AN EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE

by

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DECLARATION

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

……..... ……

Dr LJ van der Merwe Date

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Dr LJ van der Merwe Date

DEDICATION

I dedicate this thesis to my husband, Anthony,
and my children, Zoë and Ethan.

Your love, support, patience and faith in me have made this dream possible.
You are my greatest gift.

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LIST OF ACRONYMS

FoHS	:	Faculty of Health Sciences
ICT	:	Information-Communication Technology
IT	:	Information Technology
PRS	:	Personal Response System
SoAH	:	School of Allied Health Professions
SoM	:	School of Medicine
SoN	:	School of Nursing
UFS	:	University of the Free State
U.K.	:	United Kingdom
U.S.A.	:	United States of America
U.S.	:	United States

SUMMARY

Key terms: Educational approaches; Educational technology; Generational theory; Generation Y; Health Sciences Education; Higher education; Mixed-methods research; Pedagogical theory; Scholarship of teaching and learning; Undergraduate education.

In this research project, an in-depth study was done by the researcher with a view to formulating an educational approach for the distinct generation profile of undergraduate students in the Faculty of Health Sciences (FoHS), University of the Free State (UFS). This research was initiated in response to the identification of a gap in the knowledge regarding the so-called Generation Y (born 1981-2000), forming the current cohort of undergraduate students at the UFS.

According to both scholarly and popular literature, Generation Y possesses unique characteristics that impact on the teaching and learning environment. Their distinctive values and behaviours, communication styles, skills and needs, learning styles and needs, as well as the prevailing environment and the shaping events of their position in history influence their attitudes and actions as students. In addition, the perceived differences between these students and the academic staff lecturing them, who generally belong to older generational cohorts, may lead to conflict and misunderstanding that impairs the successful attainment of outcomes in Health Sciences Education.

Both education and health care face tremendous challenges in the 21st century. For example, the current Information-Communication Technology revolution has exerted compelling effects on social interaction as well as the current teaching and learning and health care environments. However, the demands on education and health care stretch further than just emerging technologies and their aftermath. Issues such as globalisation, socio-political and economic instability, inadequate and unequal access, as well as sustainability should also be addressed.

The aim of this study was to formulate an educational approach for the generation profile of undergraduate students at the FoHS, UFS. This was attained by means of the

following objectives, namely, obtaining data as to whether the characteristics of Generation Y as described in the literature are applicable and relevant to undergraduate students in the FoHS, UFS; identifying discrepancies in awareness and understanding of perceptions regarding the characteristics of Generation Y between undergraduate students and academic staff lecturing them; and finally, formulating an educational approach (including recommendations) for the generation profile of undergraduate students in the FoHS, UFS, incorporating the characteristics of undergraduate students as well as discrepancies in perceptions between undergraduate students and academic staff lecturing these students that could affect the teaching and learning environment.

This study made use of a mixed-methods research design in two phases. In the first phase, concurrent triangulation, quantitative and qualitative data were gathered simultaneously by means of closed and open questions in a questionnaire survey for undergraduate students and academic staff members respectively. In the second phase, sequential explanatory design, the results from the first phase were used to inform the formulation of an agenda for a focus group interview held with academic staff members, yielding qualitative data. Quantitative data were analysed statistically, while thematic analysis of qualitative data were done. The final steps in the second phase included making use of the literature survey as well as the results of the questionnaire survey and focus group interview respectively to inform the formulation of the educational approach as indicated in the aim of the study.

From the results of the questionnaire survey it emerged that although many of the characteristics typically ascribed to Generation Y in the literature are similar to those perceived by both undergraduate students and academic staff members regarding the cohort of undergraduate students in the FoHS, UFS, there were distinct differences between these perceptions and those described in the literature, indicating that Generation Y students in the FoHS possess a unique generational profile. In addition, academic staff members indicated significant differences in their perceptions from those of undergraduate students, with subsequent implications for the teaching and learning environment. Major themes identified from the focus group interview indicated that three important aspects were vital in the development of an educational approach, namely the nature of the teaching and learning environment, the personal qualities and attributes of the lecturer and the characteristics and role of the student.

These findings were incorporated in the formulation of guidelines and recommendations for the educational approach proposed by the researcher. The conceptual framework guiding this approach alluded to the realisation that in order to stay relevant, educational approaches need to move away from traditional and somewhat archaic teacher-centred to innovative student-centred approaches intent on actively engaging students in transformative knowledge construction, as well as providing for mentoring by motivational role-models. Furthermore, emerging technology must be incorporated in a rational and balanced way without losing vital human interaction to ensure that an optimal teaching and learning environment is created. The training of skilled health professionals who are equipped to deal with the challenges of the future should ultimately lie at the heart of the educational approach in Health Sciences Education.

This research project generated comprehensive knowledge of the profile of the so-called Generation Y undergraduate students in the Faculty of Health Sciences, University of the Free State, which informed the formulation of an educational approach that is both thoroughly grounded in theory as well as applicable in practice. This research study offers a novel contribution to the field of Health Sciences Education by providing evidence-based data incorporated into an educational approach that takes into consideration key elements for successful pedagogy in Health Sciences Education. These include the a) teaching and learning environment, b) approaches to teaching and learning as well as the role-players in this context, namely the c) participants (students) and d) practitioners (academic staff). The approach is built on the four key elements, and forms an integrated background to a central nexus alluding to concepts including structure and support, a student-centred viewpoint, technology, relationships, student characteristics, mentoring, engagement and supervision.

Both the survey instrument developed for the purpose of data collection in this study, as well as the educational approach that was formulated, may be used to facilitate the creation of optimal teaching and learning environments in Health Sciences Education, both locally and further afield.

OPSOMMING

Belangrike terme: Opvoedkundige benaderings; Opvoedkundige tegnologie, Generasieteorieë; Generasie Y; Gesondheidswetenskappe-onderwys; Hoër onderwys; Gemengdemetode-navorsing; Didaktiese teorie; "Scholarship" van onderrig-en-leer; Voorgraadse onderwys.

Hierdie navorsingsprojek, is 'n diepgaande studie met die oogmerk om 'n opvoedkundige benadering te formuleer vir die kenmerkende generasieprofiel van voorgraadse studente aan die Fakulteit Gesondheidswetenskappe (FGW), Universiteit van die Vrystaat (UV). Hierdie navorsing is geïnisieer om die gaping oor die sogenaamde Generasie Y (gebore 1981-2000) waartoe die grootste gros voorgraadse studente aan die UV tans behoort, die hoof te bied.

Volgens sowel vakgerigte as populêre literatuur, beskik Generasie Y oor unieke kenmerke wat die onderrig- en leeromgewing beïnvloed. Kenmerkende waardes en gedrag, kommunikasiestyle, -vaardighede en -behoeftes, leerstyle en -behoeftes, sowel as die heersende omgewing en vormende gebeure wat die gevolg is van hulle plek in die geskiedenis, beïnvloed hulle benadering en optrede as studente. Die verskille in persepsies/opvattings tussen hierdie studente en die akademiese personeel wat hulle onderrig- en oor die algemeen ouer generasie-groepe verteenwoordig - kan tot konflik en misverstande lei wat die suksesvolle bereiking van uitkomste in Gesondheidswetenskappe-onderwys kan inperk.

Sowel opvoedkunde as gesondheidsorg staar enorme uitdagings in die gesig in die 21ste eeu. Die Inligting-Kommunikasie-Tegnologie-rewolusie, druk byvoorbeeld reeds 'n stempel af op sosiale interaksie sowel as die huidige onderrig- en leer- sowel as gesondheidsorg omgewings. Die vereistes wat aan opvoedkunde en gesondheidsorg gestel word strek egter verder as net die invloed van ontwikkelende tegnologieë en die gevolge daarvan. Brandpunte soos globalisering, sosiaal-politiese en ekonomiese onstabiliteit, asook onvoldoende en ongelyke toegang sowel as volhoubaarheid behoort ook aangepak te word.

Die doel van hierdie studie was om ’n opvoedkundige benadering te formuleer vir die generasieprofiel van voorgraadse studente aan die FGW, UV. Dit is bereik deur middel van die volgende doelwitte, naamlik, om data te verkry om vas te stel of die kenmerke van Generasie Y soos dit in die literatuur beskryf word, op voorgraadse studente aan die FGW, UV, van toepassing is; om verskille in bewustheid en insig oor die persepsies/opvattings aangaande die kenmerke van Generasie Y tussen voorgraadse studente en die akademiese personeel wat hulle onderrig, te identifiseer; en laastens, om ’n opvoedkundige benadering (aanbevelings ingesluit) te formuleer vir die generasieprofiel van voorgraadse studente aan die FGW, UV - inaggenome die kenmerke van voorgraadse studente sowel as die verskille in persepsies tussen voorgraadse studente en akademiese personeel wat hulle onderrig, wat die onderrig- en leeromgewing kan beïnvloed.

Hierdie studie het ’n gemengde-metode-navorsingsontwerp in twee fases benut. Tydens die eerste fase, gelyklopende triangulasie, is kwantitatiewe en kwalitatiewe data gelyktydig ingesamel deur middel van oop en geslote vrae in ’n vraelys-ondersoek wat voorgraadse studente en akademiese personeel onderskeidelik betrek het. Tydens die tweede fase, opvolg-, verduidelikende ontwerp, is die resultate verkry uit die eerste fase gebruik om die formulering van ’n agenda vir ’n fokusgroeponderhoud met akademiese personeel, en wat kwalitatiewe data gelewer het, toe te lig. Kwantitatiewe data is statisties geanaliseer, terwyl ‘n tematiese analise van die kwalitatiewe data gedoen is. Tydens die finale stap in die tweede fase is die literatuurondersoek, sowel as die resultate van die vraelysondersoek en fokusgroeponderhoud gebruik in die formulering van die opvoedkundige benadering, soos uiteengesit in die doel van die studie.

