the same residence. The senior students or siblings propose guidance, such as informal tutorials and providing previous notes on an academic level. Socially, they offer advice on how to take on the programme, mentally and emotionally, and how to form friendships.	
3. The SoCM should consider implementing a coordinated schedule, where second and third-year senior medical students mentor first-year medical students. This should be a peer support system that also provides guidance on how to deal with stress; therefore, addressing the emotional and psychological challenges that most medical students face. The senior students should volunteer and be trained, so	**R2:75% Must have**

that they are equipped with the skills to provide such support.	

The panel of experts mentioned the importance of selection criteria when choosing volunteers, and the skills they have to be equipped with to mentor. The selection criteria must be focused on the personality and character needs of the mentee, to ensure the relationship supports student success. Seniority of a mentor, on its own, is not equivalent to competence. Last, but not least, clear role expectations need to be communicated to both mentor and mentee, so that unrealistic expectations can be avoided. For instance, providing help to address emotional and psychological challenges may be too much to ask of a mentor who is almost the same age as the mentee. Hence, referral systems to more qualified professionals need to be in place at all times. Pereira and Barbosa (2013:45) identified mentoring as one of the support programmes that may be particularly important to new medical students, who often find themselves inadequately prepared for the new education environment (cf. Section 2.3.2.1), and who need assistance from peers to help them navigate the new education environment.

Table 5.6 (B2): Recommendations on which consensus was achieved in the Delphi questionnaire

Medical students highlighted that, although they entered the environment of medical studies perceiving themselves to be self-sufficient, it is necessary that they learn to depend on others.	
5. During tutorial sessions, lecturers should, furthermore, coordinate small working groups, to allow peer learning through which students are encouraged to work together to clarify concepts.	**R2:71.4% Must have**

The members of the group of experts all agreed with this recommendation and, furthermore, mentioned that not only would the initiative help students to **work together** in tutorial sessions, it would also enhance ongoing **relationships** outside tutorials and lectures. However, to sustain such relationships, suitable infrastructure needs to be in place, to help students to meet up to study and work in teams with ease. An additional benefit of such a platform could be to assist students who experience challenges in relation to social anxiety to function better, as they might feel more comfortable expressing views and seeking clarity in a smaller setting. As highlighted by Fares *et al*. (2016:78), students need

to be equipped to form student-led groups, through the provision of career counselling, life coaching and confidential resources provided by a university's health insurance plan. These student-led support groups help them to process conflict, raise their self-awareness and nurture empathy early on after arrival. This initiative could, furthermore, give students opportunities to express, analyse and share feelings. Shared reflection can help students to realise that their struggles are common, and provide insight on how to solve or overcome these common problems (cf. Section 2.3.2.1).

Table 5.6 (B3): Recommendations on which consensus was achieved in the Delphi questionnaire

Medical students highlighted the importance of joining student organisations outside the medical school (e.g. university choir). This could help students emotionally and enable them to switch off from medicine and enjoy other social activities outside the Faculty.	
6. When setting the class timetable, free time should be allocated to allow students to participate in extramural activities.	**R1:71% Must have**

The panel of experts strongly supported this recommendation and emphasised how it could help students realise, from the beginning, the importance of tending to themselves in a holistic manner. It would also bring balance to the students' lives, and present them with opportunities to attend to other aspects of their lives. It can also help with stress relief. As McLean and Gibbs (2010:227) implore, medical education environments should offer time for students to pursue hobbies and to socialise within and outside the faculty. In their view, doing so will foster an atmosphere of trust and mutual co-operation. The **faculty** should also play a role in scheduling social activities that enable students and staff to interact informally, though professionally (McLean & Gibbs 2010:227). As asserted by Bandura (1969:217), social learning enables people to learn from one another through observation, imitation, and modelling (cf. Section 2.3.2). The action that could, then, come into play by encouraging such social relations, could be a student-led group, which encourages relationships among students who are in the medical education environment and those who are in a different environment, though present on campus.

Table 5.7 (C1): Recommendations on which consensus was achieved in the Delphi questionnaire

C. Confidence	Round (R1,R2,R3) of consensus (≥70%)
Medical students mentioned that everyone in the class appeared too smart and that prevented them from asking questions in class.	
7. Lecturers should be encouraged to facilitate brief question sessions during their didactic contact sessions, specifically directed to more complex concepts after students have had time to collaboratively clarify concepts. This should be followed by a reflection or answer session at the end of the lecture, with appropriate support for academic staff to implement this.	**R3:71.4% Good to have**

Data from the Delphi questionnaire indicated that the key to implementing this recommendation successfully would be appropriate **support for academic staff,** so that lecturers are able to attend to delivering the content as well as facilitate brief question sessions among students within the stipulated lecture time for didactic contact sessions. Thus, once such an environment is created, the student's confidence may increase, as time goes by. A secondary online platform could be created to carry out these sessions, in addition to the class set-up, so that it caters for students who might have difficulty expressing themselves in the class setting. The proposed action could be the support-led group, as this support programme helps students to process conflict, raise self-awareness and nurture empathy (Fares *et al.* 2016:78), which are qualities that can build confidence.

Table 5.7 (C2): Recommendations on which consensus was achieved in the Delphi questionnaire

Medical students mentioned that everyone in the class appeared too smart and that prevented them asking questions in class	
9. Lecturers should, in addition, provide systems such as emails, scheduled appointments in which students can communicate with them if they need further clarification of concepts.	**R2:87.5% Must have**

According to the data analysis of the Delphi questionnaire, this recommendation elicited mixed reviews from the panel of experts. On the one hand, it was seen to be a helpful approach to those students who have issues related to confidence or language, or personal issues. Open communication between staff and students relating to academic concepts

could be an added advantage through this recommendation. On the other hand, the panel expressed that this activity could be demanding on the lecturers, especially if they have a large cohort of students – more than 200 per lecture. Also, emails might come across as impersonal. Therefore, perhaps, students should optimise the contribution of **peers** within their established small groups. Only when they have not resolved the content in question, should they schedule a session with the lecturer. This recommendation refers to student-led group support as an action that would likely drive this recommendation (cf. Section 2.3.2.1).

Table 5.7 (C3): Recommendations on which consensus was achieved in the Delphi questionnaire

Medical students indicated they lack the ability to achieve a balanced lifestyle, as a result of poor adaptation during the transitioning period into medical studies.	
10. DSLD academic staff should request senior medical students to share their experiences through 2–5 minute videos, as well as inviting seniors to address first-year classes at specific times in their academic calendar on how to adjust to medical studies after high school.	**R3:85.7% Must have**

The members of panel of experts were all in agreement with the recommendation and suggested, furthermore, making use of other support services, in addition to the senior students. Such support services include the **writing centre**, **psychological support, and library services**, which could address adjustment issues and anxiety disorders. Emphasis was also placed on a strategy that has to be in place, so that this initiative is done in a timeous manner, and is directed at first-year students. It is likely that the preparation for Health Sciences workshops as an action could be an effective approach to providing additional support services. As Thalluri (2016:39) emphasises, meaningful engagement with the university is facilitated if students can meet academic staff, network and form friendships with peers, and become familiar with the campus and support systems that are available, which means more relationships can be developed.

Table 5.7 (C4): Recommendations on which consensus was achieved in the Delphi questionnaire

Medical students indicated they lack the ability to achieve a balanced lifestyle, as a result of poor adaptation during the transitioning period into medical studies.	
11. DSLD academic staff should work collaboratively with senior medical students to share study method tips with the first-year medical students, thus helping them to manage academic workload.	**R1:100% Must have**

The panel of experts were all in agreement – in fact, they were unanimous in agreeing with the recommendation. They recommended, furthermore, that **buddy systems** could create meaningful learning activities. Moreover, senior students could be invited to an orientation lecture of each first-year module, to share, from the student viewpoint, what the expectations are, and what they did to manage the expectations, and so on. Doing so could boost the morale of first-year students significantly. Actions through mentorship and student-led group support seem suitable for creating such meaningful learning activities (cf. Section 2.3.2.1).

Table 5.7 (C5): Recommendations on which consensus was achieved in the Delphi questionnaire

Medical students mentioned feeling overwhelmed by all the new things on campus, in the course, people, etc.	
12. The faculty social worker should be invited to present interactive sessions on healthy coping mechanisms during the first 3 weeks of transitioning into medical studies.	**R1:86% Must have**

Although consensus was achieved among the members of the panel of experts, there were mixed views on this recommendation. Some experts were concerned that the relevance might not always be clear to students if they are introduced to the social worker at such an early stage, and that this presentation is generally not well attended – they believed it could be more effective if it is done on a **one-on-one basis**. Also, during the first three weeks of transition, students already have a lot to deal with, thus, the first three weeks might not be good time to introduce them to the social worker; it must be done just in time and when necessary. In addition, it was suggested that the session is repeated at the beginning of the second semester, to help the students further. At the SoCM, FoHS at the UFS, the

beginning of the second semester will mean that the students will be facing a new transition, as they are regarded as second-year students academically.

The MBChB curriculum is divided into three phases. Phase I is offered in semester 1, Phase II in semesters 2 to 5 and Phase III in semesters 6 to 10 as seen in the figure below. During semester 1 of the first academic year students are required to successfully pass all their first semester modules worth 84 credits. On doing so, they are said to have completed year one, which is six months long. During the second semester of the first academic year, students register for new modules, which comprise of four year modules. The second academic year is initiated in the second semester of the first academic year and is carried over to the second year of enrolment in the MBChB curriculum during the first semester (denoted as semester 3 in the picture below). During this semester, two more semester modules are added to the four year modules (second academic year includes 152 credits).

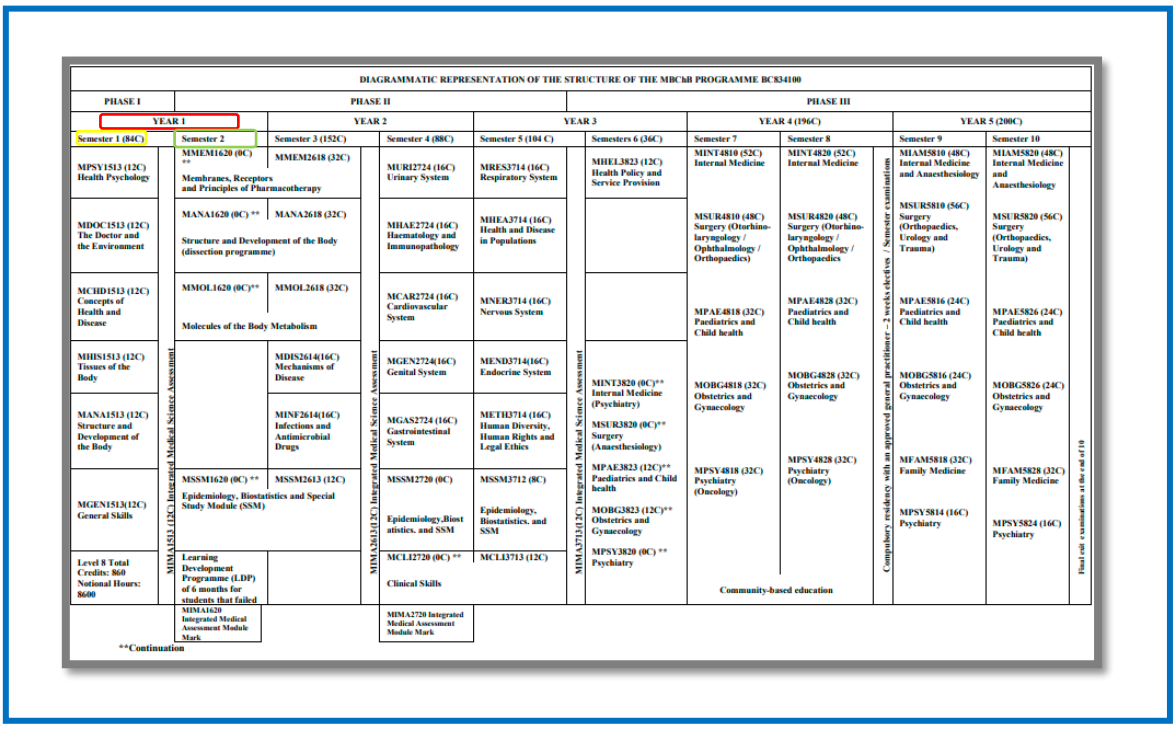


Figure 5.1: Diagrammatic representation of the structure of the MBChB curriculum, (UFS 2017a). (Click zoom level to enlarge image)

The reintroduction could provide an indication to the SoCM that, perhaps, this support should be continuous, and should be done at each transition point of student academic years. Again, the recommended best action for orienting students at each transition phase,

is preparation for Health Sciences workshops (cf. Section 2.3.2.1).

Table 5.8 (D): Recommendations on which consensus was achieved in the Delphi questionnaire

D. Self-management	Round (R1,R2,R3) of consensus (≥70%)
Medical students reported how they invested in studying for long hours, using stimulants like other students did, however, still end up not grasping the work.	
13. The faculty social worker and psychologist should facilitate workshops on personal development that will address both academic and social growth (e.g. short attention span, study breaks, balancing academics and social life etc.)	**R1:86% Must have**

The panel of experts reported that it is very important to help students adapt and develop resilience in competitive environments. Moreover, students must be made aware of the reality that each individual has their own limitations when it comes to academic functioning. Thus, students need to identify their limitations and seek guidance accordingly, hence, the reference to self-management. While students transition into the new education environment, success will depend on their autonomy to acquire new study habits, or to adjust their study skills to suit the demanding semester model, in a less formal setting (cf. Section 2.2.2.1; Hennis 2014:34-35). Thus, students need to be made aware of the skill of learning independently: just because they were successful at high school does not automatically translate into them flourishing in the university setting (Bolt & Graber 2010:197). Despite students having various learning styles and strategies, possessing an effective study strategy and skill is essential for mastering the new education environment that learning and teaching demands (Hennis 2014:32; cf. Section 2.2.2.1). Hence, an individualised support system could be used to effectively facilitate such skills through the action of preparation for Health Sciences workshops. In addition, the learning styles and learning approaches constitute the learning preferences of undergraduate medical students. This means the students' learning preference ultimately allows them to engage in deep, surface or strategic approaches of learning, with the help of their learning styles (Liew, Sidhu & Barua 2015).

Table 5.9 (E): Recommendations on which consensus was achieved in the Delphi questionnaire

E. Alienation	Round (R1,R2,R3) of consensus (≥70%)
Medical students expressed a feeling of being the only ones facing problems, such as the need to compete and compare marks among each other, experiencing unwillingness to help each other out, thinking less of oneself due to one's socio-economic background etc. Hence, they never felt comfortable about coming forward to seek help, despite knowing about the various support systems available.	
14. The faculty social worker should schedule social sessions once a month to facilitate open discussions that will result in a new culture among students to address issues experienced in their environment. The sessions must be mindful of anonymity, confidentiality and psychological safety.	**R3:85.7% Must have**

The panel of experts expressed concern about how to ensure anonymity among students in a group or social setting. They proposed that the **groups should be small**, that careful measures are taken to ensure psychological safety, and that sessions are fit for purpose – if this is ensured, perhaps this initiative could work. Alternatively, this initiative could be carried out in an online environment, because this environment could be perceived as less threatening, and would also allow a student to log in with an assumed/fake identity/"alias", thus ensuring anonymity. Thus, the important thing is ensuring that students are engaged in gaining skills that will equip them to blend into their new environment; gaining these skills can be facilitated by the action of preparation for Health Sciences workshops, as well as mentoring and student-led group interventions (cf. Section 2.3.2.1).

Table 5.10 (F): Recommendations on which consensus was achieved in the Delphi questionnaire

F. Academic advice	Round (R1,R2,R3) of consensus (≥70%)
Medical students reported that they did not know whose advice to use in relation to navigating different resources (books/slides/notes) that are available.	
15. The DSLD academic staff should collaborate with undergraduate first-year lecturers, to integrate lifelong learning skills (e.g. study skills and preparing for class) into core modules during contact sessions in order to facilitate application of soft skills.	**R1:86% Must have**

According to the data analysis of the Delphi questionnaire, this recommendation elicited mixed reviews from the panel of experts. One panel member, in particular, was under the impression that the proposed recommendation was already in place, since the institution

(i.e. through UFS 101, library services, etc.) facilitates these soft skills to all students. However, what is important to note, is that this proposed recommendation refers specifically to an "***in-house***" approach by **DSLD academic staff.** The reasons for this approach is that there is already an in-depth understanding of how the programme works among DSLD academic staff, and there are already working relations among some of the module leaders. Also, the emphasis is on customising the type of support offered, instead of a generic approach. Thus, it would be easier to navigate this new initiative with academic staff who are already familiar with the scope of the programme. So, the most appropriate action in this regard would be the preparation for Health Sciences workshops (cf. Section 2.3.2.1), and establishing working relationships, not only among support staff and lecturers, but the DSLD academic staff with students too. Overall, other panel experts found this recommendation to be very good.

The purpose of using the Delphi technique in this study was to elicit expert views and to refine judgements on a series of statements that had been collected in the nominal group meetings, with the aim of developing a social learning and integration support framework for the successful transition of undergraduate medical students to the medical education environment. Therefore, the results discussed above provide building blocks that should be included in the support framework. The support framework will be provided in the next chapter.

5.5 CONCLUSION

Chapter 5 provided an overview of the findings of three rounds of a Delphi questionnaire, which involved eight experts who worked in student support at health sciences and higher education and training institutions, in South Africa and abroad.

In the next chapter, the researcher will provide a conceptual framework to support social learning and integration of first-year undergraduate medical students in the SoCM, FoHS, at the UFS.

CHAPTER 6
A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

6.1 INTRODUCTION

In order to enhance first-year undergraduate medical students' transition from high school to university, the study aimed to investigate factors that affect social learning and integration support and to formulate a responsive support framework for social learning and integration of these students. In order to ground the study in theory, the researcher presented a literature overview, which identified theories relating to social learning (Bandura 1969:217) and social integration (Tinto 1975:107). The alignment of the two theories resulted in a combined theory, referred to as social learning and integration, which is defined as interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence (cf. Section 1.1). Furthermore, the literature overview was used to explore the support programmes that were available to first-year undergraduate medical students, and the social learning and integration skills they had to develop to facilitate their transition into the new education environment (cf. Section 2.1).

Literature on selected techniques, namely the methods and procedure of generating consensus among experts using the nominal group technique and the Delphi technique, were elucidated (cf. Section 3.1). Collecting and analysing data using nominal group meetings with undergraduate medical students was chosen as the first method for achieving general agreement or convergence of opinions around the factors that need to be addressed in relation to social learning and integration of first-year medical students (McMillan *et al.* 2016:656). Overall consensus among the medical students at the UFS, FoHS at the SoCM who participated in this study was that social learning and integration factors during their transition were affected by six ranked themes, namely **underpreparedness**, **peer support**, **confidence**, **self-management**, **alienation** and **academic advice.** Recommendations to respond to these were further proposed by the medical students to each themed statement (cf. Section 4.6).

In addition, collection and analysis of data by administering a Delphi questionnaire to a

group of experts involved in student support at health science and higher education and training institutions nationally and abroad (cf. Section 3.1), served as the second method for reaching general agreement or convergence of opinions on the factors that need to be addressed in relation to social learning and integration of first-year medical students (McMillan *et al.* 2016:656). The recommendations that were used in the Delphi questionnaire with experts were drawn from statements posed in Question 2 of the nominal group meetings (cf. Section 4.6). These recommendations were modified further and voted on for consensus by the panel of experts in the Delphi technique. Chapter 5 summarised the 12 recommendations that achieved consensus among the panel of experts. These are recommendations that could be implemented in response to the social learning and integration factors identified as affecting transition into first year undergraduate medical studies (cf. section 5.4). In addition to summarising the recommendations, the researcher analysed the free-text comments that the experts had made. From this analysis, a broad theme, namely levels of engagement, was formulated. From this broad theme, four subthemes, namely: (i) **Community: SoCM,** (ii) **Individual,** (iii) **Group setting** and (iv) **Collaborative relationships** were generated. These subthemes mostly highlighted the key role players that need to participate in overcoming these social learning and integration factors (cf. Section 5.3.3.). Complementary to the levels of engagement, the literature overview highlighted support programmes that were denoted as actions (cf. Section 2.3.2.1), which are likely to resolve the identified social learning and integration factors (cf. Section 5.4).

The findings from the above-mentioned approaches will be collated in this chapter, with the aim of formulating a support framework for social learning and integration of first-year undergraduate medical students. The support framework's flow of activities, proposed as interventions, are not necessarily dependent on each other, as each of the themes that are addressed are stand-alone matters; although some overlap.

6.2 ELEMENTS ESSENTIAL FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

A dearth of research has been reported on the coping and adjustment skills of medical students in general, and especially in the South African context (Hamid & Singaram 2016:99). Students are troubled by being away from home, by academic pressures, and faculty and institution-related challenges (Lane 2016:3). Hence, McLean and Gibbs (2010:227), urge that stakeholders planning medical curricula need to be aware of emotional and communication skills that address stress factors. Such skills will enable students to detect, understand and manage emotions in themselves and others (cf. Section 2.3). In contrast, Thompson *et al*. (2016:179) opine that medical students are capable of recognising issues in themselves and their peers. However, they feel more comfortable sharing those issues amongst themselves, hence, the low utilisation of available services (cf. Section 2.3.1). Notably, medical students who participated in this study were able to recognise social learning and integration factors in themselves and also recommended ways that could be effective in resolving those identified social learning and integration factors through support strategies.

Positive coping mechanisms are associated with the skill of seeking social support to turn a negative experience into a personal growth experience. Medical students with good social functioning and support are more likely to recover much quicker after experiencing difficulties (Thompson *et al*. 2016:175). In this study, the 12 recommendations, levels of engagement and the actions (cf. Section 5.4), integrated with social learning and integration theory, and contributed to the development of the support framework proposed.

6.2.1 Recommendations on which consensus was achieved in the Delphi questionnaire

As previously mentioned, the identified social learning and integration factors highlighted in Question 1 of the nominal group technique were aligned with the social learning and integration skills highlighted in Question 2 of the nominal group technique (cf. Section 4.6).

After aligning the identified social learning and integration factors with the skills in the form of recommendations, the factors were sent to the Delphi panel of experts through three Delphi questionnaire rounds. At the end of Round 3, consensus had been achieved on 12 recommendations (cf. Section 5.4) which will be listed below. Underpreparedness, peer support, confidence, self-management, alienation and academic advice.

i. **Underpreparedness**: Improve on class preparation and complementary learning styles
ii. **Peer support**: Coordinate schedules of senior students to effectively mentor first-year students
iii. **Peer support**: Coordination of tutorials by lecturers in small working groups among peers
iv. **Peer support**: Class timetables must schedule extramural activities
v. **Confidence**: Lectures must facilitate brief question and answer sessions on complex concepts
vi. **Confidence**: Students must be informed of platforms outside the classroom for further clarification on complex concepts
vii. **Confidence**: 2-5 minute videos and face-to-face contact sessions from senior students on transition
viii. **Confidence**: Sharing study method tips with first-year students from senior medical students
ix. **Confidence**: Faculty social worker must host interactive sessions on healthy coping mechanisms
x. **Self-management**: Faculty social worker and psychologist must host workshops on personal development
xi. **Alienation**: A culture of actively addressing education environment experiences with the faculty social worker
xii. **Academic advice**: Active integration of lifelong learning skills into core first year modules

As a way to attempt to resolve the mentioned factors that affect the transition of first-year medical students in the future, the researcher will discuss the levels of engagement, which

also highlight the role players that need to actively participate in resolving the listed factors through the abovementioned recommendations.

6.2.2 Levels of engagement

Levels of engagement will highlight role players' involvement in resolving the social learning and integration factors listed. Various role players were identified by the Delphi participants as crucial participants in attending to the social learning and integration factors identified by the medical students.

6.2.2.1 *Community: SoCM*

The community: SoCM consists of a workforce team made up of academic and support staff. The expectation of the community: SoCM is to create an academic atmosphere that will allow the following levels of engagement, namely individual, group setting and relationships, to function optimally, as a collective and/or individually. As mentioned in the social learning and integration theory, interaction through institutional experiences has a considerable influence on how individuals learn from each other (cf. Section 6.1). The implication is that, if the academic atmosphere created by the community is characterised by harmony, then, perhaps, noticeable results relating to resolving the prominent social learning and integration factors would be observed. For example, if individuals are to interact through groups, which could, furthermore, result in long-lasting relationships, either among students or among students and academic and support staff, there will have to be an intentional working relationship among all role players within the given community.

6.2.2.2 *Individual*

The individual level of engagement places emphasis on the personal context during educational transition (Hayes *et al*. 2015:27). Personal context factors that affect transition

include language barriers, goal aspirations and self-efficacy (cf. Section 2.2.1). Students' goals, aspirations and self-efficacy also contribute to success during the transition from high school to university (Bolt & Graber 2010:197). What is highlighted at this level of engagement is that some social learning and integration factors that students experience during transition are on a personal level. However, through observation, imitation, modelling and persistence, students can overcome these factors. More importantly, the level of engagement at an individual level does not imply the individual is all alone, rather, the individual level approach implies that the solution places more emphasis on a personal context.

6.2.2.3 *Group setting*

Through this level of engagement, group settings can enable medical students to learn holistically, not only from their peers, but from their education environment setting too. This is because, within the group setting, there is intentional grouping of students. According to the social learning and integration theory, when students observe one another and imitate each other within a group setting, they can learn from each other (cf. Section 6.1). Of note is that the individual level of engagement and the group level of engagement complement each other, because, within a group setting, different personal contexts also play a role in the interaction of medical students (Hayes *et al*. 2015:27). This indicates that, in some instances, one level of engagement could influence the activation of another level of engagement, or two levels of engagement could, in fact, occur concurrently.

6.2.2.4 *Collaborative relationships*

At this level of engagement, it could be expected that exposing individuals to a certain environment, in this instance an academic atmosphere, and if they interact with other individuals, relationships would form – either long term or short term. Therefore, this level indicates that close-knit relationships could result either from working relationships, which occur between professionals (lecturing and academic staff) and students, or among peers. As ascertained by McLean and Gibbs (2010:227), the faculty should play a role in scheduling

social activities that enable students and staff to interact informally, though professionally. This recommendation emphasises the modelling and persistence of learning from each other, as mentioned in the social learning and integration theory. Notably, all the above-mentioned levels of engagement are also intertwined in this level.

The role players, as well as the level at which they need to engage on, are followed by the actions that must be taken to implement the suggested recommendation in the support programme to resolve the social learning and integration factors.

6.2.3 Actions for the support framework

The following sections describe the actions that can be taken to implement the 12 recommendations effectively as suggested by the medical students and further voted on for consensus by the Delphi experts. These actions are contextualised to the findings of this study.

6.2.3.1 *Preparations for health sciences workshops*

Implementing the action of preparing to present health sciences workshops in the context of this study entails medical students transitioning into the SoCM educational environment, to be assessed on prior health sciences knowledge, in order for them to be adequately prepared for the health sciences environment. This assessment does not refer only to cognitive knowledge, instead, it extends further, to assessing lifelong learning skills, such as applying effective learning skills to the health sciences modules during the semester or academic year the student is enrolled for, and eliminating any gaps among lifelong learning skills. Some skills will need to be developed sooner than other skills, hence, the preparation for health sciences workshops must be implemented in a timely manner, that allows medical students to adequately assimilate and implement their newly developed skills or knowledge (cf. Tables 5.5A, 5.7C, 5.8D, 5.9E & 5.10F).

6.2.3.2 *Mentorship support*

Literature indicates that mentoring programmes for first-year students are particularly effective (Pereira & Barbosa 2013:45, Section 2.3.2.1). The findings of this study are in agreement with the findings of literature that mentoring programmes are effective. Furthermore, this study's findings emphasise optimising the effectiveness of the mentorship support even more. This means that, during the selection and allocation process of mentor to mentee, attention should be paid to the type of personality and character of the mentor that is assigned to a mentee. Selecting mentors based on seniority alone is not necessarily equivalent to competence for effectively mentoring mentee(s) (cf. Tables 5.6B & 5.9E).