Uit die resultate van die vraelysondersoek het dit geblyk dat, alhoewel baie van die eienskappe wat in die literatuur tipies aan Generasie Y toegeskryf word ooreenstem met die sienings van sowel voorgraadse studente as akademiese personeel oor hierdie groep voorgraadse studente aan die FGW, UV, daar tog ook duidelike verskille is – wat aandui dat Generasie Y-studente in die FGW oor ’n unieke generasieprofiel beskik. Bykomend hiertoe het akademiese personeel aangedui dat hulle persepsies betekenisvol verskil van dié van voorgraadse studente, met gevolglike implikasies vir die onderrig- en leeromgewing. Hooftemas wat uit die fokusgroeponderhoud se bevindinge geïdentifiseer is het aangedui dat drie belangrike aspekte van kardinale belang is vir die

ontwikkeling van ’n opvoedkundige benadering, naamlik die aard van die onderrig- en leeromgewing, die persoonlike kwaliteite en eienskappe van die dosent en die kenmerke en rol van die student.

Hierdie bevindinge is geïnkorporeer in die formulering van riglyne en voorstelle vir die opvoedkundige benadering wat die navorser voorstel. Die konseptuele raamwerk wat hierdie benadering rig, hou verband met die realiteit dat opvoedkundige benaderings, indien hulle toepaslik wil bly, moet wegbeweeg van tradisionele en ietwat verouderde dosent-gesentreerde na meer innoverende, student-gesentreerde uitgangspunte wat daarop gemik is om die student aktief betrokke te maak by transformerende kenniskonstruksie sowel as die voorsiening van mentorskap deur motiverende rolmodelle. Verder moet ontwikkelende tegnologie op ’n rasionele en gebalanseerde wyse geïnkorporeer word sonder om noodsaaklike menslike interaksie pryste gee. Op hierdie manier word ’n optimale onderrig- en leeromgewing geskep. Die opleiding van vaardige gesondheidsberoepslui wat toegerus is om die uitdagings van die toekoms te bowe te kom, moet dus uiteindelik die uitgangspunt vorm van die opvoedkundige benadering in Gesondheidswetenskappe-onderwys.

Hierdie navorsingsprojek het omvattende kennis geskep aangaande die profiel van die sogenaamde Generasie Y-voorgraadse studente aan die FGW, UV, wat bygedra het tot die formulering van ‘n opvoedkundige benadering wat sowel ’n diepgaande teoretiese grondslag sowel as praktiese toepassing het. Die navorsing bied ’n nuwe bydrae tot die veld van Gesondheidswetenskappe-onderwys deur bewysgebaseerde data te lewer wat geïnkorporeer is in ’n opvoedkundige benadering wat boonop die sleutelelemente vir suksesvolle didaktiek in Gesondheidswetenskappe-onderwys in ag neem. Hierdie sleutelelemente sluit in die onderrig- en leeromgewing, benaderings tot onderrig en leer, sowel as die rolspelers in hierdie konteks, naamlik die deelnemers (studente) en praktisyns (akademiese personeel). Hierdie benadering is gebou op genoemde sleutelelemente, en vorm ’n geïntegreerde agtergrond met ’n sentrale neksus wat verwys na konsepte insluitende struktuur en ondersteuning, ’n student-gesentreerde uitgangspunt, tegnologie, verhoudings, kenmerke van studente, mentorskap, betrokkenheid en studieleiding.

Die ondersoekinstrument wat ontwikkel is vir die uitvoering van data-insameling in hierdie studie, sowel as die opvoedkundige benadering wat geformuleer is, kan gebruik word om ’n optimale onderrig- en leeromgewing in Gesondheidswetenskappe-onderwys te fasiliteer, plaaslik sowel as nasionaal en internasionaal.

AN EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE

CHAPTER 1

OVERVIEW OF THE STUDY

"The take home message is to know thy learners and be open to adapting thy teaching methods to thy learners."

(Skiba & Barton, 2006: Online)

1.1 INTRODUCTION

In this research project, the issue of generational diversity in Health Sciences Education, specifically within the context of a diverse student body, was addressed. This study provided for the collection of data both from undergraduate students belonging to the Generation Y cohort, as well as from the academic staff members who lecture to them, in the Schools of Medicine, Allied Health Professions and Nursing, in the Faculty of Health Sciences, University of the Free State. These data provided evidence for the formulation of an appropriate educational approach based on the generation profile of undergraduate students in the Health Sciences Education and in the setting of a higher education institution.

Higher education faces many challenges, not least being the creation of a learning community of engaged and motivated students, who are both critical thinkers and active learners (Skiba & Barton, 2006:Online; Warger & Dobbin, 2009:Online). To this end, pedagogy, as defined by Earle and Myrick (2009:627), "the nature of knowledge and how it is constructed in situations created by students and teachers," must be approached from a perspective of understanding and responsiveness to students' characteristics and needs (Earle & Myrick, 2009:627; Wilson & Gerber, 2008:29-30). This would include empirical evidence of the generational traits of the student cohort, from the perspective of both undergraduate students and the academic staff members who are involved in teaching and facilitating learning.

An educational approach can therefore be defined as the theoretical framework that guides the planning, development and implementation of teaching and learning activities. In the context of this study, the student profile includes undergraduate students in the Faculty of Health Sciences who are also members of the so-called Generation Y - born between 1981 and 2000 - and who display distinctive generational traits. Therefore, educational approaches and the theories underpinning these should be based on an understanding of the profile of the students for whom the approach is designed.

A need exists for rigorously tested and evidence-driven data so that teaching and learning practices are based on more than popular discourse or anecdotal communication (Boateng, 2011:Online). The focus for effective educational practice should be on engagement of learners by means of encouraging active and experiential learning that is relevant and appropriate for the learner as well as theoretically sound.

The possible outcome of this study will be to provide an educational approach that is both pedagogically sound and based on empirical evidence of the generation profile of undergraduate students in the Faculty of Health Sciences, UFS (University of the Free State). This will contribute to optimising the teaching and learning environment, which in turn will ensure that intended learning outcomes are achieved.

The aim of Chapter 1, **Overview of the study**, is to serve as an orientation for the reader regarding this study. In the first sections an introduction and background is given of the research problem, followed by the problem statement including the research questions. This is followed by the overall goal, aim and objectives of the study. The hypotheses of the study are listed, and then the demarcation of the field and scope of the study are explained. This is followed by a section highlighting the significance and value of the study, as well as a concise overview of the research design and methods of investigation. The conclusion of Chapter 1 includes a presentation of the layout of subsequent chapters as well as a few concluding remarks.

In the following section, the background to the problem of understanding what students' needs and characteristics are will be discussed, so that an appropriate, efficient response

may be implemented. This includes a brief overview of generational theory and its applicability in higher education.

1.2 BACKGROUND

The concept of generational diversity - dividing people into birth cohorts and describing a peer personality based on age, beliefs and behaviours as well as perceived membership - became topical again in 2000 with Howe and Strauss' controversial book about Generation Y, entitled: Millennials rising: The next great generation (Howe & Strauss, 2000). Current undergraduate students fall into the category of Generation Y based on their birth years, namely 1981 - 2000 (Clausing, Kurtz, Prendeville & Walt, 2003:373-374). The term, "Millennials", refers to their coming of age in the new millennium (Howe & Strauss, 2000:e624,e921), while "Digital Natives" describes this group born into a world steeped in technology (Prensky, 2001:Online). The technological revolution is probably the most outstanding factor affecting their environment, and therefore some call them the "Net Generation" (Kennedy, Judd, Dalgarnot & Waycott, 2010:332-333; Sandars & Morrison, 2007:85-86) while others refer to them as "Generation Me" for their reported excessive narcissism (Twenge, 2009:398, 401).

There is currently lively debate about the issue of generational theory and its applicability or value in higher education as reflected in the scholarly works mentioned (Boateng, 2011:Online; Brown & Czerniewiscz, 2010:357-369; Bullen, Morgan & Qayyum, 2011:1-23; Reeves, 2006:Online). While it is certainly reasonable to argue that greater understanding of students and their generational traits promotes effective practices in the teaching and learning environment (Earle & Myrick, 2009:627; Wilson & Gerber, 2008:29-30), the dangers exist that stereotyping, generalisation or oversimplification result in hype and hysteria (Bennet, Maton & Kervin, 2008:775; Coomes & DeBard, 2004:5-16).

However, ample data confirm that generational differences are a very real factor influencing the workplace (Deal, Altman & Rogelberg, 2010:191; Meister & Willyerd, 2010:68). Additionally, we cannot escape from the fact that the 21st century environment is largely dominated by technology and its effects, although its use is not

necessarily defined by age or generational boundaries (Collins & Halverson, 2009:18-19; Facer & Sandford, 2009:74-76; Kennedy, Gray & Tse, 2008:10-11; Kennedy et al., 2010:332,341).