6.2.3.3 *Student-led group support*

The context of the action of student-led group support in this study highlights nurturing ongoing relationships among students by equipping them with skills that will help them to process conflict, raise self-awareness and nurture empathy early on after arrival in the new education environment (cf. Tables 5.6B, 5.7C & 5.9E). The student cohort enrolled for medical programmes in the South African context comprises medical students who originate from diverse cultural, socioeconomic and education backgrounds, and who vary in terms of language and communication skills (McLean & Gibbs 2010:227; Anandhalakshmi *et al.* 2015:10; Van der Merwe *et al*. 2016:80, cf. Section 2.2.2.1). Therefore, in order for students to form student-led groups and sustain them despite the members' diversity, counselling and life coaching must be provided by the faculty social worker and the psychologist, to promote skills development in the students in a non-threatening environment.

6.3 SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

A framework in the context of this study refers to a basic structure that underlines concepts that were addressed in this research project. The concepts emphasised the theory of the

study, recommendations that achieved consensus on how to resolve the identified social learning and integration factors, levels of engagement and actions that need to be implemented as support programmes.

The study adopted a qualitative social constructivism worldview to explore and understand undergraduate medical students' challenges in relation to social learning and integration; specifically, when transitioning from high school to the SoCM in the FoHS at the UFS (Creswell 2013:24; cf. Section 1.7.1). Therefore, through the proposed support framework, the researcher will address the problem of the study, that is, the absence of a social learning and integration support system that could facilitate the transition of first-year undergraduate medical students from high school to a new education environment at the SoCM in the FoHS at the UFS (cf. Section 1.2). Thus, the aim was to design a support framework for social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS (cf. Section 1.3).

Figure 6.1 depicts the proposed support framework for social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS. The support framework attempts to address research question (iv) of this study that seeks to investigate what should be included within a support framework that is designed to address social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS. The support framework starts by highlighting the relationship between the recommendations and the levels of engagement and actions. These recommendations, levels of engagement and actions represent an attempt to resolve the identified social learning and integration factors that affect the transition from school to university as mentioned by medical students during the nominal group technique discussions. The established relationship between the recommendations and the levels of engagement and actions refers to research questions (i), (ii) and (iii) being addressed.

From the 12 recommendations identified, the first five of the recommendations (recommendations 1 to 5) address the themes of underpreparedness, confidence, self-management and academic advice (cf. Section 6.2.1) which required two levels of engagement, namely, the community: SoCM and the individual level of engagement. All

five recommendations could be successfully addressed if the action of preparation for health sciences workshops was implemented.

One recommendation (recommendation 6) under the theme peer support required the individual level of engagement, and the action that could successfully address this factor would be the implementation of mentorship support.

The second set of five recommendations (recommendations 7 to 11) under the themes peer support and confidence require three levels of engagement, namely collaborative relationships, community: SoCM and group settings. All five recommendations could be successfully addressed if the action of student-led group support was implemented. The remaining recommendation (recommendation 12) under the theme alienation, which requires a level of engagement in group settings, would require all three actions, namely preparation for health sciences workshops, and student-led group and mentorship support to successfully address this factor.

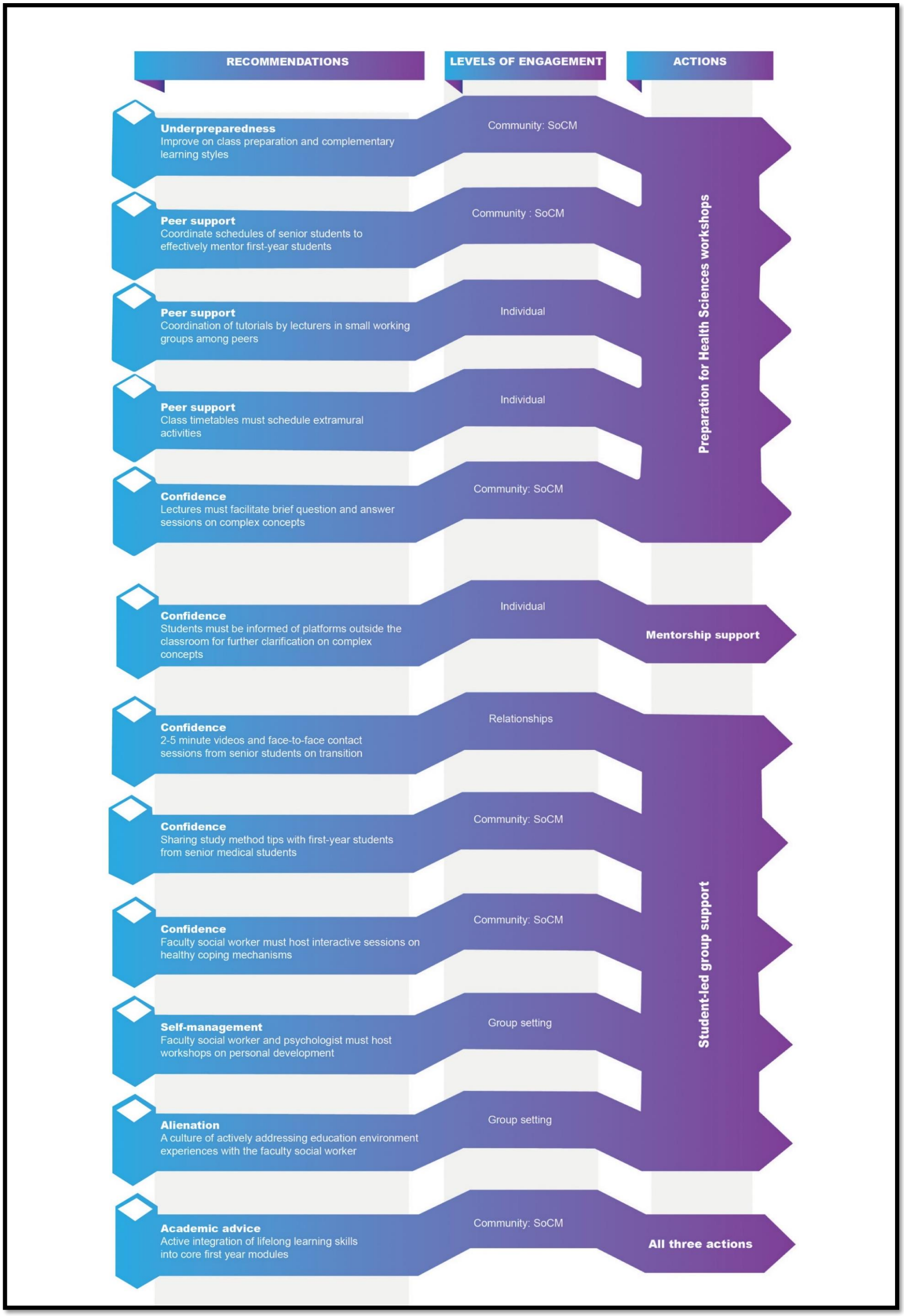


Figure 6.1: A support framework for social learning and integration of first-year undergraduate medical students (Compiled by the researcher, Tlalajoe 2020)

6.4 CONCLUSION

Chapter 6 presented the proposed framework for social learning and integration of first-year undergraduate medical students, which was the goal of this study. The framework is based on the findings of the nominal group meetings and Delphi technique, as well as the social learning and integration theory. Notably, the framework also integrates the six themes that were identified as prominent social learning and integration themed factors, which were identified as affecting the ease of transition into the educational environment, as identified during the nominal group technique. The three main elements that contributed to the design of the framework are the 12 recommendations, four levels of engagement and three corresponding actions.

In the next chapter, Chapter 7, a summary of the study will be provided. This includes a conclusion, recommendations and limitations of the study.

CHAPTER 7

CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS OF THE STUDY

7.1 INTRODUCTION

The researcher conducted an in-depth study with a view to constructing a support framework for social learning and integration for first-year undergraduate medical students.

This chapter aims to provide a brief overview of the study and to offer comments and reflections on the findings of this study. A short discussion of the various components of the study, its contribution to knowledge and the significance of the study will also be mentioned. Conclusions will be drawn from the study and the limitations of the study identified and summarised.

7.2 OVERVIEW OF THE STUDY

The study was based on four research questions and conducted over the period January 2017 to December 2020. The findings of the research served as a foundation for constructing a support framework for social learning and integration of first-year undergraduate medical students.

The four research questions that guided the study were presented in Chapter 1 (cf. Section 1.5.1). The final outcome of the study was shaped by these four research questions. In order to answer the research questions, a qualitative research design was used (cf. Section 3.3). This study followed a qualitative case study design (cf. Section 3.3) and the methods of data collection were the nominal group and the Delphi techniques (cf. Section 3.4).

In this Section (7.2.1–7.2.4), the research questions and objectives of the study will be reviewed, together with the main findings in relation to each research question.

7.2.1 Research question 1: What factors affect the social learning and integration of first-year undergraduate medical students?

The first objective of the study was to conceptualise and contextualise factors that affect social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS (cf. Section 1.5).

This was achieved in the following way:

- Conducting a literature review on social learning and integration and, ultimately, identifying two theories, namely social learning (Bandura 1969:217) and social integration (Tinto 1975:107) to guide the study. This lead to the construction of a new, self-developed theory, namely social learning and integration, which, in this study, is defined as the interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence (cf. Section 2.1).
- A literature overview was presented of the transition of students from high school to university, in general, and of first-year undergraduate medical students, in particular (cf. Section 1.1). From this review it is clear that, according to the biopsychosocial model, transition can be affected by changes in the personal context and in institutional settings (cf. Section 1.1).
- Nominal group meetings were held with first-year undergraduate medical students at the SoCM in the FoHS at the UFS. In these meetings, students identified and ranked six themes, namely ***underpreparedness***, ***peer support***, ***confidence***, ***self-management***, ***alienation*** and ***academic advice*** as social learning and integration factors that were prominent during their transition from high school to university (cf. Section 4.5).

The objective was, thus, achieved and provided an answer to research question 1.

7.2.2 Research question 2: What social learning and integration skills need to be developed by first-year undergraduate medical students?

The second objective of the study was to determine the set of social learning and integration skills that need to be developed by first-year undergraduate medical students at the SoCM in the FoHS at the UFS, to help them with challenges faced during the transition process of entering medical education (cf. Section 1.6).

This objective was achieved by this study as follows:

- A literature overview was presented, that provided a conceptual understanding of various coping strategies that medical students use on a personal context to deal with social learning and integration stressors that affect them when they transition from high school to university (cf. Section 2.3.1).
- A literature overview was presented on support programmes that can be used to ease transition from school to university, in general, and in particular, first-year undergraduate medical students. The literature review revealed that institutions use different programmes/strategies/structures to support students when they enter university (cf. Section 2.3.2).
- Nominal group meetings with undergraduate medical students at the SoCM in the FoHS at the UFS were held to determine which skills they used or did not use to cope with the transition. In the nominal group meetings students expressed how they managed or failed to manage these factors, by ranking statements and identifying the following themes through skills for social learning and integration: **peer support**, **confidence**, **self-awareness** and **self-management** (cf. Section 4.5).

The objective was, thus, achieved and an answer to research question 2 was provided.

7.2.3 Research question 3: What support programmes are available to facilitate the social learning and integration of first-year undergraduate medical students?

The third objective of the study was to determine what support programmes are available to facilitate the social learning and integration of first-year undergraduate medical students (cf. Section 1.6).

This objective was achieved by this study as follows:

- A literature overview was presented to identify available support programmes used to facilitate social learning and integration, which are recognised and distinguished at institutional, faculty, division of student support and individualised support levels (cf. Section 2.3.2.1).
- A literature review was done to identify individualised support systems that are available, and to contextualise support programmes that facilitate the social learning and integration factors of first-year undergraduate medical students at the SoCM in the FoHS at the UFS, namely, **preparation for health sciences workshops**, **mentorship** and **student-led group support** (cf. Sections 2.3.2.1; 5.4 & 6.2.3).

The objective was, thus, achieved and provided an answer to research question 3.

7.2.4 Research question 4: What should a support framework designed to address social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS include?

The fourth objective of this study was to design a support framework that could address the social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS and enhance their academic success (cf. Section 1.6).

This objective was achieved by this study in the following way:

- A framework was conceptualised and contextualised, as a basic structure that integrates the social learning and integration theory of the study, recommendations that achieved consensus on how to resolve the identified social learning and integration factors, and levels of engagement and actions that need to be implemented as support programmes (cf. Section 6.3).
- The social learning and integration theory guided the study and led to the elements that were used to, ultimately, construct the support framework that addresses the social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS (cf. Section 2.1).
- Firstly, a support framework designed to address social learning and integration of first-year undergraduate medical students at the SoCM in the FoHS at the UFS, comprises the **12 recommendations** on which consensus was achieved in the Delphi questionnaire (cf. Sections 4.6, 5.4 & 6.2.1).
- Secondly, the recommendations were followed by contextualised levels of engagement, identified as **community: SoCM**, **individual**, **group setting** and **collaborative relationships** (cf. Sections 5.4 & 6.2.2).
- Lastly, **actions** namely, **preparation for health sciences workshop**, **mentorship** and **student-led group support** were also included in the framework (cf. Sections 2.3.2.1; 5.4 & 6.2.3).

The objective was, thus, achieved and provided an answer to research question 4.

In the next sections, conclusions will be drawn from the findings of the study, followed by a deliberation on the limitations of the study. Contributions and the significance of the study will then be suggested, together with recommendations and concluding remarks.

7.3 CONCLUSION

This study originated from the scholarly work in relation to elements of Bandura's (1969:217) social learning and Tinto's (1975:107) social integration theories. Consequently,

for this study, the two theories were combined and the result is referred to as social learning and integration, which is defined as the interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence (cf. Section 1.1). The two theories provide a deeper understanding of the dynamics of transitioning into a new education environment, and how to achieve successful transition. This study was based on the recognition and acknowledgment that a gap exists in research on the coping and adjustment skills of medical students generally, and in the South African context, in particular (cf. Section 2.3.1). To bridge the gap, the research addressed the absence of a social learning and integration support system that could facilitate the transition of first-year undergraduate medical students from high school to a new educational environment at the SoCM in the FoHS at the UFS (cf. Section 1.2).

A combination of methods was used to generate data, beginning with the conceptualisation and contextualisation from literature of factors that affect social learning and integration, and facilitation through support programmes (cf. Chapter 2). This was followed by the empirical phase of the study, which employed methods and procedures of generating consensus among experts using the nominal group technique and the Delphi technique, which aimed to achieve general agreement or convergence of opinions around the factors that need to be addressed in relation to social learning and integration of first-year medical students (cf. Chapter 3).

Appropriate methods were used to analyse and interpret the data gathered by these techniques. Regarding interpretation of the findings from the two consensus methods, the nominal group technique findings confirmed that medical students were able to identify social learning and integration factors that affected them during transition into the UFS, specifically at the FoHS in the SoCM. Students recommended methods to address these factors, which indicates that students were aware of their education environment and could make valuable contributions to helping other students during the transition process. These recommendations formed the basis of the subsequent Delphi technique (cf. Chapter 4). The Delphi technique findings resulted from three rounds of a Delphi questionnaire, and provided consensus among experts on recommendations formulated by medical students on how to effectively address the social learning and integration factors. Moreover, the

Delphi technique findings highlighted the key role players that needed to participate in ensuring that the recommendations are implemented, and denoted the role players as levels of engagement (cf. Chapter 5).

The overall goal of this research project was to enhance knowledge and understanding of the faculty and university regarding the experiences of first-year undergraduate medical students on transitioning from high school to the medical education environment. The information gained could improve the way the faculty and the university meet the needs of medical students upon their entry, and to ease their transition into the new education environment. Thus, a support framework for social learning and integration of first-year undergraduate medical students was designed to address factors that affect their transition from high school into university (cf. Chapter 6).

7.4 STRENGTHS AND LIMITATIONS OF THE STUDY

This study used orderly methods of investigation, known as formal consensus development methods, to obtain relevant and reliable qualitative data from the nominal group technique and the Delphi technique. During the nominal group technique, equal participation was facilitated and all options were allowed and considered respectfully, thereby minimising the influence of dominant personalities and one particular viewpoint; a variety of ideas were prioritised, to highlight the most pressing issues. During the Delphi technique, a structured and iterative process was carried out over a series of questionnaire rounds, to systematically collect and aggregate the opinions of a panel of experts from South Africa and abroad with the aim of reaching consensus on the research topic.

The researcher recognises the following limitations of the study. Firstly, the low response rate during the nominal group technique recruiting process of the fourth and fifth-year medical students for both the LDP and the non-LDP groups reduced the size of the sample. Because fourth and fifth-year medical students were absent, the views of senior students were not included, which could have contributed to a better understanding of later transitions in the academic environment and, more importantly, into clinical placements. Unfortunately, since the senior students mentioned that their back-to-back academic schedules meant they could not participate in the study, the researcher had no way to work

around their schedules.

Secondly, due to the Covid-19 pandemic outbreak, the second and third rounds of the Delphi technique were slow in eliciting responses, resulting in the Delphi experts needing more time than the initial 10 days to complete the questionnaire. The researcher had to send reminders, which could have made the participants feel rushed. Therefore, they might not have applied their minds fully, because they felt rushed. The researcher was, however, understanding throughout the delay as this pandemic was new and frightening to all involved.

Lastly, qualitative data analysis and interpretation may contain bias by the researcher. Due to the close working relationship with the students who were participants in the nominal group technique, the researcher may have become subjective about the research. Consequently, the researcher worked closely with experts to analyse and generate themes for the nominal group meeting findings. Credibility was ensured through regular check meetings between the researcher and her two promoters (cf. Section 3.5.1).

7.5 CONTRIBUTION OF THE RESEARCH

The researcher is of the opinion that little was known about the social learning and integration experiences encountered at university or faculty level during the transition from high school to university of medical students at the SoCM in the FoHS at the UFS. To a certain extent, medical students' experiences in the community of the SoCM created barriers and prevented students from being successful in their transition during their first year, which leads to them enrolling in the remedial LDP programme. In an attempt to address this lack of information relating to first-year students, more attention was spent on investigating the psychosocial well-being of the students, and innovative developments in the curriculum. As a result, the researcher combined two theories from two well-known acknowledged experts in the field, namely Bandura's (1969:217) social learning and Tinto's (1975:107) social integration theory, to provide a deeper understanding of the dynamics of transitioning into the SoCM in the FoHS at the UFS, and to achieve a successful transition. Thus, the social learning and integration theory was used in this study, because it focused

on the way interaction, through institutional experiences, that can influence how individuals learn from each other through observation, imitation, modelling and persistence. The researcher made a contribution to new knowledge by combining the two theories into one theory, which guided the study effectively.

Implementing the support framework constructed by this study could facilitate successful transition of first-year undergraduate medical students from high school to university. The support framework provides clear recommendations on how to address the prominent social learning and integration factors identified by the medical students. By effectively applying the **recommendations** that achieved consensus, **levels of engagement** and **actions** were identified as elements that could facilitate resolving the social learning and integration factors during transition.

In addition, using the framework and the knowledge gained from this research could guide the practitioners at the DSLD at the UFS who are responsible for student academic support, as well as learning support practitioners in other contexts, to the benefit of students.

7.6 RECOMMENDATIONS

The following recommendations for further research are proposed:

- To carry out empirical data collection during the first few weeks after commencement of an academic year to recruit senior students before their schedules get too busy.
- To include SoCM academic and support staff, in order to elicit their perceptions of social learning and integration factors that affect students during transition from high school into university; and
- To investigate SoCM academic and support staff's perceptions on the social learning and integration skills that first-year undergraduate medical students transitioning into the medical education need to be possessed, further.

Faculty development on social learning and integration factors during transition from high school into university

- The researcher will collaborate with the Division Health Education Professions on their staff development workshops, to discuss social learning and integration factors during transition from high school into university, among the faculty members.

7.7 CONCLUDING REMARKS

In conclusion, medical education environments must be intentional in providing students with a nurturing education and social environment. By paying attention to the students' social learning and integration experiences in the new educational environment, such an environment may help medical students to achieve self-actualisation.

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APPENDICES

APPENDIX A1: INFORMATION LEAFLET FOR MEDICAL STUDENTS

APPENDIX A2: LETTER TO OBTAIN CONSENT FROM PARTICIPANTS WILLING TO PARTICIPATE IN THE NOMINAL GROUP TECHNIQUE

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APPENDIX H: TURN-IT REPORT

APPENDIX A1:

INFORMATION LEAFLET FOR MEDICAL STUDENTS

INFORMATION LEAFLET ABOUT THE RESEARCH TOPIC

Dear medical student,

You are hereby kindly invited to participate in a research study titled: **A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS.**

My name is Ms Nokuthula Tlalajoe, I am a Lecturer in the Division Student Learning and Development (DSLD), Office of the Dean, Faculty of Health Sciences (FoHS), at the University of the Free State (UFS), and a postgraduate registered PhD student in the Division of Health Professions Education.

The **problem** that will be addressed in the research study is the lack of a social learning and integration support system that could facilitate first-year undergraduate medical students' transition from high school into a new educational environment.

The **overall goal** of this research project is to contribute knowledge gained about university or faculty experiences that medical students encounter, on transitioning from high school into the medical educational environment. The information gained could guide universities or faculties to a better understanding of medical students in order to assist them in being successful at entering their new educational environment at the UFS and similar settings nationally and internationally.

The research project **aims** to design a support framework for social learning and integration of undergraduate first-year medical students.

About the study:

Definition of the two main terms: social learning and social integration

Social integration theory: This theory posits a condition for the successful transition to a university, such as, building new social networks and friendships and having contact with academic staff members. Students are more likely to remain enrolled at an institution if they become connected to the social and academic life of that institution (Leidenfrost et al. 2014:102; Tinto 1975:107).

Social learning theory: Theorises that people learn from one another, through observation, imitation, and modelling (Bandura 1969:217).

This research study is about (i) identifying factors that affect the social learning and integration of undergraduate first-year medical students and (ii) to determine what set of social learning and integration skills need to be developed among first-year undergraduate medical students to help them adapt during the transition phase from high school to medical education. You will have an opportunity to give input based on your experiences during your first academic year at the School of Clinical Medicine. The participation in this research is voluntary, and you will not be disadvantaged in any way if you decide not to participate or to exercise your right to terminate your participation at any stage. You will not receive any remuneration or other forms of reward for your participation, but through participation, you might be able to improve the learning experience for future students.

The study will make use of the nominal group technique. You will be part of a group of approximately 10 – 13 medical students and will be asked to quietly write down your ideas regarding two research statements mentioned above [cf. (i) and (ii)]. A moderator will facilitate the group session. The ideas generated by the group of participants will then be collected, displayed and discussed in the group, before ranking the ideas. After the results have been counted and added up, the second round of discussion will take place and ranking of ideas will follow. The entire process should take up to 90 minutes of your time.

If you are willing to participate in this study, please sign the attached consent form. You may keep this information leaflet. Your support is highly appreciated.

Researcher:

Nokuthula Tlalajoe (M.Sc. Biochemistry Cum Laude, UFS)
Lecturer: Division Student Learning and Development
Office of the Dean: Faculty: Health Sciences
PO Box 339, Bloemfontein 9300, Republic of South Africa
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APPENDIX A2:

LETTER TO OBTAIN CONSENT FROM PARTICIPANTS WILLING TO PARTICIPATE IN THE NOMINAL GROUP TECHNIQUE

CONSENT FORM TO PARTICIPATE IN THE NOMINAL GROUP TECHNIQUE

A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

I_____,

student number_____hereby confirm that I am willing to take

part of the above-mentioned research study.

I understand that participation in this research study is voluntary. I understand that I will not be penalised or lose benefits if I refuse to participate or decide to terminate participation. I will not receive any financial compensation if I choose to participate in this research study, nor will participate in the research study incur costs from me.

I understand that by signing the consent form I permit the researcher to use the data either at conferences or publish it at accredited journals.

I understand that I may contact the researcher Ms N Tlalajoe at telephone (051) 401 7769 or tlalajoen@ufs.ac.za or the main promoter; Dr M.P Jama at telephone (051) 401 7771, or co-promotor; Dr L van der Merwe at telephone (051) 401 3605 on any day of the week during working hours (07:30 – 16:30) if I have any questions about the research study. Moreover, I understand I may contact the Secretariat of the Health Sciences Research Ethics Committee, UFS at telephone (051) 405 2812 if I have any questions about my rights as a participant.

Declaration:

The research study, including the above information, has been verbally and by means of an information, leaflet described to me. I understand what my involvement in the study means and I voluntarily agree to participate.

……. ……

Signature of **Participant** Date

……. ……

Signature of **Witness** Date

APPENDIX A3:

ASSENT FORM TO OBTAIN CONSENT FROM PARTICIPANTS WILLING TO PARTICIPATE IN THE NOMINAL GROUP TECHNIQUE

ASSENT FORM TO PARTICIPATE IN THE NOMINAL GROUP TECHNIQUE: A SOCIAL LEARNING AND INTEGRATION MENTORSHIP FRAMEWORK FOR ACADEMIC SUCCESS OF UNDERGRADUATE FIRST-YEAR MEDICAL STUDENTS

I/We_____,

parent(s)/guardian to student number_____ hereby confirm

that my child may part take in the above-mentioned research study.

I/We understand that participation in this research study is voluntary. I/We understand that he/she will not be penalised or lose benefits if he/she refuses to participate or decide to terminate participation. He/She will not receive any financial compensation if he/she chooses to participate in this research study, nor will participate in the research study incur costs from me/us.

I/We understand that by signing the assent form I/we permit the researcher to use the data either at conferences or publish it at accredited journals.

I/We understand that I/we may contact the researcher Ms N Tlalajoe at telephone (051) 401 7769 or tlalajoen@ufs.ac.za or the main promoter; Dr M.P Jama at telephone (051) 401 7771, or co-promotor; Dr L van der Merwe at telephone (051) 401 3605 on any day of the week during working hours (07:30 – 16:30) if I have any questions about the research study. Moreover, I/we understand I/we may contact the Secretariat of the Health Science Research Ethics Committee, UFS at telephone (051) 405 2812 if I have any questions about my rights as a participant.

Declaration:

The research study, including the above information, has been verbally and by means of an information leaflet described to me/us. I/We understand what my child's involvement in the study means and I/we voluntarily agree to his/her participation.

…….. ……

Signature of **Parents(s)/Guardian** Date

…….. ……

Signature of **Witness** Date

I student number,_____ give assent to participate in the above mentioned research study.

…….. ……

Signature of **Participant** Date

…….. ……

Signature of **Witness** Date

APPENDIX B1:

INFORMATION LEAFLET FOR EXPERT PARTICIPANTS

INFORMATION LEAFLET ABOUT THE DELPHI TECHNIQUE

Dear expert participant,

You are hereby kindly invited to participate in a research study titled: **A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS.**

My name is Ms Nokuthula Tlalajoe, I am a Lecturer in the Division Student Learning and Development (DSLD), Office of the Dean, Faculty of Health Sciences (FoHS), at the University of the Free State (UFS), and a postgraduate registered PhD student in the Division of Health Professions Education.

The **problem** that will be addressed in the research study is the lack of a social learning and integration support system that could facilitate first-year undergraduate medical students' transition from high school into a new educational environment.

The **overall goal** of this research project is to contribute knowledge gained about university or faculty experiences that medical students encounter, on transitioning from high school into the medical educational environment. The information gained could guide universities or faculties to a better understanding of medical students in order to assist them in being successful at entering their new educational environment at the UFS and similar settings nationally and internationally.

The research project **aims** to design a support framework for social learning and integration of undergraduate first-year medical students.

About the study:

Definition of the two main terms: social learning and social integration

Social integration theory: This theory posits a condition for the successful transition to a university, such as, building new social networks and friendships and having contact with academic staff members. Students are more likely to remain enrolled at an institution if they become connected to the social and academic life of that institution (Leidenfrost et al. 2014:102; Tinto 1975:107).

Social learning theory: Theorises that people learn from one another, through observation, imitation, and modelling (Bandura 1969:217).

Participants will be presented with a series of content statements from a nominal group technique meeting carried out among undergraduate medical students, your response willbe asked to rate on a modified 3 point Likert scale ranging from: Agree, Uncertain or Disagree on the given statements. You are most welcome to both rate the item using the Likert scale and write free-text comments that, for example, explain the rating or express disagreement with the content statement's relevance. The researcher intends to use three-rounds of the Delphi survey, unless consensus and saturation is reached before the third round. The circulation process can take up to a minimum of three months.