Generation Y reportedly displays unique characteristics that influence them as students (Clausing et al., 2003:373-379; Skiba & Barton, 2006:Online). For example, due to technological advances, these students are said to prefer the online environment and require constant and instant connectivity (Oblinger & Oblinger, 2005:Online). They are regarded as active learners, easily bored by routine and preferring kinaesthetic learning experiences rather than traditional lectures (Mangold, 2007:2-23). Due to their need for instant gratification as well as a sense of entitlement, they may expect personalised educational experiences (Mangold, 2007:21-23; Pardue & Morgan, 2008:74-79).

If our aim is to encourage the development of life-long, critical thinkers who become skilled, knowledgeable professionals, capable of critical reflection and self-assessment, we should take note of the typical characteristics and values our students possess. This knowledge should serve as the impetus to guide our decision-making, within sound theoretical frameworks, to ensure an optimal teaching and learning environment for the successful achievement of learning outcomes.

1.3 PROBLEM STATEMENT AND RESEARCH QUESTIONS

The problem that was addressed in this study was the inadequately examined concept of generational diversity, and specifically Generation Y, in the context of Health Sciences Education, in the Faculty of Health Sciences, UFS.

Generational theory and generational diversity have entered the fray in literature discussing the planning of teaching and learning activities that best address the needs and environment of students in Health Sciences (Jackson & Woolsey, 2009:Online; Moreno-Walton, Brunett, Akhtar & DeBlieux, 2009:S19). However, reports on this topic in the context of Health Sciences Education are based to a large degree on widely held perceptions described in the literature, and not on empirical information from specific populations or environments (Kennedy et al., 2008:10-11; Sanchez, Salinas, Contreras & Meyer, 2010:1-14).

As discussed above, very scant data are available describing Generation Y students in South Africa, particularly in the Health Sciences Education environment. Before addressing the issue of generational diversity in the educational environment, or indeed implementing suggested techniques stated in literature based mostly on commonly adhered to assumptions derived from limited databases, we should rather gather appropriate evidence to inform our practice (Harden, Grant, Buckley & Hart, 1999:71-90).

Undergraduate students in the FoHS, UFS, are culturally, ethnically and racially diverse (students from all population groups in South Africa are represented). As Guiton, Chang, Hodgson, May and Wilkerson (2004:Online) pointed out, issues of racial and cultural diversity affect the experiences and attitudes of students in medical education. This would certainly affect the teaching and learning environment in the FoHS, UFS.

Undergraduate students in the FoHS are multilingual and include males and females, from varying socio-economic and educational backgrounds. The UFS has a parallel-medium language policy, and all lectures are offered in both English and Afrikaans. However, many students have mother tongues other than English and Afrikaans, including Sotho, Zulu and Xhosa, amongst others, thereby affecting their ability to cope in the academic environment of higher education.

Furthermore, South Africa is a developing society with wide-ranging challenges, including poverty, lack of education (especially higher education for many members of its population), unemployment, political instability and conflict, crime and security concerns, historical prejudices, as well as issues of transformation, equality and the redressing of injustice (McMillan, 2007:e209; Seggie, 2010:41,44-45). It cannot simply be inferred that the available data describing Generation Y as seen in first world populations, e.g. the United States of America (U.S.A.), United Kingdom (U.K) and Australia (Codrington, 2008:Online; Mills, Yee & Airey, 2007:Online), are applicable or relevant to students at the UFS.

Academic and lecturing staff experiences certain challenges in teaching and facilitating learning that can be traced to different generational characteristics (Howell, Servis & Bonham, 2005:529-532). Pham, Case, Miyake and Gil (2008:Online) have illustrated

that in the working environment different generations have variable perceptions about Generation Y's characteristics. These differences could be applicable to education as well. By gathering information from our own unique environment, we can respond to actual needs and issues, and not to what we imagine they might be.

The problem addressed in this study is therefore the inadequately examined issue of the profile of the generation of current undergraduate students in the FoHS, UFS, and how to address the challenges that inevitably affect the teaching and learning environment in Health Sciences Education. As far as could be ascertained from the literature survey, there are no current data that comprehensively examine the generation profile of Generation Y students in Health Sciences Education. The following research questions were formulated to address the problem stated:

Can we apply the commonly described characteristics regarding Generation Y as found in the literature, to the undergraduate students in the FoHS, UFS and therefore ascribe the challenges that academic staff experience in the teaching and learning environment to these unique generational characteristics?

Can we formulate appropriate responses or interventions by identifying the differences in perceptions regarding Generation Y between undergraduate students and academic staff members?

What should the appropriate educational approach be for the uniquely diverse and specific generation profile of undergraduate students in the FoHS, UFS?

This research was done based on the abovementioned research questions.

1.4 OVERALL GOAL, AIM AND OBJECTIVES OF THE STUDY

The overall goal, aim and objectives of the study were as follows:

1.4.1 Overall goal of the study

The overall goal of the study was to provide for evidence-based data regarding Generation Y within the diverse student population mentioned above. The purpose of gathering this data was towards formulating an educational approach to facilitate an optimal teaching and learning environment in the field of Health Sciences Education in the FoHS, UFS.

1.4.2 Aim of the study

The aim of the study was to formulate an educational approach for the generation profile of undergraduate students at the FoHS, UFS.

1.4.3 Objectives of the study

To achieve the abovementioned aim, the following objectives of the study were pursued:

1. Obtaining data to determine whether the characteristics of Generation Y as described in the literature are applicable and relevant to undergraduate students in the FoHS, UFS. This objective addressed the first research question, namely "*Can we apply the commonly described characteristics regarding Generation Y as found in the literature to the undergraduate students in the FoHS, UFS and therefore ascribe the challenges that academic staff experience in the teaching and learning environment to these unique generational characteristics?*" This objective was pursued by means of a literature survey (including key words) as well as an undergraduate student questionnaire survey.

2. Identifying discrepancies in awareness and understanding of perceptions regarding the characteristics of Generation Y between undergraduate students and academic staff lecturing undergraduate students. This objective addressed the second research question, namely "*Can we formulate appropriate responses or interventions by identifying the differences in perceptions regarding Generation Y between undergraduate students and academic staff members?*" This objective was pursued

by means of both undergraduate student and academic staff member questionnaire surveys and a comparison of the results of these surveys, as well as the results from the focus group interview with academic staff members.

3. Formulate an approach (including recommendations) for the generation profile of undergraduate students in the FoHS, UFS, incorporating the characteristics of undergraduate students as well as discrepancies in perceptions between undergraduate students and academic staff lecturing undergraduate students that could affect the teaching and learning environment. This objective addressed the third research question, namely "*What should the appropriate educational approach be for the uniquely diverse and specific generation profile of undergraduate students in the FoHS, UFS?*" This objective was pursued by means of the literature survey, the results of the student and staff questionnaire surveys and the focus group interview with academic staff members.

1.5 HYPOTHESES OF THE STUDY

The following hypotheses were tested by means of this study:

1. The characteristics describing Generation Y in the literature fit the profile of undergraduate students in the FoHS, UFS.

2. There is a discrepancy in the perception of Generation Y (born 1981-2000) between undergraduate students and academic staff lecturing undergraduate students in the FoHS, UFS, indicating generational diversity.

1.6 DEMARCATION OF THE FIELD AND SCOPE OF THE STUDY

The findings from this study may be applied in the Schools of Medicine, Allied Health Professions and Nursing in the Faculty of Health Sciences, University of the Free State. However, the educational approach that is suggested based on the generation profile of undergraduate students in the FoHS, UFS, may be used by other Faculties of Health Sciences in higher education institutions in South Africa as well. As the research aims to provide for a comprehensive view on the generation profile of the abovementioned

undergraduate student body, it is also interdisciplinary in nature, and may be applied in a variety of disciplines, including Medical, Allied Health Professions and Nursing education.

The study fits in the field of Health Sciences Education and is aimed at facilitating an optimal teaching and learning environment by gaining understanding of students as well as the different perspectives of students and the academic staff who lecture them, and by formulating an educational approach based on these findings. As such, the study is within the domain of Best Evidence Medical Education, or BEME (Harden et al., 1999:553-562; Harden & Lilley, 2000:117-119; Norman, 2000:141-144).

The researcher in this study is qualified as a general practitioner, and obtained the degree M.B., Ch.B., as well as the degree M.Med.Sc. (Surgery) - a research qualification in the field of vascular surgery - from the UFS and the Diploma in Anaesthesia from the Colleges of Medicine South Africa. She has been involved in both undergraduate and postgraduate training of health professionals in the FoHS, UFS, since 1995.

The researcher's interest in Generation Y was aroused upon reflection on the undergraduate students that she is involved with on a daily basis, as well as from informal discussions with many colleagues and the available scholarly literature on the topic in higher education, for example, (Borges, Manuel, Elam & Jones, 2006:571-576; Clausing et al., 2003:373-379; Frand, 2000:Online; Johnson & Romanello, 2005:212-216; Sandars & Morrison, 2007:85-88; Twenge, 2009:398-405; Wilson & Gerber, 2008:29-44). It is apparent that in Health Sciences Education, one is faced with similar challenges, namely to dig deep to understand one's students and simultaneously attempt to create a learning community of engaged and motivated students - a kind of "classroom chemistry".

The participants in the study included undergraduate students from the Schools of Medicine, Allied Health Professions and Nursing in the FoHS, UFS, who completed a voluntary, anonymous questionnaire survey during an academic contact session. Permanent academic staff members appointed in the FoHS who also lecture to the aforementioned undergraduate students took part in a voluntary, anonymous

questionnaire survey that was made available electronically or in a written format, and also participated in the study. In addition, academic staff members who fulfilled the abovementioned inclusion criteria, and who had been identified as being experienced in the field of Health Sciences Education and who took an interest in the scholarship of teaching and learning, took part in the focus group interview.

The study was conducted in the FoHS, UFS, in the period 2009 to 2011. The literature survey, development of the survey questionnaire and composition of the study protocol, took place from March to September 2009. Final approval and permission from an Evaluation Committee, the regulatory authorities at the UFS (including Heads of the Schools of Medicine, Allied Health Professions, the Dean of the FoHS as well as the Vice-Rector, Academic Planning, UFS) and the Ethics Committee of the FoHS, UFS, were acquired during October and November 2009.

The empirical research phase including data collection using both undergraduate student and academic staff member questionnaires took place from February to May 2010. The analysis of the results of the questionnaire surveys in order to determine the questions for the focus group interview as well as the planning, recruitment of members, finalisation of the questions and agenda, and logistical arrangements for the focus group interview were done from May to September 2010.

The focus group interview took place in October 2010, and the transcription and verification of the focus group interview data were finalised from October to December 2010. The analysis and interpretation of results, from the questionnaire surveys as well as the focus group interview took place from January to July 2011, and the discussion of results and formulation of recommendations for the educational approach as stated in the overall aim of the study took place during August and September 2011. Preparation and final submission of the thesis took place from October to November 2011.

1.7 SIGNIFICANCE AND VALUE OF THE STUDY

Different values and expectations within the educational environment is a recipe for conflict and impaired creativity. The value of this research will be in creating greater awareness of generational diversity, specifically the so-called Generation Y, in the

FoHS at the UFS. In this way, the teaching and learning environment can be optimised, improving motivation of both students and academic staff members, and ensuring quality.

The significance of this study lies in the fact that the findings will provide a scientific body of evidence - Best Evidence Medical Education (Harden et al., 1999:553-562; Harden & Lilley, 2000:117-119; Norman, 2000:141-144) that will contribute to the scholarship of teaching and learning. By gaining better understanding of students and their perceptions regarding their generation / peer group, as well as by recognising academic staff members' perceptions of and responses to the students they lecture to, informed approaches towards managing the uniquely challenging educational environment at the FoHS, UFS, may be formulated, and the teaching and learning environment can be optimised, improving effectiveness and ensuring quality. As stated by Boateng (2011:Online): "There is a continuous need for the development of innovative pedagogical practices that complement the learning needs of learners".

1.8 RESEARCH DESIGN OF THE STUDY AND METHODS OF INVESTIGATION

In the following section, the design of the study and methods of investigation will be discussed.

1.8.1 Research design of the study

The mixed-methods research design used in this study is described in detail in Chapter 3, **Research Design and Methodology**.

A mixed-methods research design in two phases was decided on to ensure a comprehensive understanding of the research questions. Phase I consisted of concurrent triangulation (simultaneous collection of quantitative and qualitative data followed by separate analysis and eventual integration of findings) and Phase II was a sequential explanatory design (qualitative and quantitative paradigms have equal status and the qualitative stage follows quantitative data collection and analysis).

The underlying theoretical framework for mixed-methods research is a pragmatic approach that makes use of both quantitative and qualitative methods in order to maximise the strengths and minimise the weaknesses of each individual approach (Onwuegbuzie & Leech, 2004). Its value as a methodological approach lies in the ability to provide a nuanced view on a complex problem. In this way, results that are more robust are generated, and our understanding of the research question is elaborated and expanded. In addition, a mixed approach offers broad-based evidence based on the synergy of statistical results (from quantitative data) and text quotes (from qualitative data), thereby making its findings more practical in application and more broadly acceptable and inclusive (Plano-Clark, Creswell, Green & Shope, 2008:364-366).

1.8.2 Methods of investigation

The methods that were used in this research to address the research questions included a literature survey, questionnaire survey and focus group interview. These will be further elucidated below.

By examination of the literature available, the concept of generational theory and specifically Generation Y, describing the cohort of current undergraduate students, was defined and described. Making use of the background supplied in the available literature, and specifically focused on the Health Sciences Education environment, a survey questionnaire was designed as instrument to determine the perceptions regarding various described characteristics of Generation Y.

The questionnaire survey obtained the opinions of both the undergraduate students who represent the Generation Y perspective, as well as the academic staff members who lecture to them. For this purpose, two distinct yet similar questionnaires were tailored for each study population specifically, and were made available in both English and Afrikaans (languages of tuition at the UFS).

Phase I of the study design consisted of concurrent triangulation. During this phase, the questionnaire surveys were used to collect both quantitative and qualitative data simultaneously (QUAN + qual), i.e. concurrently (in the form of closed and open questions), from undergraduate students and academic staff members. However, the

quantitative data took precedence, and the qualitative data was used in a supportive fashion, hence the annotation QUAN and qual, indicating the weight of each paradigm. The "+" indicates the simultaneous implementation of each data collection method.

The data were analysed by means of statistical analysis of the quantitative (QUAN) data and content analysis of the qualitative (qual) data into themes and codes. The qualitative data were used to elucidate the quantitative findings, thereby providing for either confirmatory conclusive evidence or highlighting contradictory results that could be used to provide a deeper perspective on the research question (triangulation). The results of Phase I were used to identify significant findings as well as recognise conflicting findings. From these, themes and focus areas were developed and used to set up the questions for the focus group interview.

Phase II of the study design was in the form of a sequential explanatory design (QUAN $\rightarrow$ QUAL) whereby the results from Phase I (QUAN + qual) were further examined and explored by means of a focus group interview (FGI) (QUAL) that followed the phase of concurrent triangulation. The annotation QUAN and QUAL indicated that both methods were of equal weight, while the "$\rightarrow$" indicated that the methods followed on each other (sequential).

Qualitative data from the FGI included an audio record and full text transcript as well as observer field notes, which were verified and analysed by thematic analysis. From this analysis, the findings from Phase I could be further explained as well as new issues identified.

In the final stages of the study, both qualitative and quantitative findings were combined and used to formulate the guidelines for an educational approach to the undergraduate students who are members of the Generation Y birth cohort in the FoHS, UFS.

Figure 1.1 provides a schematic overview of the study.

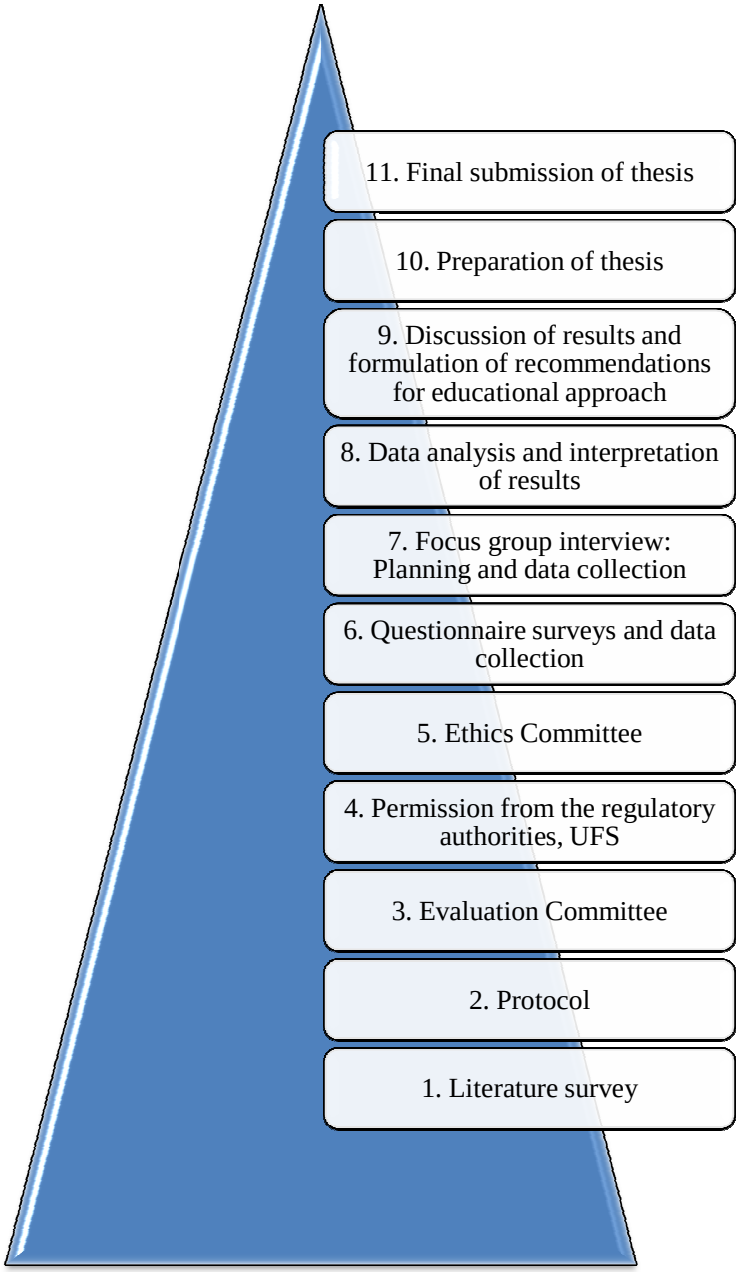


FIGURE 1.1 SCHEMATIC OVERVIEW OF THE STUDY [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project]

1.9 IMPLEMENTATION OF THE FINDINGS

The research findings will be made available to the FoHS Management Board as well as the appropriate Faculty Committees involved in academic planning and curriculum development in the Schools of Medicine, Allied Health Professions and Nursing in the FoHS. The researcher will also present these findings to a wider audience at

appropriate educational research forums and by presenting the findings to accredited journals in order to contribute to the research field in Health Sciences Education.