If you are willing to participate in this study, please sign the attached consent form. You may keep this information leaflet. Your support is highly appreciated.

Researcher:

Nokuthula Tlalajoe (M.Sc. Biochemistry Cum Laude, UFS)

Lecturer: Division Student Learning and Development, Office of the Dean: Faculty: Health Sciences
PO Box 339, Bloemfontein 9300, Republic of South Africa, +27 (0)51 401 7769, TlalajoeN@ufs.ac.za

APPENDIX B2:

LETTER TO OBTAIN CONSENT FROM PARTICIPANTS WILLING TO PARTICIPATE IN THE DELPHI TECHNIQUE

CONSENT FORM TO PARTICIPATE IN THE DELPHI TECHNIQUE

A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

I_____,
staff number_____hereby confirm that I am willing to take part in the above mentioned research study.

I understand that participation in this research study is voluntary. I understand that I will not be penalised or lose benefits if I refuse to participate or decide to terminate participation. I will not receive any financial compensation if I choose to participate in this research study, nor will participation in the research study incur costs from me.

I understand that by signing the consent form I give permission to the researcher to use the data either at conferences or publish it at accredited journals.

I understand that I may contact the researcher Ms N Tlalajoe at telephone (051) 401 7769 or tlalajoen@ufs.ac.za or the main promoter; Dr M.P Jama at telephone (051) 401 7771, or co-promotor; Dr L van der Merwe at telephone (051) 401 3605 on any day of the week during working hours (07:30 – 16:30) if I have any questions about the research study. Moreover, I understand I may contact the Secretariat of the Health Sciences Research Ethics Committee, UFS at telephone (051) 405 2812 if I have any questions about my rights as a participant.

Declaration:

The research study, including the above information has been verbally and by means of an information leaflet described to me. I understand what my involvement in the study means and I voluntarily agree to participate.

…… ……

Signature of **Participant** Date

…….. ……

Signature of **Witness** Date

APPENDIX C:

ETHICAL APPROVAL OBTAINED FROM THE HEALTH SCIENCES RESEARCH ETHICS COMMITTEE

UNIVERSITY OF THE FREE STATE
UNIVERSITEIT VAN DIE VRYSTAAT
YUNIVESITHI YA FREISTATA

UFS·UV
HEALTH SCIENCES
GESONDHEIDSWETENSKAPPE

Health Sciences Research Ethics Committee

21-Nov-2018

Dear **Ms Nokuthula Tlalajoe**

Ethics Clearance: **A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS**

Principal Investigator: **Ms Nokuthula Tlalajoe**

Department: **Office of the Dean: Health Sciences Department (Bloemfontein Campus)**

APPLICATION APPROVED

Please ensure that you read the whole document

With reference to your application for ethical clearance with the Faculty of Health Sciences, I am pleased to inform you on behalf of the Health Sciences Research Ethics Committee that you have been granted ethical clearance for your project.

Your ethical clearance number, to be used in all correspondence is:**UFS-HSD2018/1300/2711**

The ethical clearance number is valid for research conducted for one year from issuance. Should you require more time to complete this research, please apply for an extension.

We request that any changes that may take place during the course of your research project be submitted to the HSREC for approval to ensure we are kept up to date with your progress and any ethical implications that may arise. This includes any serious adverse events and/or termination of the study.

A progress report should be submitted within one year of approval, and annually for long term studies. A final report should be submitted at the completion of the study.

The HSREC functions in compliance with, but not limited to, the following documents and guidelines: The SA National Health Act. No. 61 of 2003; Ethics in Health Research: Principles, Structures and Processes (2015); SA GCP(2006); Declaration of Helsinki; The Belmont Report; The US Office of Human Research Protections 45 CFR 461 (for non-exempt research with human participants conducted or supported by the US Department of Health and Human Services- (HHS), 21 CFR 50, 21 CFR 56; CIOMS; ICH-GCP-E6 Sections 1-4; The International Conference on Harmonization and Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH Tripartite), Guidelines of the SA Medicines Control Council as well as Laws and Regulations with regard to the Control of Medicines, Constitution of the HSREC of the Faculty of Health Sciences.

For any questions or concerns, please feel free to contact HSREC Administration: 051-4017794/5 or email EthicsFHS@ufs.ac.za.

Thank you for submitting this proposal for ethical clearance and we wish you every success with your research.

Yours Sincerely

Dr. SM Le Grange
Chair : Health Sciences Research Ethics Committee

Health Sciences Research Ethics Committee
Office of the Dean: Health Sciences
T: +27 (0)51 401 7795/7794 | E: ethicsfhs@ufs.ac.za
IRB 00006240; REC 230408-011; IORG0005187; FWA00012784
Block D, Dean's Division, Room D104 | P.O. Box/Posbus 339 (Internal Post Box G40) | Bloemfontein 9300 | South Africa

APPENDIX D:
RAW DATA OF NOMINAL GROUP MEETINGS CONDUCTED BETWEEN THE NON-LDP AND LDP GROUPS

RAW DATA OF NOMINAL GROUP MEETINGS CONDUCTED BETWEEN THE NON-LDP AND LDP GROUPS

- *Question 1: What affected your social learning and social integration during your first year of medical studies at the Faculty of Health Sciences, University of the Free State, Bloemfontein?*

Table 4.1: Raw statements from the first question of the nominal group technique among Non-LDP students

Statement	Score
Lack of mentors (higher year MBChB students) to support in residence	**0**
The unfamiliarity of larger class versus high school (15-24). Be around a large group of people- made it scary couldn't approach people or initiate conversation-"social anxiety"	**31**
Personality-not to initiate the conversation	**7**
Senior students in residence helped give notes, tutorials. Brother in programme-could give advice on how to emotionally and mentality take on the programme. Made friends with senior students through the sale of textbooks	**27**
Put into small groups, to get to know people (MGEN A)	**0**
High school was about spoon feeding-now you have to sit down and study	**1**
In high school, academic and social environment was separate. Hard to learn to incorporate social into academic activities. Prefer to study alone	**4**
Everyone else in the class was too smart so I couldn't ask questions	**15**
Off-campus student-limited exposure to other students and only 300 mb of data available to use on campus	**2**
Language barrier-being taught English in SeSotho and now you must express yourself in English-this lead to a lack of self-confidence	**4**
In school, teachers know your name, your siblings and family, but at the University of the Free State you are just a student number	**13**
Residence-never came to people who understand. The dynamic of my course is misunderstood by the residence	**5**
Joining choir and other student organization "outside, non-medical friends" helped emotionally-you can switch off and enjoy things other than medicine	**18**
You are unable to participate in anything-still finding your feet	**1**
Students feel the need for competition and comparing marks out loud in class is a determent to joining some group, they feel unwilling to help	**7**
Short attention span- 3hrs is too long-breaks taken content was better absorbed	**8**
Off-campus residences hosting parties in the week was disruptive	**0**
Had to learn to live out of myself-always thought I was self-sufficient. I need help - no man is an island	**20**
We don't get taught how to prepare for class	**7**
Cliques-don't know who to speak to-you don't feel like you fit in anywhere	**0**
Totally different environment-spend time exploring the new city	**0**
Lecturers familiarized with a specific racial group	**6**
Being self-sufficient and away from home	**6**
Lecturer make you feel inferior in how they respond to your questions	**0**
Had to learn how to study- and use other materials (e.g. YouTube) instead of only prescribed materials	**4**
Assigned 2nd year tutor- I don't know who they were-always too busy to help	**3**
UFS 101 helped a lot- how to manage yourself at varsity as a whole. There were no computers at the school	**2**
UFS 101 was a waste of time MGEN A was the same-add computers to MGEN A	**2**

Being on good terms with lecturer helped me, not feeling intimidated to approach lecturer-feeling more like a person and less like a student number after approaching-you build a rapport	**0**
White coat-where it can be worn-feel like an outcast or they think we think we are better	**2**
Social hierarchy-seniors feel they deserve respect	**0**
Seniors in their white coats motivate you and give you confidence	**0**

Table 4.2: Raw statements of the first question from the nominal group technique among LDP students

Statement	Score
Lecturers were not approachable because they look unapproachable. Lectures assume you will have background knowledge	**1**
Feel left out because of different socio-economic backgrounds in class and in resident. Intimidated by other ethnicities	**7**
Stress because you cannot go back home and say I have money issues here. Finances are a problem. Sometimes you even leave class to go and apply for a bursary (follow up on a bursary)	**3**
Lack of group work skills. Group work affected social integration. Shyness to communicate with peers-social anxiety	**3**
Private school background hindered small class (family) suddenly this big classes. Learning setting is different	**0**
Stress because of finances and accommodation	**13**
Technology was a problem-lack of skills and equipment. Do not know what resources are available as assistance e.g. the library that you can take out academic books	**4**
Intimidation from others on your chosen study field make you doubt yourself. People ate the residence adds to the pressure because they keep on asking questions	**4**
Language is a problem-English is not so easy	**0**
High school spoon-fed –now suddenly you must take the initiative. Learning skills - time is important and limited, navigating the textbooks and workloads	**28**
Stress-falls into a bad habit of sleeping in class and trying to catch up afterwards. End up sleeping again in the next class. I was not aware of what was happening and that leads to unpreparedness (stress)	**4**
People are very competitive. Want to study on their own not in groups	**0**
First exposure/ poor adaptation to self-sustaining life-style. Overwhelmed by all the new things on campus, in the course, people etc. Everything was just too much and you give up and go to LDP	**10**
Intimidation by the smartness of the other people in class. Self-doubt because of late acceptance	**3**
Don't know your place because you need to study can't participate in social events at resident	**0**
Struggle to ask for help and assistance. It took LDP	**10**
I did not know where to go for help and then it was too late and could only be applied in LDP. Problems at residence and you don't know who to contact and report it to	**6**
Everyone seems to cope. Good coping front I felt its only me	**2**
Lack of social support (friends). Lacking social support of people who will understand what you are going through	**7**
When you are feeling ill you need to go to National Hospital where you will see a professional nurse not get a sick note and it give you a problem at the school	**0**
Having to learn in English	**5**
Pace at which lecturers were conducted and large volume of work	**7**
Large numbers in class	**4**
Feeling too intimidated to share any social interaction-hinders asking for help	**11**
Expressing feelings in English	**0**
Getting used to the new environment (diverse class)	**3**
Difficult to work in diverse group	**1**

Student grouping themselves according to races and similar backgrounds	**1**
No balance between academic and social life	**9**
Stable group of friends helps	**0**
Lecturers very formal and not approachable	**4**
Feeling like being the only one having problems	**10**
Studying long hours, "imitating" using stimulants like other students, nut not grasping the work	**17**
Long lecturers made it difficult to follow	**1**
Belittling by peers and lecturers	**9**
Not knowing who's advice to use/ too many different resources (books/slides/ notes)	**24**
Sessions with Programme Director emphasized lurking failure	**6**
Only one big semester test as first test	**3**
Not being shown the relevance of a module	**5**

- *Question 2: Kindly determine what set of social learning and social integration skills you used or did not use to help you adapt during the transition process from high school to medical education.*

Table 4.3: Raw statements of the second question from the nominal group technique among Non-LDP students

Statement	Score
Didn't get the opportunity to interact with senior students	**0**
Revision sessions in small groups	**1**
"Plugs"- would have liked to know who the plugs are. Resources people-scopes, notes, past tests and slides that are not given	**13**
Emailed lecturer-one-on-one face-to-face session booked-still cannot ask questions in class. Write questions on a piece of paper and ask lecturer during the break	**14**
Need overcomes my pride-I ask questions in class	**0**
I forced myself out of my comfort zone by nominating myself for positions that would challenge me	**0**
Positive thinking, not catastrophizing a situation, optimistic people around (not alone with positive thinking people)	**13**
Having someone whose been here before-you realise it is not a sprint but a marathon. Talk with a person I can relate to/ resonate with-share how they overcame their academic struggles and venting and complaining to the right people	**23**
Having the courage to talk to a fellow student who I perceive is more competent that I am and liaising with them. I wish I had discussed the work with the people (students) in the class	**5**
Going to DSLD, realizing you need help and getting help fast	**6**
Used the "forced" small group interactions	**0**
UFS 101	**0**
If I had participated in the gateway programme I would have coped better	**5**
I called home often-it helped me feel less awkward being here	**6**
Being flexible, adaptable, in finding a new effective normal-acclimatize the new environment for my benefit. Not sticking to a habit (study method)	**10**
I wish I had been more self-disciplined with socialising and made my friends hold me accountable	**0**
Feeling like it is too late to contact DSLD	**0**
Need to leave the high school mentality behind-that a 50% is a fail	**0**
Talking to seniors about tips on how to tackle specific modules, after tests-asking if they also failed	**0**
Not being able to study effectively in small groups	**4**
Communicating with residence to be excused for activities-helped me cope	**0**
Sessions with programme director-releasing you of expectations of getting a high mark	**0**
What's app group chat for sharing and asking past question papers	**3**

Resilience against everything focus energy and "keep walking", "kyk Noord", "just keep swimming"	**0**
Do not compare yourself with others-everyone's growth looks different	**11**
Still need to adapt to the "big group"- and get over my accent-get over my anxieties	**0**
Talking with myself, appreciate what you go through-catharsis-getting it out-celebrations-downfalls and victories	**9**
Not limiting yourself-just go for it. Don't use no time as an excuse	**0**
"Step on the snake before breakfast"-prioritise-routine-most important things done first. Do not spread yourself too thin.	**7**
Accept all things are working together for your good	**6**
Socialising with people who share your religious beliefs	**15**

Table 4.4: Raw statements of the second question/statement from the nominal group technique among LDP students