By reporting on the results of this study, the researcher will provide evidence-based, practical recommendations to facilitate the creation of an optimal teaching and learning environment in the FoHS , UFS. Implementation of the educational approach suggested and determining the effect that it has on the teaching and learning environment in the FoHS, can provide opportunities for further research to test the effectiveness of such an educational approach.

The questionnaire developed as survey instrument for this study may be used as a data collection tool in other populations (undergraduate students and/or academic staff members) at the UFS or other South African universities. This will contribute to the creation of a novel and comprehensive database regarding the typical characteristics of Generation Y students in South Africa.

The researcher will submit the findings from this research to academic journals with a view to publication, as the researcher hopes to contribute to the scholarship of teaching and learning and the field of Health Sciences Education. The research findings will also be presented at conferences.

1.10 ARRANGEMENT OF THIS THESIS

The following structure gives an overview of the entire thesis. It aims to guide the reader through the initial examination of and background to the research question, the methodology used in obtaining data, the analysis, interpretation and discussion of results, the use and application of research findings and finally, providing answers to the initial aim of the study.

In Chapter 1, **Overview of the study**, a brief introduction and background was provided followed by the problem statement and research questions. The overall goal, aim and objectives and hypotheses of the study were given, followed by an explanation of the demarcation of the field and scope of the study and its significance and value for Health Sciences Education. This was followed by a concise description of the research design

and methods of investigation used. Figure 1.1 (cf. p.14) was provided as a schematic overview of the study, followed by a brief discussion on the implementation of the findings. Thereafter the arrangement of the thesis was described, and some concluding remarks followed (see below).

In Chapter 2, **Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education,** insight into the literature that describes the publications and knowledge regarding the concepts of generational cohorts, specifically the Generation Y cohort, is provided. The application of an understanding of students' generational characteristics, notably in Health Sciences Education, is explored. Furthermore, the discourse surrounding educational approaches and how generational theory contributes to innovations in instructional design of teaching and learning activities is examined. Engagement with the literature allows for summary, synthesis and analysis of the various sources available, and leads to a position where the researcher is able to identify that it will be valuable to add to the existing body of knowledge. The literature review provides the theoretical framework underlying the research questions.

In Chapter 3, **Research Design and Methodology**, the researcher's aim is to provide insight into the philosophical stance and conceptual framework of the researcher, and an overview of the methodology and research design used in this study. A background and rationale is given for the mixed-methods approach used in the study, followed by an explanation of the mixed-methods research design and selection of methods. Data collection is described with reference to the applicable literature, as well as the instruments used, namely the survey questionnaire and focus group interview. A description of the sample selection and pilot study as well as the techniques used for both quantitative and qualitative data analysis is given. Issues of reliability, validity and trustworthiness as well as ethical considerations are mentioned, and finally the formulation of the educational approach as stated in the intended aim of the study is described.

In Chapter 4, **Results and Discussion of the Questionnaire Survey**, the chapter is divided into sections according to the sections in the questionnaires for both undergraduate students and the academic staff members who lecture to them. For each

section, the quantitative and qualitative results from undergraduate students' questionnaire responses are presented and discussed followed by the results from the academic staff members' questionnaire responses quantitative and qualitative findings. Chapter 4 represents Phase I of this mixed-methods research design, namely concurrent triangulation.

In Chapter 5, **Results and Discussion of Findings of the Focus Group Interview**, Phase II of the study design, namely the sequential explanatory phase is described. The questions for the FGI are designed based on the findings from Phase I of the study. In this chapter, the analysis and interpretation of the findings from the focus group interview are presented.

In Chapter 6, ***An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State,*** the final outcome of the study is represented, including the incorporation of results from Phase I and II. The researcher makes use of the literature survey as well as findings from the questionnaire survey and focus group interview for the purpose of formulating an evidence-based educational approach specifically for the generation profile as described in the study findings.

In the final chapter, Chapter 7, **Conclusions, Limitations and Recommendations**, reinforcement of the rationale for the research and the questions it sought to answer, final presentation and contextualisation of the findings and their interpretation, as well as indications of the contribution of the research to the field of Health Sciences Education and future research possibilities, by means of recommendations is provided. Limitations and critique of the research are also included in this chapter.

References and Appendices are included at the end of the thesis.

1.11 CONCLUSION

Chapter 1 was aimed at orienting the reader to the study, by providing an overview of the research as a whole. This included a brief introduction and background followed by the problem statement and research questions. The overall goal, aim, objectives, and

hypotheses of the study were given, followed by an explanation of the demarcation of the field and scope of the study and its significance and value for the field of Health Sciences Education. This was followed by a concise description of the research design and methods of investigation used. Figure 1.1 (cf. p.14) was provided as a schematic overview of the study, followed by a brief discussion on the implementation of the findings.

In the next chapter, entitled Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education, the literature relevant to the research will be discussed.

CHAPTER 2

GENERATIONAL THEORY AND EDUCATIONAL APPROACHES WITH REFERENCE TO GENERATION Y IN HEALTH SCIENCES EDUCATION

"...each generation is a new people."
Alexis de Tocqueville (2010:Online)

2.1 INTRODUCTION

In this chapter, the literature that informs the current discourse on the generation cohort of current undergraduate students, and how it affects the teaching and learning environment in Health Sciences Education will be discussed. The theoretical perspectives leading to a conceptual framework for the research question will be explored, taking into account the literature available on generational theory, specifically Generation Y (born from 1981 to 2000), as well as current pedagogical approaches to teaching and learning in Health Sciences Education.

As in many other fields, education is an arena inundated with change and the need to evolve to adapt to the global village. Higher education institutions are constantly required to meet the challenges of budgetary restraints and increasing demand for higher education from diverse and changing student groups (Barr & Tagg, 2004:Online; Biggs & Tang, 2007:15-21; Frank, Chen, Bhutta, Cohen, Crisp, Evans, Fineberg, Garcia, Ke, Kelley, Kistnasamy, Meleis, Naylor, Pablos-Mendez, Reddy, Scrimshaw, Sepulveda, Serwadda, Zurayk 2010:Online; Rich, 2009:Online; Skiba & Barton, 2006:Online). Students must be equipped with scientific knowledge, critical thinking skills, and effective communication skills and become life-long learners (Shreeve, 2008:28; Skiba & Barton, 2006:Online; Warger & Dobbin, 2009:Online).

To meet these requirements, pedagogical approaches have shifted away from lecturer-based learning – the traditional concept of knowledge delivery to a passive recipient who regurgitates knowledge on command for assessment purposes – to adult-based (student-centred) learning, encouraging active participation and greater commitment by

the student in a process that builds on his/her prior knowledge and experience (Blackie, Case & Jawitz, 2010:637-646; Shreeve, 2008:23-28). Acquiring a comprehensive understanding of students and their needs, and responding to these in an appropriate manner forms the point of departure for learning that centres on the student (Earle & Myrick, 2009:624; Wilson & Gerber, 2008:29-44).

Health Sciences Education has found a niche within the body of knowledge of research into educational pedagogy, as the need to change and adapt archaic practices is widely recognised (Cooke, Irby, Sullivan, & Ludmerer, 2006:1229; Gibbs, Durning & Van der Vleuten, 2011:183-187). Research conducted featuring medical and nursing students has illustrated that many conflicts may be averted if the different perceptions, values and beliefs of generational cohorts are taken into consideration (Billings & Kowalski, 2004:104; Borges et al., 2006:571; Clausing et al., 2003:373; Howell et al., 2005:527). After all, knowledge of learning theory and the processes required for learning (Kirschner, Sweller, & Clark, 2006:75-86) and an understanding of what motivates students, what their goals, backgrounds and experiences are as well as an awareness of which learning environment best suits students' needs cannot be seen as anything less than essential when planning teaching and learning activities (Arky, 2006:1922-1926; Sandars & Homer, 2008:877-879).

In the following section, the background will be given to the concept of generational diversity.

2.2 BACKGROUND

By virtue of age alone, students of different ages will have different learning styles, approaches and needs (Mangold, 2007:21; Oblinger, 2003:38). Oblinger (2003:37) argues that understanding learners facilitates effective learning. As stated by Johnson and Romanello (2005:216), the best learning happens when we meet students on their level, incorporating their learning styles, but at the same time occasionally challenge them to learn outside their comfort zone.

The generation gap is often blamed for the conflicts and challenges that arise in working as well as education environments (Clausing et al., 2003:373; Codrington,

2008:Online). The authors Neil Howe and William Strauss (2000) sparked a widespread and controversial discourse on the issue of the so-called "Millennials", referring to the cohort of people born between 1982 – 2002, who demonstrate unique attitudes and behaviours. Their book, entitled Millennials Rising: The Next Great Generation, published in 2000, paints a largely positive picture of the youth who will become the future of America, and is contextualised to a large extent in the socio-economic and socio-political environment of the U.S.A around the year 2000.

Although generalisations oversimplify the characteristics of any group, and one should guard against stereotyping (Mohr, Moreno-Walton, Mills, Brunett & Promes, 2011:191-192), both Codrington (2008:Online) and Oblinger (2003:38) support the stance that the historical environment and world events shape the values, attitudes and judgments of people of a similar age. Mutual experiences and events in history tend to affect the way people think and act leading to the classification of generational groups with similar traits (Mohr et al., 2011:191-192).

Besides the author surveys, youth polls, popular media and online publications or websites and government survey documents quoted by Howe and Strauss (2000: e8881-e8886) there is a paucity of evidence in scientific literature regarding generational profiles. The findings from Howe and Strauss' book as well as limited empirical scientific research, have prompted various authors in the scholarly literature to report on the unique nature of generational values, beliefs, ideas and judgments and the resulting generation gaps affecting the educational environment (Borges et al., 2006:571; Howell et al., 2005: 527; Johnson & Romanello, 2005:212; Mangold, 2007:21; Nimon, 2007:25; Skiba & Barton, 2006:Online).

A generation may be defined as a peer group or cohort of the population born over more-or-less a twenty-year period (Codrington, 2008:Online; Howe & Strauss, 2000:e916). According to Mangold (2007:21) shared key life experiences in a peer group leads to common behaviours and perceptions. While multiple generations in a similar socio-economic, political or cultural environment may share common values or behaviours, different experiences across an era of time led to a variety in perceptions and practice (Codrington, 2008:Online; Coomes & DeBard, 2004:5-14; Twenge, 2009:399).

However, Codrington (2008:Online) cautions that controversy arises when the characteristics of Generation Y as described in the literature of countries such as the U.S.A. and the U.K. is applied across the board to all people of a similar age in other socio-economic environments. In addition, Howe and Strauss point out those generational traits are not necessarily globally shared, and depend on historical events, societal shifts and trends (Howe & Strauss, 2000:e7091, e9630).

Accordingly, scepticism abounds regarding the concept of generational diversity (Matthews, 2008:Online; Venkatraman, 2009:Online), especially as it applies to the teaching and learning environment (Bullen et al., 2011:1-24; Reeves, 2006:Online). Whether we agree with the concept or not, many emphasise that generational diversity is a fact that cannot be ignored (Borges et al., 2006:571-576; Codrington, 2008:Online). How people see themselves and others, i.e. perceptions, leads to the values, judgments and actions that influence interactions and typical behaviours (Pham et al., 2008:Online).

This is the basis of generational theory: that both their demographic profile and the defining events of their passage from birth to adulthood shape what is typical of a cohort (Borges et al., 2006:571-576; Howe & Strauss, 2000:e9630). By creating awareness of differences in perceptions of generations, we can tap into the unique strengths of each generation to provide solutions tailored for specific environments (Codrington, 2008:Online). This includes medical and nursing education, for example, as reflected by scholarly publications (Arhin & Cormier, 2007; Borges et al., 2006; Earle & Myrick, 2009; Howell et al., 2006, Walker, Martin, White, Elliott, Norwood, Mangum & Haynie, 2006:371-374).

Medical education is widely regarded as a professional discipline, and aims at developing a sound base of research-based evidence to guide its practice, as described in these scholarly works (Harden, Grant, Buckley & Hart, 1999:71-90; Harden & Lilley, 2000:117-119). However, other health professions, including nursing (Earle & Myrick, 2009:624-630; McCurry & Martins, 2010:276-279) and the other allied health professions (Hinman & Darden, 2005:14-22), for example, also adhere to strict guidelines for their education and research activities.

As this study includes undergraduate students from the Schools of Medicine, Nursing and Allied Health Professions in the Faculty of Health Sciences (FoHS), UFS, as well as the academic staff who lecture to them, the term "Health Sciences Education" is used throughout to refer to medical, nursing and allied health professions education. Furthermore, the assumption is made that findings from medical education research is applicable to education in other health professions and vice versa.

Medical education (and by implication Health Sciences Education) in South Africa faces similar challenges to the status quo as elsewhere in the world, namely to conform to the requirements of a new century. After the first wave of reforms prompted by Abraham Flexner's ground breaking report (Cooke et al., 2006:1339-1344), the advent of the 21st century has initiated calls for curriculum modernisation once again (Frank et al., 2010:Online; Gibbs et al., 2011:183-187).

While medical education in South Africa has succeeded in many ways (for example the introduction of problem-based learning, academic support, horizontal and vertical integration of learning content), there are still numerous challenges within the areas of assessment, staff academic development, the teaching of professionalism as well as addressing the needs of South African society in terms of community-based learning (Seggie, 2010:41-45). The poor standards of secondary education and the HIV epidemic, as well as inadequate support for education and migration of health care workers are just some of the obstacles faced when attempting to ensure excellence in Health Sciences Education in South Africa (Gibbs, 2007:853). Amongst these challenges, Seggie (2010:44) highlights "teaching Generation Me", a new generation of students who have grown up in a digital world.

The challenges to higher education institutions in approaching Generation Y is to realise the potential within these students, but at the same time equip them to deal with the "real world" by developing deep learning and self-development (Manville & Schiel, 2008:Online). Billings & Kowalski (2004:104-105) suggest identifying and understanding the experiences and preferences of lecturers and students in order to create an optimal learning environment with options for learning. This approach includes making use of existing technology and encouraging creativity as well as

providing appropriate and timely feedback (Billings & Kowalski, 2004:105; Johnson & Romanello, 2005:214).

It has been suggested that the lecturer should guide rather than direct students, so that they may be optimally equipped to be life-long learners (Frand, 2000:15-24). The use of technology should match the content as well as the lecturer and student's preferences. This is in keeping with the goal of education, namely to attract, retain and qualify students within an optimal environment with the minimum of conflict and misunderstanding (Pardue & Morgan, 2008:75).

Oblinger (2003:45) indicated that while there is no simple answer to accommodate the variety of ages, learning styles and communication preferences of the generations, foremost will be to gain greater understanding of students. As stated by Earle and Myrick (2009:626), "Further studies are required to explore the implications of intergenerational diversity on pedagogical practice in higher education. Evidence-based practice is important not only in clinical nursing practice, but also in nursing education". This opinion is certainly applicable to all aspects of Health Sciences Education and practice as well.

It appears therefore, that within the context of Health Sciences Education in a South African higher education institution (FoHS, UFS), a need exists to identify the challenges posed by undergraduate students' generation profile, and to address this by means of innovative pedagogical approaches.

2.3 OVERVIEW OF ASPECTS TO BE DISCUSSED

The following sections aim to place the concept of generational diversity and the challenge of meeting the needs of Generation Y students in the context of the higher education teaching and learning environment, specifically Health Sciences Education within the unique context of the FoHS, UFS. Educational approaches and their application will be discussed from this theoretical framework. Figure 2.1 is a schematic overview of the literature that will be discussed in Chapter 2, **Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education.**

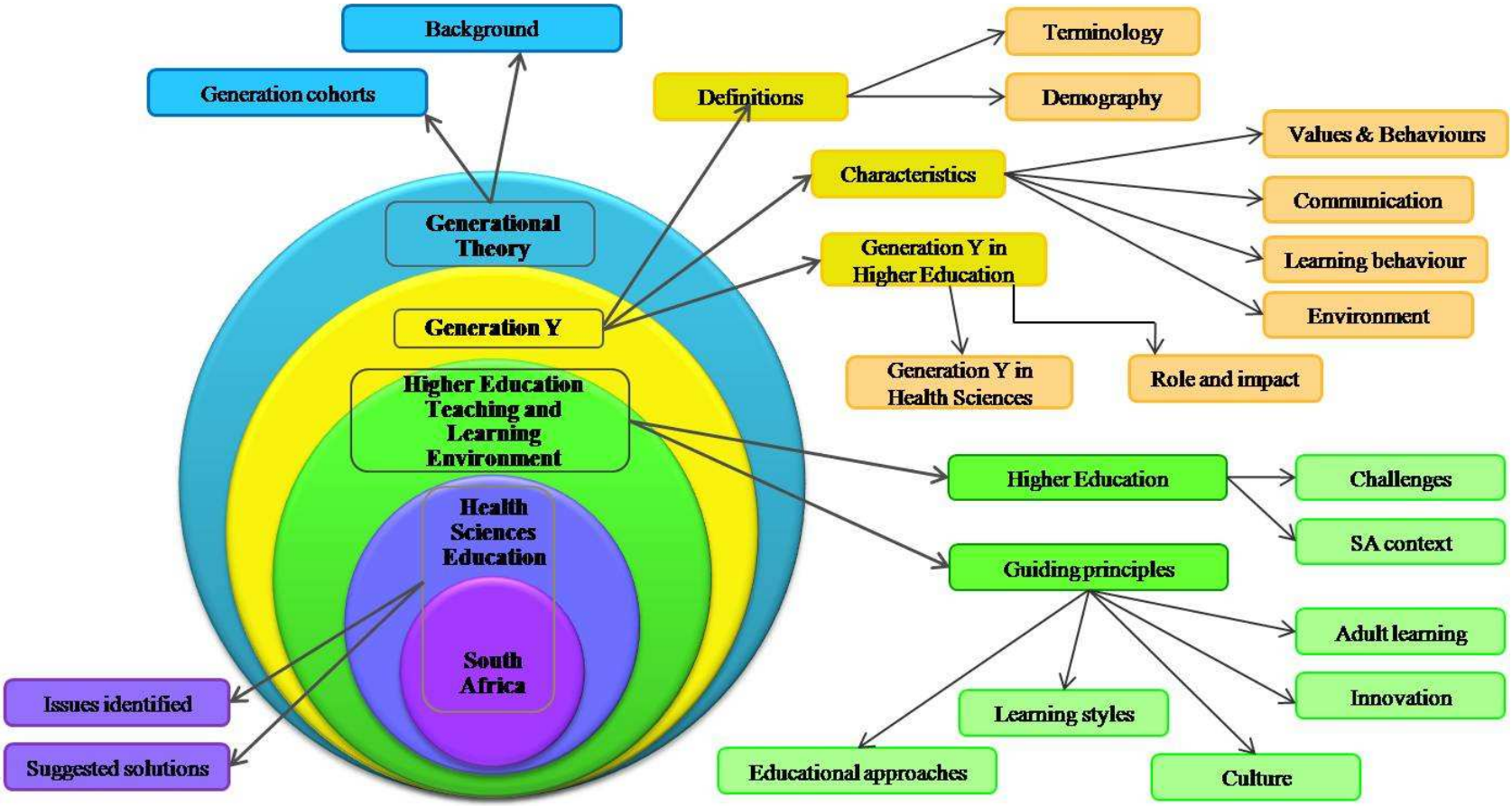


FIGURE 2.1: SCHEMATIC OVERVIEW OF ASPECTS TO BE DISCUSSED IN CHAPTER 2
[Compiled by the researcher (Van der Merwe, 2011) as part of this Ph.D. project]