Statement	Score
LDP first semester of medicine	**0**
Relaxation time. Time for myself. Self-reflect-to know when you are most effective to study	**14**
More confident to ask questions. Be more outspoken and voice my problems. Fully aware of my surroundings and then be able to identify my problems	**10**
Be attentive and note down in class what lecturers say is important	**7**
Somebody to hold me accountable for my progress	**10**
Preparing for class	**9**
Accept my background and be open to learn from others	**0**
Better stress management skills such as talking to people	**0**
Finances sorted would limit stress	**3**
Orientation for late accepted students	**0**
The route to take to use facilities such as Angie (psychologist), social worker etc.	**0**
Applying techniques to deal with stress	**0**
Block out white noise by self-awareness	**6**
Form a group to get group discussions (take part in) specifically with the module you struggle with	**4**
Take training sessions for blackboard and Library seriously	**3**
Mentoring with peers at medical school	**5**
Financial awareness through graduate wealth	**4**
Inspirational/motivational speakers to come and talk to the students	**0**
Ability to express own feelings (lack of)	**3**
Not joining study group (because of feeling not having done enough)	**5**
Not recognising need for help/too independent	**21**
Ability to make new friends	**1**
Not knowing how to deal with problems	**5**
Inability to self-manage/ not able to say "no"	**20**
Consulting when not understanding a certain concept	**8**
Asking seniors how they coped (role model)	**5**
Ability to identify own study skills	**12**
Ability to speak out	**2**
Knowing how your closets friends are doing	**1**
Having a diverse group of friends	**1**
Coping mechanisms (unhealthy)/ support system that understand your struggle/ spiritual	**22**
Ability to create a caring workgroup	**0**

APPENDIX E:

THEMED AND RANKED STATEMENTS IN RELATION TO THE NOMINAL GROUP MEETINGS AMONG THE NON-LDP AND LDP GROUPS

- *Question 1: What affected your social learning and social integration during your first year of medical studies at the Faculty of Health Sciences, University of the Free State, Bloemfontein?*

Table 4.1 (a): Non-LDP analysed statements to Question 1 of the nominal group meeting

Group	Theme	Statement	Score	Average	Top 5
Non-LDP	Underpreparedness	Unfamiliarity of larger class versus high school (15-24). Be around large group of people-made it scary couldn't approach people or initiate conversation-"social anxiety"	31	2,384615	**1**
Non-LDP	Peer support	Senior students in residence helped give notes, tutorials. Brother in programme-could give advice on how to emotionally and mentality take on the programme. Made friends with senior students through the sale of textbooks	27	2,076923	**2**
Non-LDP	Peer support	Had to learn to live out of myself-always thought I was self-sufficient. I need help-no man is an island	20	1,538462	**3**
Non-LDP	Peer support	Joining choir and other student organization "outside, non-medical friends" helped emotionally-you can switch off and enjoy things other than medicine	18	1,384615	**4**
Non-LDP	Confidence	Everyone else in class was too smart so I couldn't ask questions	15	1,153846	**5**
Non-LDP	Alienation	In school, teachers know your name, your siblings and family, but at the University of the Free State you are just a student number	13	1	
Non-LDP	Self-management	Short attention span- 3hrs is too long-breaks taken content was better absorbed	8	0,615385	
Non-LDP	Confidence	Personality-not to initiate conversation	7	0,538462	
Non-LDP	Alienation	Students feel the need for competition and comparing marks out loud in class is a determent to joining some group, they feel unwilling to help	7	0,538462	
Non-LDP	Academic advice	We don't get taught how to prepare for class	7	0,538462	
Non-LDP	Alienation	Lecturers familiarized with a specific racial group	6	0,461538	
Non-LDP	Confidence	Being self-sufficient and away from home	6	0,461538	
Non-LDP	Alienation	Residence-never came to people who understand. The dynamic of my course is misunderstood by the residence	5	0,384615	
Non-LDP	Self-management	In high school, academic and social environment was separate. Hard to learn to incorporate social into academic activities. Prefer to study alone	4	0,307692	
Non-LDP	Alienation	Language barrier-being taught English in SeSotho and now you must express yourself in English-this lead to a lack of self-confidence	4	0,307692	

Non-LDP	Self-management	Had to learn how to study- and use other materials (e.g. YouTube) instead of only prescribed materials	4	0,307692	
Non-LDP	Support	Assigned 2nd-year tutor- I don't know who they were - always too busy to help	3	0,230769	
Non-LDP	Alienation	Off-campus student-limited exposure to other students and only 300 mb of data available to use on campus	2	0,153846	
Non-LDP	Programme/module structure	UFS 101 was a waste of time MGEN A was the same-add computers to MGEN A	2	0,153846	
Non-LDP	Alienation	White coat-where it can be worn-feel like an outcast or they think we think we are better	2	0,153846	

Table 4.1 (b): LDP analysed statements to Question 1 of the nominal group meeting

Group	Theme	Statement	Score	Average	Top 5
LDP	Underpreparedness	Learning skills- time is important and limited, navigating the textbooks and workloads. High school spoon-fed, now suddenly you must take initiative.	39	3,25	**1**
LDP	Self-management	Studying long hours ('imitating') using stimulants like other students but not grasping the work	25	2,083333	**2**
LDP	Alienation	Feeling like being the only one having problems	22	1,833333	**3**
LDP	Confidence	First exposure/poor adaptation-self-sustaining life-style. Overwhelmed by all new things on campus, in the course, people etc.	18	1,5	**4**
LDP	Academic advice	Not knowing who's advice to use/too many different resources (books/slides/notes)	16	1,333333	**5**
LDP	Financial support	Stress because of finance and accommodation. Finances is a problem. Sometimes you even have to leave class to go and apply for a bursary	14	1,166667	
LDP	Peer support	Lack of social support (friends). Lacking social support of people who will understand what you are going through	11	0,916667	
LDP	Confidence	Feeling too intimidated to share any social interaction/hinders asking help	10	0,833333	
LDP	Self-management	No balance between academics and social life	9	0,75	
LDP	Confidence	Struggled to ask for help and assistance. It took LDP	5	0,416667	
LDP	Alienation	Belittling by peers and lecturers	5	0,416667	
LDP	Alienation	Feel left out because of different socio-economic backgrounds in class and in resident. Intimidation by other ethnicities	4	0,333333	

- *Question 2: Kindly determine what set of social learning and social integration skills you used or did not use to help you adapt during the transition process from high school to medical education.*

Table 4.2 (a): Non-LDP analysed statements to Question 2 of the nominal group meeting

Group	Theme	Statement	Score	Average	Top 5
Non-LDP	Peer support	Having someone whose been here before-you realise it is not a sprint but a marathon. Talk with a person I can relate to/ resonate with-share how they overcame their academic struggles and venting and complaining to the right people	23	1,916666667	**1**
Non-LDP	Peer support	Socialising with people who share your religious beliefs	15	1,25	**2**
Non-LDP	Confidence	Emailed lecturer-one-on-one face-to-face session booked-still cannot ask questions in class. Write questions on piece of paper and ask lecturer during break	14	1,166666667	**3**
Non-LDP	Peer support	"Plugs"- would have liked to know who the plugs are. Resources people-scopes, notes, past tests and slides that are not given	13	1,083333333	**4**
Non-LDP	Self-awareness	Positive thinking, not catastrophizing a situation, optimistic people around (not alone with positive thinking people)	13	1,083333333	**5**
Non-LDP	Self-awareness	Do not compare yourself with others-everyone's growth looks different	11	0,916666667	
Non-LDP	Self-awareness	Being flexible, adaptable, in finding a new effective normal-acclimatize the new environment for my benefit. Not sticking to a habit (study method)	10	0,833333333	
Non-LDP	Confidence	Talking with myself, appreciate what you go through-catharsis-getting it out-celebrations-downfalls and victories	9	0,75	
Non-LDP	Self-awareness	"Step on the snake before breakfast"-prioritise-routine-most important things done first. Don't spread yourself too thin	7	0,583333333	
Non-LDP	Self-management	Going to DSLD, realising you need help and getting help fast	6	0,5	
Non-LDP	Support	I called home often-it helped me feel less awkward being here	6	0,5	
Non-LDP	Self-awareness	Accept all things are working together for your good	6	0,5	
Non-LDP	Peer support	Having the courage to talk to a fellow student who I perceive is more competent that I am and liaising with them. I wish I had discussed the work with the people (students) in the class	5	0,416666667	
Non-LDP	Self-management	If I had participated in the gateway programme I would have coped better	5	0,416666667	
Non-LDP	Self-awareness	Not being able to study effectively in small groups	4	0,333333	
Non-LDP	Peer support	What's app group chat for sharing and asking past question papers	3	0,25	
Non-LDP	Peer support	Revision sessions in small groups	1	0,083333333	

Table 4.2 (b): LDP analysed statements to Question 2 of the nominal group meeting

Group	Theme	Statement	Score	Average	Top 5
LDP	Self-awareness	Ability to identify own study skills	37	3,083333333	**1**
LDP	Self-management	Inability to self-manage/not able to say 'no'	34	2,833333333	**2**
LDP	Self-awareness	Coping mechanisms (unhealthy)/support system that understands your struggle/spiritual	25	2,083333333	**3**
LDP	Self-awareness	Not recognising need for help/ too independent	21	1,75	**4**
LDP	Self-awareness	Preparing for class	20	1,666666667	**5**
LDP	Self-awareness	Relaxation time. Time for myself. Self-reflect-to know when you are most effective to study	14	1,166666667	
LDP	Confidence	Consulting when not understanding a certain concept. More confident to ask questions. To be more outspoken and voice my problems. Fully aware of my surroundings and then be able to identify my problems	13	1,083333333	
LDP	Self-awareness	Somebody to hold me accountable for my progress	11	0,916666667	
LDP	Self-awareness	Be attentive and note down in class what lecturers say is important	3	0,25	

APPENDIX F1:

FEEDBACK FOR DELPHI QUESTIONNAIRE ROUND 1

Table 0.1: Delphi questionnaire: Round 1: Findings

Study title: A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

Delphi Questionnaire: This Delphi questionnaire is anonymous. You are kindly requested to answer all questions and complete the comment section as best as you can. Please enter your response in the square brackets as indicated [x] or according to the guidance given.

Part A: Background on work experience **Participants initials**: _____

Duration of employment as a student support staff member – in years	
Type of student support offered to students (e.g. academic, emotional, social, psychological etc.)	
Group of students to which support is offered (i.e. undergraduate, honours, Masters or PhD level)	
Field of work- Health Sciences Education or Higher Education and Training or other	

Part B: Themed statements and recommendations towards designing a support framework for social learning and integration of first-year undergraduate medical students

In the table below are statements developed by medical students from a Nominal Group Technique (NGT), in response to "*What affected your social learning and social integration during your first-year of medical studies at the Faculty of Health Science, University of the Free State, Bloemfontein?*" In addition, the medical students were further requested to "*Determine what set of social learning and social integration skills you used or did not use to help you adapt during the transition process from high school to medical education*."

These statements were themed and listed as the Top 6 ranked themes that medical students felt needed to be addressed. The proposed solutions have been divided into six themes: *underpreparedness*, *peer support*, *confidence*, *self-management*, *alienation* and *academic advice*.

Contextual definitions:

Blackboard: Is an online learning management system where all study materials (Module guides, PowerPoint presentation slides, additional notes and assessments) on registered modules are made accessible to students.

Division Student Learning and Development: A support service, whose focus areas are to offer academic development and support to students in the Faculty of Health Sciences at the University of the Free State. The aim of these focus areas is to contribute to the academic success of the students through designing and implementing programmes/strategies/mechanisms to develop and support students.

Faculty: Is a division of schools within a university comprising of the health sciences and related focus areas.

Gateway orientation programme: Provides access to metaphorically open a gate to different pathways leading to student learning, development and success in their study career and university life.

Please enter your response in the square brackets as indicated [x] and kindly add comments in the comment section.

No.	Themed Statements and Recommendations	Must have/essential	Good to have/useful	Unnecessary	Comments
A	**Underpreparedness (2)**				
Medical students expressed that the unfamiliarly of larger classes in a university setting in comparison to high school settings with smaller numbers made it scary to approach people or initiate conversation. They reported it resulted in "*social anxiety*".					
					Recommendation:
1.	The DSLD academic staff and the Gateway orientation programme should create a platform that can integrate social activities that will enhance social interactions among the first-year medical students (i.e. team building).				"Rather than a program, I recommend creating opportunities for interaction This will provide a safe space to develop new networks I would think students have their own social networks? It is a good idea, however, it does not tend to the academic setting (in class) specifically. It is assumed that the difficulties students face in class are only academically related but it may be much broader (e.g. Low self-esteem, learning disability, etc.). I think it would be good to integrate these activities to help build a sense of community amongst medical students. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I have to be clear that there is enough supporting literature ensuring that social anxiety is a result of a fear of social situations – including being observed by other individuals within or outside the social setting. According to Laidlaw (2009) in the paper "Social anxiety in medical students: Implications for communication skill teaching", if this is not addressed (social anxiety), then it has an impact/effect on participation of a collaborative nature, specifically in workshops or situations related to communication skills teaching. Therefore, if not addressed, it will influence the way social skills teaching is performed, and subsequently, have an effect on the communication skills the medical student has when they need to apply it. The caution that I take with this, however, is that the creation of a platform that integrates social activities to enhance interactions between first-year medical students require a different approach to how gateway programmes are currently structured within South Africa. If I refer to the South African National Resource Centre (SANRC), they have an abundance of literature on Gateway programmes. The problem with most of the literature is that they either detail the techniques/approaches certain programmes took that worked

					"well" - but can only be applied in the context of their study, or they list challenges and recommendations so that the same approach does not have to be repeated. Either way, I could not find specific literature around the proposed platform, or a potential platform that is considered best-practice to enhance social interactions among first-year medical students.
Medical students highlighted the importance of taking initiative by applying effective learning styles when navigating their academic workload					
Recommendation:					
2.	The DSLD academic staff should put emphasis on the importance of preparing for class, as this will give the students an indication of what learning styles might be required to navigate the content.				The first part of the statement is important because it is easy to follow the discussion or lecture if one has prepared for class The link between the first part of the statement (preparing for class) and the section on learning styles is not clear. At this level the students are not yet aware of the different learning styles. It is the responsibility of the lecturer to use a range of teaching strategies to accommodate diverse learning styles of the students. Not sure if this will lead to insight in learning styles, what if the learners' style is just not fit for purpose/ efficient? Staff should be more aware of the different learning styles and should ensure that the mode of teaching learning material cover those. The emphasis is only places on the student, however, they need to be met halfway, as the majority of entrants are not "tertiary ready". I think preparation is very important. I disagree with learning styles since learning styles research has empirically been shown to not have an impact on student success. I will share an article in this regard. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. The problem arises when it comes to reinforcement across programmes and within programmes. Let me try to qualify this statement from firstly my own anecdotal teaching and learning perspective in a student support role. If a student (any student) learns Time management, note taking, referencing, preparing for class, setting realistic goals, learn study skills, learn study styles etc. and it is not reinforced in any other space in the curricula, then the skill will not be acquired. In other words, if a student did not receive the time required to effectively learn and apply the skills in other modules/courses/workshops in regular intervals (depending on the skill) – then it will only be effective for very few students who take the advice to heart, engage with the content, and constantly work on improving those skills – because they take so long to acquire. This school of thought is supported with the notion of Graduate Attributes and the implementation of value rubrics to map the curriculum against. The problem here is that the HPCSA informs the criteria for a Medical Officer, and the criteria of a MP/MO does not

					include some of the co-curricular skills proposed here – so these will be treated as ad-hoc, rather than a vital part of the medical student's learning and journey to learn for the development their undergraduate career.
B	**Peer support (4)**				
Medical students highlighted the important role of having siblings studying medicine or senior students in the same residence. They propose guidance such as informal tutorials and providing previous notes on an academic level. Socially they offer advice on how to mentally and emotionally take on the programme and how to make friendships.					
Recommendation:					
3.	The School of Clinical Medicine should consider starting a "big brother" or "big sister" initiative in which senior students could adopt preceding students and have meaningful engagements.				A "Big Brother/Sister" Initiative is difficult to manage and results from such programs are often inconsistent This is important Could work, it needs a meaningful, fit for purpose structure though. To ensure that senior students are equip to take on such a task, as seniority is not equivalent to competence. First years` personality and character needs to be considered in doing so. I think this can be a good idea as long as it does not result in an "initiation-type" relationship where junior students are abused. We have significant evidence of the presence of a "hazing" culture in South Africa. One would have to clarify very carefully what is expected of different parties in such a system. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. There words used in the recommendation is not specific enough in the context of medical students. A lot of literature have shown conflicting results regarding social support/peer support for medical students. For example, in a study by Rospenda *et al.*, (1994) "Effects of social support on medical students' performances", they showed that social support should only come from senior medical students within the same programme and not senior students. In addition to this, Park *et al.*, (2015) in the article "The relationships between empathy, stress and social support among medical students" wrote about the impact of stress (and other factors) on first-year medical students, especially first-year female medical students. Quite a few other authors have written about this – and this is not new knowledge – so I support this notion on the premise of literature. However, the wording used in this particular indicator are problematic regarding the gender based pronouns (brother, sister). Furthermore, the lack of specificity regarding which senior students are used need clarification. In addition to this, the words "meaningful engagements" is vague and could be interpreted in a variety of ways. I propose that the words highlighted in red require more specificity regarding the context of the study: "The School of Clinical Medicine should consider starting a "big brother" or "big sister"

					initiative in which senior students could adopt preceding students and have meaningful engagements."
4.	The School of Clinical Medicine should consider scheduling open meetings once a month where first-year medical students can interact with all year group seniors in the programme.				This is also important but having open meetings monthly may not be feasible taking into consideration the busy schedules of senior students. Not always well attended – where the "big brother"/" big sister" concept might work better. Facilitate by creation of a common room (see other comment) It will be good to forge constructive relations and engagements. This could contribute to a sense of community and collaboration instead of the very competitive culture that often characterise highly selective programmes. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. Logistically, I can see this as a challenging task but it has a variety of contextual value that has been proven to improve peer support. Furthermore, this practice does improve student engagement, which in turn improves student performance, retention and throughput. • Richardson (2013) "Allies in learning: critical insights into the importance of staff–student interactions in university education" • William & Myron (2012) "Themed Residential Learning Communities: The Importance of Purposeful Faculty and Staff Involvement and Student Engagement." • Katherine Pollard's PhD on "Non-formal learning and interprofessional collaboration in health and social care: the influence of the quality of staff interaction on student learning about collaborative behaviour in practice placements"
Medical students highlighted that although they entered the environment of medical studies perceiving themselves as self-sufficient, it is necessary to learn how to depend on others					
Recommendation:					
5.	During class, students should be encouraged to have courage to seek help from fellow-classmates whom they perceive to be more competent				Students may be uncomfortable about publicly seeking help from other students in the classroom. It might be more useful to schedule regular study groups and invite students to attend. Not necessarily competent – distinguish between perceived as competent and competent. For me peer learning, i.e. "figuring it out together" is more important Big burden on those 'competent' ones... what is in it for them? Such engagement is dependent on individual personalities and characteristics. How the student will be received and attended to, will determine the success of such engagements. This is essential as it would help to create a more collaborative and supportive culture. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I agree, however, in the recommendation I cannot discern who takes onus of this and how this encouragement

					will be disseminated to the students. Also, what qualifies the statement "competent" is vague in this recommendation. At this point, I cannot discern the details of the recommendation because it will make a difference if this is an intervention that is implemented across the entire curriculum in each class, or if this is imbedded in a peer support group, or if lecturing staff posts this as a reminder at the end of each lecture, or posted as announcements. I am also concerned of the use of the word competent in this context because it can potentially create social hierarchies within very dichotomous first-year students.
Medical students highlighted the importance of joining student organisations outside the medical school (e.g. university choir). This could help the students emotionally and allowed them to switch off from medicine and enjoy other social activities outside the Faculty.					
Recommendation:					
6.	When setting the class timetable, free time should be allocated to allow students to participate in extra-mural activities.				Already identified as extremely important in medical studies (literature) All time-on-task is needed, for which the students need time It will enhance and create work – balance, thus reminding students to tend to themselves in a holistic manner. I think it is critical to help students realise the importance of more balance and that they need to make time for other aspects of their life. It can also help with stress relief I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. Unfortunately, I do not have enough supporting literature to have a constructive opinion on the matter of the impact of non-medical related extra mural activities and their effect on medical student transition, academic performance and/or the effect of "switching-off" and their medical journey. Extra mural activities in this context and in this programme can be minimised within L1 and L2, just on the premise of the lack of "free time" these students have and how much time they need to transition into this demanding programme from term to term, semester to semester.
C	**Confidence (6)**				
Medical students mentioned that everyone in the class appeared too smart and that hindered them from asking questions in class					
Recommendation:					
7.	Lecturers should constantly encourage students to send them emails to get clarity on concepts				Students who need help are less inclined to seek help from lecturers. I recommend integrating the support in the course or within study groups mentioned about. We instituted "Academic Support Studios" that focus on a specific topic Emails from large groups of students will be too much to cope with. Rather run tutorial sessions or have online group sessions where students send questions, and other students

					may response to some of the questions and the lecturer also responds. Difficult to really explain concepts per email – email might be used for other reasons/ communication The questions should be prepared, showing that the student worked on it, discussed with peers and still needs clarity, perhaps the topic is too complex? It can also be due to the design of teaching... or the teaching material... As long as what lecturers say to students' manifest in practice, this could be most valuable. I think this can result in a culture of dependency developing. I think students should be encouraged regularly but not constantly The staff-student interaction is extensively sited (whether it is verbal, non-verbal, or both) and has been shown to have a positive influence on student transition. I support this notion from experience as well. Students who engage with staff regarding subject matter, even as a referral point, tend to have a better student experience than those who don't. • Trowler (2010) "Student engagement literature review. The higher education academy" • Coates (2007) "A model of online and general campus-based student engagement" • Atack *et al*. (2000), "Student and staff relationships in a clinical practice model: impact on learning" • Vaidya *et al*. (2017), "September. Influence of staff-student interaction on student engagement" Marquis *et al*. (2019), "Promoting and/or evading change: the role of student-staff partnerships in staff teaching development"
8.	Lecturers should constantly encourage students to make use of their breaks during a contact session to seek clarity on concepts				Not time effective and not focused As long as what lecturers say to students manifest in practice, this could be most valuable. I think this can result in a culture of dependency developing. I think students should be encouraged regularly but not constantly I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. Please refer to the previous comment. I will caution that this recommendation is specified to include realistic expectations of both students and parties. This is currently too vague for me to recommend as a suggestion.
9.	Lecturers should constantly encourage students to book one-on-one appointments to get clarity on concepts				One-on-one appointments are generally less-efficient If this can work within the context of resources? Students must be prepared when they come to these sessions As long as what lecturers say to students manifest in practice, this could be most valuable. I think this can result in a culture of dependency developing. I think students should be encouraged regularly but not constantly I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this

					context, and depending on the meaning it will influence my choice. Please refer to the previous two comments. I will caution that this could be challenging on the premise of time and availability and currently this too vague in terms of the wording used in the recommendation.
Medical students highlighted lacking the ability to achieve a balanced lifestyle as a result of poor adaptation during the transitioning period into medical studies					
Recommendation:					
10.	DSLD academic staff should encourage senior medical students to share insight through 2-5 minute videos on how to acclimatise at the School of Clinical Medicine at the University of the Free State during transition.				Yes, might work, Good recommendation. An information session in the 1st lecture by a senior student (s) on what is to be expected, what he/she/they have done to manage, etc could be helpful. I think this is a very good idea and if done correctly would help students to see that everybody find it hard, but that it is possible to adapt. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. This is in part because of the timing of this suggestion. If this is prior to the start of class, it will have a different impact than regular updates (once a term) would have. I am also unsure of which transition is being referred to here – first-year L1, L2, Term 1 to term 2 of L1 etc.
11.	DSLD academic staff should collaboratively work with senior medical students to share study method tips with the first-year medical students thus manage academic workload.				Buddy system good idea, create meaningful learning activities for this, what is the benefit for the senior students? Good recommendation. An information session in the 1st lecture by a senior student (s) on what is to be expected, what he/she/they have done to manage, etc. could be helpful. I think this can be very powerful. Agree.
Medical students mentioned feeling overwhelmed by all the new things on campus, in the course, people etc.					
Recommendation:					
12.	The faculty social worker should be invited to present interactive sessions on healthy coping mechanisms during the first 3 weeks of transitioning into medical studies.				Relevance not always clear for students, not well attended = one-on-ones more effective if this has been identified as a challenge for a specific student Good point, but 3 weeks is not a good timing, hence 2 crosses, if it is really 3 weeks, then it is unnecessary, not effective. make it just in time, fit for purpose, students already have a lot to deal with, take up in the 1st 3 weeks Being overwhelmed, should firstly be normalised, before starting with coping mechanism. I think this is a good idea. One might need to repeat the session in the beginning of the second semester to help students. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. If the social worker's strategies are tailor-made for first-year medical students on the premise of previous year

					students experiences/challenges and needs, then yes. However, if the interactive sessions are generic – then perhaps students can benefit more from seeing the social worker/psychologist on a one-to-one basis rather than an information session regarding healthy coping mechanisms.
D	**Self-management (1)**				
Medical students highlighted how they invested in studying for long hours, using stimulants like other students, however, still end up not grasping the work.					
Recommendation:					
13.	The faculty social worker and psychologist should facilitate workshops on personal development that will address both academic and social growth (e.g. short attention span, study breaks, balancing academics and social life etc.)				Relevance not always clear for students, not well attended = one-on-ones more effective if this has been identified as a challenge for a specific student (See comment above – relevance? Attendance?) Create a mentoring system, mentoring relationship with a staff member Students must also be made aware of the fact that every individual has their "ceiling" when it comes to academic functioning. This is very important to help students adapt and develop resilience in competitive environments. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I agree that this type of support is necessary, however, I need to reflectively ask how this differs from other co-curricular interventions within the institution intended to support student transition. I am concerned that there might be content overlap.
E	**Alienation (1)**				
Medical students expressed a feeling of being the only ones facing problems such as the need to compete and comparing marks among each other, the unwillingness to help each other out, thinking less of one self-due to socio-economic background etc. Hence, they never felt comfortable coming forward to seek help despite knowing of the various support systems available.					
Recommendation:					
14.	The faculty social worker should schedule social sessions once a month to facilitate open discussions that will result in a new culture among students to address issues experienced in their environment.				i.e. Debriefing, extremely important in my opinion Give students access to a common room, it must be worthwhile to come there, e.g. one can meet peers, lunch, social interaction, or the possibility to learn and study together. And meet experts there (staff members scheduled to be there on request, with a prepared question(s) Keep in mind, this is dependent on the individual and the trust they perceive to be present. Strongly supported Agree.

F	Academic advice (1)				
Medical students highlighted that they did not know whose advice to use when it comes to navigating different resources (books/slides/notes) that were made available.					
Recommendation:					
15.	The DSLD academic staff should collaborate with undergraduate first-year lecturers, to integrate lifelong learning skills (e.g. study skills and preparing for class) into core modules during contact sessions in order to facilitate the application of soft skills.				Also in mentoring setting/ system Very good recommendation. I would suggest that the faculty makes better use of existing support such as UFS101, Library along with mention and integration of the skills in selected modules. I chose both "Must have" and "Unnecessary" on the premise of how it was phrased in this context, and depending on the meaning it will influence my choice. I agree that this type of support is necessary, however, it is currently phrased too vaguely with regard to the following terms: "core modules" and "undergraduate first-year lecturers". Additionally, these types of interventions that are proposed in the recommendation are currently in both the academic and co-curricular space – with various faculty-specific approaches across various institutions."

Appendix F2:

COMMUNICATION LETTER FOR ROUND 2 OF THE DELPHI QUESTIONNAIRE

FEEDBACK FOR DELPHI ROUND ONE: THEMED STATEMENTS AND RECOMMENDATIONS TOWARDS DESIGNING A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

Dear expert participant,

Kindly allow me to take this opportunity to thank you once more for having taken time to complete the Delphi questionnaire that I sent to you. I am sharing with you the results of the first round of the Delphi questionnaire and the purpose of this feedback is to provide you with the results and information regarding the first round. Round one results and information are just for noting on your side, you are **NOT** expected to complete the document.

For the purpose of this study, a specific recommendation statement needed to get 70% consensus from the number of expert participants from the given options of **must have/essential**, **good to have/useful** to **unnecessary** (Keeney, Hasson & McKenna, 2011:5). Meaning that if a statement scored ≤ 69% for either of the given options of **must have/essential**, **good to have/useful** to **unnecessary**, this would suggest the researcher to reformulate the recommendation using the free-writing comments gathered per recommendation statement.

Please take note that consensus was deemed to have been achieved when a recommendation statement obtained ≥ 70% for either of the given options, which are **must have/essential, good to have/useful to unnecessary**.