2.4 GENERATIONAL THEORY

The concept of generational diversity – dividing people into birth cohorts of more-or-less 20 years and describing a peer personality based on age, beliefs and behaviours as well as perceived membership – has become topical since 2000 with Howe and Strauss' controversial book about Generation Y: "Millennials rising: The next great generation." Having written widely on generational issues, their book was a response to the negative perception of the generation born since 1982, the so-called Millennials, or Generation Y. Instead, they advocate that this cohort of the population in the U.S.A, have the capacity to be "the next great generation" (Howe & Strauss, 2000:e634). This view is supported by Walker et al., (2006:372), who state that in the U.S.A, "This generation is anticipated to come forth with the combined best of the previous generations to make a historical mark on this country".

In the following section, the background to generational theory as well as the different generation cohorts will be described.

2.4.1 Background

People, who share birth years and consequently growth into youth and adulthood together, share a segment of history that shapes and defines who they become (Mohr et al., 2011:191). Differences occur between generations due to the difference in life experiences at different developmental ages, leading to unique beliefs and values (Billings & Kowalski, 2004:104; Coomes & DeBard, 2004:5-6). This is referred to as the generation gap, determining to some extent the influences of peers and intergenerational interactions (Sutton, 2005:Online). Although many behaviours and attitudes are the result of responses to current socio-economic and political circumstances, the developmental age at which one is exposed to certain life events, greatly influences the characteristics and values of each generation. Birth years are not as definitive in determining generational attributes as "perceived membership, common beliefs and behaviours or a common location in history" are (Reeves, 2006:Online).

Generations differ for many reasons, including the following (Coomes & DeBard, 2004:8):

- Life cycle effects (although young people are different from older people today, they might become more like their parents as they age)

- Period effects (events like wars, social movements, medical or technological breakthroughs are major influences in individual's lives – of course depending on how old they are when these events occur)
- Cohort effects (one's developmental age as well as personality type greatly impacts how deep the imprint is on our core values).

There is currently lively debate about the issue of generational theory, with the proponents for each point of view inclined to disparage the opposing notions. It is certainly reasonable to argue that greater understanding of students promotes effective practices in the teaching and learning environment (Bonfiglio, 2008:30-32; Coomes & DeBard, 2004:13-14; Earle & Myrick, 2009:624; Jackson & Woolsey, 2009:Online).

However, the danger exists that stereotyping, generalisation or oversimplification result in hype and hysteria (Bonfiglio, 2008:30-32; Bullen *et al*., 2011:2,18; Coomes & DeBard, 2004:13-14). Bennet *et al*. (2008:775) have termed the urgency of the debate for change in education in response to a new generation of students "moral panic", and point out that there is a "mismatch between the confidence with which claims are made and the evidence for such claims".

There are however ample data confirming that generational differences are a very real factor impacting the workplace as well as higher education environment (Jackson & Woolsey, 2009:Online; Reeves, 2006:Online; Sutton, 2005:Online), although many question the soundness of the research approaches used (Deal et al., 2010:191; Reeves, 2006:Online). Finally, we cannot escape from the fact that the 21st century environment is largely dominated by technology and its effects (Oblinger & Oblinger, 2005:Online; Prensky, 2001:Online), although its use is not necessarily defined by age or generational boundaries (Brown & Czerniewiscz, 2010:357; Kennedy et al., 2010:332).

Instead of viewing generational theory as a means of perpetuating stereotypes, one should rather see it as an attempt at promoting understanding and cohesiveness between people. Just as knowledge of and sensitivity to factors such as personality types, gender and culture, or seniority influence interpersonal relationships, an evidence-based approach to generational diversity contributes to better interaction both in the workplace and educational environment (Bennet et al., 2008:783; Carver & Candela, 2009:985,990). Being aware of one's own

generational characteristics and biases towards other generations initiates growth towards creating an optimal learning environment suited to the specific needs of diverse students (Johnson & Romanello, 2005:215; Pardue & Morgan, 2008:75).

2.4.2 Generation cohorts

The globally recognised generational categories are depicted in Table 2.1. Four generations are described, with reference to their birthdates, values, behaviours, communication style, work style, needs, environment and shaping events as well as learning behaviours as reported on in the literature. Because of greater international travel, revolutionised telecommunications networks and more recently the Internet, similar generational trends have been observed in many countries worldwide since World War II (Howe & Strauss, 2000:e6989,e 9630; Johnson & Romanello, 2005:212).

Table 2.1 gives an overview of four generations, namely, the "Silent Generation/Veterans", "Baby Boomers", "Generation X" and "Generation Y/Millennials/Net Gen /Generation Me". For each generational cohort, birthdates, values, behaviours, communication style, work style, environment, shaping events and education (learning styles, learning needs) are described according to various sources. For the purposes of clarity, the references used to compile Table 2.1 are included below. [These references are also included in the Bibliography]:

i. Clausing S.L., Kurtz D.L., Prendeville J., Walt J.L. (2003)
ii. Johnson S.A., Romanello M.L. (2005)
iii. Mangold K. (2007).
iv. Pham V.H., Case J., Miyake L., Gil S. (2008)
v. Manville G., Schiel G. (2008)
vi. Billings D, Kowalski K. (2004)
vii. Oblinger D. (2003)
viii. Howell LP, Servis G, Bonham A. (2005)
ix. Pardue KT, Morgan P. (2008)
x. Hartman J, Moskal P, Dziuban C. (2005)
xi. Prensky M. (2001)
xii. Mohr N.M., Moreno-Walton L., Mills A.M., Brunett P.H., Promes S.B. (2011)

TABLE 2.1 DEFINING THE GENERATIONS [Compiled by the researcher (Van der Merwe, 2011) as part of this Ph.D. project]

ATTRIBUTES	SILENT GENERATION / VETERANS	BABY BOOMERS	GENERATION X	GENERATION Y / MILLENNIALS / NET GEN / GENERATION ME
Birthdates	1921-1940 1922-1943[i] 1925-1942[ii]	1940-1960[v] 1943-1960[iii] Before 1964[iv]	1961-1980[i] 1960-1980[vi] 1964-1978[iv]	1981-2000[i] 1979-1995[v] 1980-2004[vi] 1979-1995[iv] Born after 1982[vii]
Values	Traditional views of God, family and country[i, viii] Hard work: "conformity, consistency, uniformity"[ii]	Youth, health, personal wealth[i,ii], Money and visible recognition[vi] "Buy now, pay later"[ii] Work = self-worth, identity[ii]	Value freedom[vi] Individualistic, adaptable, tolerant, oppose parents, independent, balanced[ii]	Family-oriented, desire work-life balance[i, vii]; Hopeful, optimistic, positive, friendly, assertive, fun-seeking[i, ii, vii, ix]; Rewarded by work with meaning[vi]
Behaviours	Respect for authority, loyalty, hard work, dedication[i, ii, viii]; System valued over individual[ii]	Long-term commitment to job, driven, dedicated, competitive[i, ii, iii, viii] Confident to make the world a better place[ii]	Motivated by balance, self-reliant[i, ii]; Ironic, cynical[ii]	Multi-tasking[ii, v, vii, ix]; Ambitious, confident, high expectations for rapid progression[v] – but more collaborative and supportive [may be perceived as lacking ambition][i]; Consumerist, brand conscious, addicted to the media[i]; Team players, like group activity[i, ii, vii];Enhance and decorate body with piercings and tattoos to improve appearance to peers[i]
Communi-cation style	Don't like conflict or change[viii] "Your experience is valued here"[viii] Formal[xi]	Uncomfortable with conflict, judgmental[viii] "You're important to our success"[viii] Diplomatic[xi]	Not intimidated by authority; "Do it your way"[viii]; Blunt[xi]	Inexperienced with communication; "You'll be working with other bright and creative people"[viii] Polite[xi]
Work style		Live to work[iv] Performance oriented[ii] Competitive, mentors[xi]	Work to live[iv]; Goal oriented[ii]; Question authority [xi]	Work-life balance[iv]; Fun-oriented[ii]; Team oriented, career change / mobility[xi]
Environment		Traditional nuclear family[iii] Prosperity, women's liberation, Cold War	First time computers and internet	Connectivity[v, ix]; AIDS[i]; Cultural diversity[i, ii, vii]; Structured, protected lives[iii]
Shaping events	WW II, Great Depression Penicillin available[ii]	Vietnam War, sex, drugs and Rock-n-Roll, birth control available[ii] Civil rights movements[xi]	Working parents, divorced homes[ii]; Fall of Berlin wall, Gulf war, SA Apartheid, Challenger space shuttle, hip-hop and rap music, first personal computers, emergence of AIDS[ii]	"Baby on board", "helicopter parenting"[ii]; War in Kosovo, 9/11, terrorism, Princess Diana's death[ii]; AIDS always a reality, ARV's available
Education: styles and needs	Process oriented[xi]	Educator-dependent (face to face contact, lecture), need a caring environment, in charge of own learning, positive reinforcement[ii, vi, x]	Self-directed learning, clear, practical, essential information, don't need instant gratification, flexibility, quick, efficient learning on own terms[ii, vi]; Problem-solving, independent, outcome oriented[xi]	Fast, random thought processes[i]; Pursue life-long learning[i, xi]; Active, independent learners but want an older mentor[ii, vi]; Expect technology, always known digital world, like real-world simulations and experiential learning, accustomed to digital devices[vi, vii, xi]; Value "doing" rather than "knowing"[iii]; Work well in teams[ii, vi, vii]; Difficulty with critical thinking skills[ii, v]; Desire continuous, immediate feedback[ii, xi]