In this Delphi questionnaire, out of 15 recommendations that were part of round one, consensus was reached on six. These six will be removed from round two, and only the remaining statements will be left for your consideration in the next round. I am kindly requesting you to read and familiarise yourselves with the comments and feedback from the first Delphi round so that you can engage and position yourself effectively in the second round. (One again I rephrased the sentence. Please read and make sure it still gives the same meaning)

The second round is much shorter and I humbly ask for your time to yet engage and complete it.
Your support is highly appreciated.

Researcher: Ms N Tlalajoe
Cell-phone: (+27)0 78 249 7415, Email: tlalajoen@ufs.ac.za

APPENDIX F3:

FEEDBACK FOR DELPHI QUESTIONNAIRE ROUND 2

Table 0.2: Delphi questionnaire: Round 2: Findings

Study title: A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

Delphi Questionnaire: This Delphi questionnaire is anonymous. You are kindly requested to answer all questions and complete the comment section as best as you can. Please enter your response in the square brackets as indicated [x] or according to the guidance given.

Part A: Background on work experience **Participants initials**: __

Duration of employment as a student support staff member – in years	
Type of student support offered to students (e.g. academic, emotional, social, psychological etc.)	
Group of students to which support is offered (i.e. undergraduate, honours, Masters or PhD level)	
Field of work- Health Sciences Education or Higher Education and Training or other	

_____

Part B: Themed statements and recommendations towards designing a support framework for social learning and integration of first-year undergraduate medical students

In the table below are statements developed by medical students from a Nominal Group Technique (NGT), in response to "*What affected your social learning and social integration during your first-year of medical studies at the Faculty of Health Science, University of the Free State, Bloemfontein?*" In addition, the medical students were further requested to "*Determine what set of social learning and social integration skills you used or did not use to help you adapt during the transition process from high school to medical education*."

These statements were themed and listed as the Top 6 ranked themes that medical students felt needed to be addressed. The proposed solutions have been divided into six themes: *underpreparedness*, *peer support*, *confidence*, *self-management*, *alienation* and *academic advice*.

Contextual definitions:

Blackboard: Is an online learning management system where all study materials (Module guides, PowerPoint presentation slides, additional notes and assessments) on registered modules are made accessible to students.

Division Student Learning and Development: A support service, whose focus areas are to offer academic development and support to students in the Faculty of Health Sciences at the University of the Free State. The aim of these focus areas is to contribute to the academic success of the students through designing and implementing programmes/strategies/mechanisms to develop and support students.

Faculty: Is a division of schools within a university comprising of the health sciences and related focus areas.

Gateway orientation programme: Provides access to metaphorically open a gate to different pathways leading to student learning, development and success in their study career and university life.

Please enter your response in the square brackets as indicated [x] and kindly add comments in the comment section.

No.	Themed Statements and Recommendations	Must have/essential	Good to have/useful	Unnecessary	Comments
A	**Underpreparedness (1)**				
Medical students expressed that the unfamiliarly of larger classes in a university setting in comparison to high school settings with smaller numbers made it scary to approach people or initiate conversation. They reported it resulted in "*social anxiety*".					
Recommendation:					
1.	DSLD academic staff in collaboration with first-year MBChB lecturers should create opportunities that integrate social skills (i.e. team building) during the academic module orientation sessions. These opportunities can be in the form of workshops; thus enhancing social interactions among first-year medical students and the academic staff.				**"**Depending on the format. Of course, students need to feel staff and peers are approachable, that there is a save working environment. This can also be emphasized, worked on during teaching activities where there is attention for collaborative skills, giving feedback etc. A separate workshop/ or workshops for this purpose, not sure it would be meaningful, it will depend on the format. This is critical to create a "sense of belonging" that is so critical to academic success (See Terrell Strayhorn's work in this area) I agree that the creation of unique opportunities can lead to an increase in social capital among first-year medical students. Although this was only used as an example, I would caution against using the words "team-building" and will include different terms (like 'peer learning', or 'learning community seminar') to avoid the potential stigmatisation surrounding events like this. First-year students with very limited knowledge about their journey ahead, are not always aware of the challenges to come, and perhaps it can be useful to include prior knowledge (an infographic or throughput and retention statistics from the previous first-year students) to show them the realities that they might face, but that events like these have been proven to have a measurable effect on student transition, and student transition to have a measurable success on student success. This will assist with the socializing process. Staff to ensure that topics are covered that will normalise the "new students`" experience.

B	Peer support (3)				
Medical students highlighted the important role of having siblings studying medicine or senior students in the same residence. They propose guidance such as informal tutorials and providing previous notes on an academic level. Socially they offer advice on how to mentally and emotionally take on the programme and how to make friendships.					
Recommendation:					
3.	The School of Clinical Medicine should consider implementing a coordinated schedule where second and third-year senior medical students can mentor first-year medical students. This should be a peer support system that also guides how to deal with stress; therefore, addressing the emotional and psychological challenges that most medical students face. The senior students should volunteer and be trained so that they are equipped with the skills to provide such support.				Again the format is important, I think this can be useful, and it should have a low threshold, scheduled meetings might be artificial. A type of common room where student study and meet, and seniors are present would be meaningful. For the senior students, this would give useful skills. Mentoring is a high-impact practice that has proven effective. However, the selection and matching of mentors and mentors is a serious endeavour to ensure the relationship supports student success. This intervention may work, if and only if the right people volunteer and training are provided. This implies that there need to be some selection criteria in place for selecting volunteers and the type of skills provided. In addition to this, there need to be strong referral systems in place, should a mentee require support outside the scope and capacity of the mentor. Good idea, however, is careful of overburdening senior students. Showing first years "the ropes" versus addressing their emotional and psychological challenges, maybe too much to ask of a person almost their same age.
4.	The School of Clinical Medicine should consider creating opportunities where under- and postgraduate medical students (Registrars) and academic staff can be involved in regular interactive and				It needs to be fit for purpose, the timing/ at what time in the curriculum this is meaningful needs to be considered. In most medical programmes, students work as clerks on the clinical work floor, then they meet and work with the registrars. If they have seen these registrars earlier, there may be more sense of community (albeit registrars move on and may not be the same). The topic and context of these regular interactive and collaborative sessions are then again important. The registrar would then be a clinical teacher in a teaching activity(?) and share post-grad experiences? Or clinical experiences? The advantage could be that the registrars are younger and students would easier approach them. Agree that this is important. However again the selection of academic staff (and professional development) who engage in this process is very important. In particular, areas related to cultural competency would be an important training component.

	collaborative sessions, thus create a sense of community.				Unfortunately, if this is not formally integrated into the undergraduate curriculum, then it might not yield the desired results. If this is structured around learning communities, rather than "opportunities", then there could be clear goals and objectives that create the "collaborative sessions". Currently, the terminology used in this recommendation is not specific enough and as a result, does not nuance the required guidance for peer support. Yes. Students need to be informed what the purpose of these sessions re. In doing so they will realise how important their well-being is to the Faculty / Department.
Medical students highlighted that although they entered the environment of medical studies perceiving themselves as self-sufficient, it is necessary to learn how to depend on others					
Recommendation:					
5.	During tutorial sessions, lecturers should further coordinate small working groups to allow peer learning in which students are encouraged to work together in clarifying concepts.				Team learning is useful, to create opportunities that could help. The tutorial is already a smaller group, and a break out to discuss with 2-3 peers and then discuss in the whole group can be useful for learning. I would also facilitate that students can work together outside tutorials and lectures. That also means the infrastructure needs to be in place, there needs to be a place where study can meet and work in teams, easily. Building the capacity of students to support each other and understand the power of collective/collaborative efforts is important I agree with what is written, but only because I assume I understand the depth of this statement. Therefore, I will say both "Must have" and "Unnecessary". If you consider Upcraft and Gardner's (2012) large classroom teaching strategies and include activities like "think-pair-share" or activities in which the smaller breakaway groups are fun and interactive around the chosen topic, then this recommendation is effective. However, the way in which this is currently phrased is too open for interpretation, and does not guide policy or teaching and learning practices. Therefore, I would endorse that you could add a qualifying statement to provide guidance for the audience of this recommendation, making reference to action verbs or pedagogic jargon to strengthen the statement. This will assist the student who has challenges with social anxiety to function better, as they will not feel too overwhelmed.
C	**Confidence (3)**				
Medical students mentioned that everyone in the class appeared too smart and that hindered them from asking questions in class					
Recommendation:					
7.	Lecturers should be encouraged to facilitate brief question sessions				Yes could work, again this is small group work in a bigger group. And more active instead of just listening to the lecturer. Not all lecturers would be able to do this, they would need support. I agree. Extra care should be taken to ensure maximum participation – otherwise, stronger students

	during their didactic contact sessions, specifically directed to more complex concepts after students have had time to collaboratively clarify concepts. This should be followed by a reflection or answer session at the end of the lecture.				may dominate these sessions. I will say both "Must have" and "Unnecessary", as this is dependent on the lecturer, as well as the learning environment that is created to do so. As a point of temperament, the initial group that might ask questions might be the students who are comfortable in doing so. In both literature, and from experience, reflective practice is a powerful tool but takes time to implement. Therefore, I am unsure of the practical implementation at the end of each lecture. If this is intended for only select few lectures, then perhaps qualify it so in the recommendation? If it is intended to be a continuous practice within the classroom, then perhaps add support to academic staff in the recommendation? This will ensure that complex concepts are consolidated. However, staff may feel burdened and those who struggle with their own anxiety may start to feel despondent.
9.	Lecturers should in addition provide systems such as emails, scheduled appointments in which students can communicate with them if they need further clarification of concepts.	87.5%	0%	12.5%	This may be demanding for the lecturers (many emails? And quite impersonal). Why not the peers first, and then for a scheduled Q&A session, the questions can be posed that the small student groups were not able to solve Open communication between staff and students related to academic concepts are important. It must be noted that the student cohort makes a difference in this recommendation. For example, if there are more than 200 students per lecturer, then tools such as expectations etc. must be outlined. This task is vital, but can quickly become a burden if not approached correctly. Will be helpful to those students who have confidence/language/personality issues.
Medical students highlighted lacking the ability to achieve a balanced lifestyle as a result of poor adaptation during the transitioning period into medical studies					
Recommendation:					
10.	DSLD academic staff should request senior medical students to share their experiences through 2-5 minute videos, as well as inviting seniors to address first-year classes on how to adjust to medical studies after high school.				Yes helpful, and if there are buddies, and a place to meet, the 1st years can follow-up This is a great idea. It will be important to get feedback for students about this initiative. I agree, I must just caution that the timing of this is important (prior to term 1, during term 1, term 2 etc.) Will be helpful to those starting out, as it will normalise what they think and feel, as well as equipping them with various strategies on how to balance all their commitments and to get through the course successfully.
E	**Alienation (1)**				
Medical students expressed a feeling of being the only ones facing problems such as the need to compete and comparing marks among each other, the unwillingness to help each other out, thinking less of one self-due to socio-economic background etc. Hence, they never felt comfortable coming forward to seek help despite knowing of the various support systems available.					

Recommendation:					
14.	The faculty social worker should schedule social sessions once a month to facilitate open discussions that will result in a new culture among students to address issues experienced in their environment.				Not sure of the students would feel safe to ask a question in open sessions. A mentoring system would probably be more helpful. This very important, I recommend that issues are addressed as they organically emerge so that challenges are resolved in "real-time." Agree. If anonymity or confidentiality can be ensured, students may be more willing to share. It could be advised, that should a serious issue arise during these sessions, the social worker brings it to the staff`s attention without "naming and shaming". However, it should be made explicit at the beginning of such sessions, shoulds possibility of harm to a student(s) become evident, the social worker will be obliged to report it, with the necessary discretion and professionalism.**"**

APPENDIX F4:

COMMUNICATION LETTER FOR ROUND 3 OF THE DELPHI QUESTIONNAIRE

FEEDBACK FOR DELPHI ROUND TWO: THEMED STATEMENTS AND RECOMMENDATIONS TOWARDS DESIGNING A SUPPORT FRAMEWORK FOR SOCIAL LEARNING AND INTEGRATION OF FIRST-YEAR UNDERGRADUATE MEDICAL STUDENTS

Dear expert participant,

A special thank you once again for having spared your precious time to complete the second round of the Delphi questionnaire. I realise that during Covid-19 your time is limited, and therefore it is appreciated even more.

I am sharing with you the results of the second round of the Delphi questionnaire. Round two results and information are just for noting on your side, you are **NOT** expected to complete the document.

For the purpose this study, a specific recommendation statement needed to get 70% consensus from the number of expert participants from the given options of **must have/essential**, **good to have/useful** to **unnecessary** (Keeney, Hasson & McKenna, 2011:5). This means that if a statement scored ≤ 69% for either of the given options of **must have/essential**, **good to have/useful** to **unnecessary**, this would require the researcher to reformulate the recommendation using the free- writing comments gathered per recommendation statement.

Please take note that consensus was deemed to have been achieved when a recommendation statement obtained ≥ 70% for either of the given options of **must have/essential**, **good to have/useful** to **unnecessary**.

In this second round, out of the items that remained from the first round, consensus was reached on three recommendation statements and these will be removed for the third round. The statements where consensus was reached have been highlighted in green in the accompanying PDF document. All the comments from the other respondents have also been included for your perusal.

The five statements where there is no consensus yet, will remain for your consideration in the third and last round. I am kindly requesting you to read and internalise the comments of the second round (feedback for Delphi round two) in preparation for participating in the third round, which is shorter than the previous rounds.

Your participation and support is highly appreciated.

Ms N Tlalajoe Researcher
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APPENDIX G:

LETTER FROM LANGUAGE EDITOR

Declaration

6 December 2020

PO Box 4
Otjiwarongo
Namibia

Student: N Tlalajoe

Thesis: A support framework for social learning and integration of first-year undergraduate medical students

I confirm that I edited this thesis, checked the references and recommended changes to the text.

MA Language Practice

Hettie Human

WRITER | EDITOR | TRANSLATOR | INTERPRETER

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APPENDIX H:

TURN-IT REPORT

PhD Thesis

by Nokuthula Tlalajoe

Submission date: 04-Dec-2020 04:01PM (UTC+0200)
Submission ID: 1464594539
File name: PhD_-_N_Tlalajoe_04_Dec_2020_Turnitin.docx (2.19M)
Word count: 48564
Character count: 274258

PhD Thesis

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