At the time of the data collection phase of this study (2010), the "loyal and patriotic" Silent Generation (born circa 1921 – 1940) correspond to those who are probably of retirement age (70 years and older) and who would not be represented in the Faculty of Health Sciences. The "idealistic and competitive" Baby Boomers (born circa 1941 – 1960) and "sceptical and independent" Generation X (1961 – 1980) embody the majority of staff in the Faculty, including those in management and leadership positions, as well as senior staff members. Students and junior members of the staff corps represent the "collaborative and realistic" Generation Y (1981 – 2000). These traits are referred to in scholarly articles as cited (Billings & Kowalski, 2004; Clausing *et al.,* 2003:373; Howell *et al*., 2005; Johnson & Romanello, 2005; Mangold, 2007; Oblinger, 2003).

Differences in birth year boundaries or generational attributes may be due to the political, economic or socio-demographic environment countries find themselves in. For example, although the typical Generation Y (Millennial) attitudes and actions were seen initially in the U.S.A and Canada, followed by the U.K. and Australia two to three years later, countries in Africa and the Islam nations have lagged somewhat in adopting a Generation Y mindset. Possible reasons for this include that World War II had a lesser impact on these societies, or these countries displayed consistently high birth rates while birth rates in the rest of the world were declining (Howe & Strauss, 2000:e7087,e7118). For the purposes of this research, the birth years for the Generation Y cohort are used as 1981 to 2000.

Furthermore, the term "cuspers" is used to refer to those born in the boundary years of successive birth cohorts, and who may display attributes that are a mixture of the generations directly before or after their birth years. "Cuspers" are thought to be particularly good at acting as buffers in intergenerational conflict in working environments due to straddling the generational divide (Sutton, 2005:Online).

2.5 GENERATION Y

According to the birth years for the Generation Y cohort, their age in years during the study duration (2009 – 2011), would range from 9 – 29 years. Current undergraduate students in the FoHS, UFS, would most likely be in the age range of 18 – 25 years, as most students enter higher education directly after school, and the duration of the longest course

in the FoHS is five years. This means that these students are well within the described birth years for the Generation Y cohort.

The following discussion will focus on the definitions (nomenclature and demography) of Generation Y, their typical characteristics as depicted in the literature, as well as how this generation cohort is viewed in the higher education environment, specifically Health Sciences Education.

2.5.1 Definitions

The following sections describe the terminology and demography associated with Generation Y.

2.5.1.1 *Terminology*

Howe and Strauss (2000:e122) suggested the term "Millennials" as a preferred name for the generation cohort born from circa 1982, as their coming of age occurs in the new millennium. The name "Millennials" is regarded as more original and descriptive than for example "Generation Y" (following Generation X) as the third most popular name for this group, or the "Echo Boomers" (copying the Baby Boomers) (Howe & Strauss, 2000:e254-e262).

The term "Digital Natives" has been coined, referring to the ubiquitous presence of technology in their world (Prensky, 2001:Online), while others refer to them as the "Net Generation" or Generation C as a result of the great impact of computers and technology on their environment, as indicated by the scholarly literature (Duncan-Howell & Lee, 2007; Kennedy et al., 2010; Sandars & Morrison, 2007). Sociologists including Twenge (2009:401-402) have described longitudinal changes in generational characteristics and use the term "Generation Me", referring to the greater trend towards narcissism observed in this cohort.

For the purpose of this discussion and throughout this thesis, the term Generation Y will be used to describe the birth cohort born between 1981 and 2000 (Clausing et al., 2003:373). As stated by Nimon (2007:25), "…the critical factor in understanding a generation's

characteristics and behaviour is less a fixation on an exact starting point and more the realisation of how social perspectives, values and practices within a given period influence and shape the outlook of those who were at a formative age at the time".

2.5.1.2 *Demography*

By 2000, Generation Y, the most diverse population ever in the U.S.A. in terms of race and ethnicity, numbered 76 million (Howe & Strauss, 2000,:e321-e325). As pointed out by Pham et al., (2008:Online), Generation Y will be the next big population group comprising 72 – 80 million in the United States (U.S.). According to the U.S. Census, Generation Y made up 31% of the U.S. population in 2009 (Mohr et al., 2011:192).

In the U.K., Hoare (2008:Online) indicated that people up to 28 years of age make up about 20% of the population. As they complete education and enter the workplace, they will soon replace a retiring Baby Boomer generation (born approximately 1941 – 1960), filling the spaces left by a much smaller Generation X (born approximately 1961 – 1980), and will be a force to be reckoned with. In the U.K., various employers have recognised the need to be cognisant of the needs of the new members of the labour force, as well as of the potential conflicts that arise in the work environment due to generational diversity (Hoare, 2008:Online).

Many organisations track generational changes, including their demographics as well as shared values, attitudes and experiences, and offer workshops and training programmes to address intergenerational conflicts and the management of Generation Y (Arnsparger, 2008:Online; Codrington, 2008:Online; Kelan, 2008:Online; Robert Half International, 2008:Online).

For example, the Pew Research Centre in the U.S.A published its 2010 report based on findings of a telephonic survey of 2020 adults, and building on longitudinal data since 2006. The report aims to "shine a light on what they are like today – and on what America might be like tomorrow", and includes a series that describes the values, attitudes and experiences of the next generation in the U.S.A., and included a nationally representative sample of 2020 American adults. Conducted telephonically, the sample included 830 respondents aged 18 – 29 years. The 2010 descriptive report data were supplemented by

amongst others additional Pew Research Center surveys, Census Bureau data, as well as the General Social Survey and the Gallup Organization surveys in the U.S.A. (Taylor & Keeter, 2010:Online).

This report painted a picture of a confident, connected and open-minded generation, the most racially and ethnically diverse in the history of the U.S.A., immersed in digital technology and for whom self-expression has taken on entirely new and radical forms including social networking and tattoos (Taylor & Keeter, 2010:Online). In the U.S.A, Generation Y is said to consist of at least 36% to 39% non-White or Hispanic members (Hill, 2004:34; Taylor & Keeter, 2010:Online).

In the Gen Y Perceptions Study, an online survey was done over a six-month period including more than 700 respondents, focusing on intergenerational perceptions (Pham et al., 2008:Online). The aim of this survey was to improve understanding of the issues that lead to conflict in the workplace. The survey was in the form of 22 commonly heard statements about Generation Y. Respondents rated their agreement or disagreement with these perceptions making use of a Likert scale. Perceptions rather than preferences were determined, because these authors assumed that respondents would give answers that are more honest if it were about their generation as opposed to themselves.

This survey subsequently found that most Baby Boomer and Generation X respondents did not agree with the perceptions that Generation Y are not willing to pay their dues, and are good at multi-tasking and teamwork, although more agreement existed in the perceptions that Generation Y want instant gratification and feel entitled to job benefits not yet earned (Pham et al., 2008:Online).

The Harvard Business Review (May 2010) pointed out that by 2014, almost half of the world's workforce will consist of the so-called Millennials or Generation Y (Meister & Willyerd, 2010:68-72), and that they exhibit distinctive work values, behaviours and expectations, impacting on their performance as employees as well as on the interactions between the generations in the workplace.

In 2010, The American Society of Trial Consultants pointed out the importance of recognising and accurately describing the Millennials as a generation who will become jurors or members of the law profession. They suggested specific guidelines for both

Millennials and those they work with to overcome potential intergenerational conflict (Keene & Handrich, 2010:41).

Future research into Generation Y (born approximately 1981 – 2000) may include the areas of future information technology (IT) development, education, a mobile workforce and career and lifestyle choices (Mills et al., 2007:Online).

2.5.2 Characteristics of Generation Y

Much of the popular discourse surrounding Generation Y is based on Howe and Strauss' descriptions of an affluent, better-educated, bold, optimistic cohort of team players who are characterised by good conduct, ambition and great achievement. They are also said to be the products of a busy, sheltered and structured upbringing that have expectations for reinforcement and recognition. Global citizens representing diversity and multiculturalism, they are the first generation to be defined by the technological revolution (Howe & Strauss, 2000:e146-e239; Mohr et al., 2011:193) and for whom technology has always been a part of their lives (Nimon, 2007:26).

As noted in the PEW Research Center Report of 2010 (Taylor & Keeter, 2010:Online), Generation Y consider themselves unique because of their use of technology, the pervasive music and popular culture, their liberal, tolerant attitudes, their perception of being "smarter" than other generations, as well as their clothing. While other generations also perceive themselves to be unique, for example Generation X who consider their technology use and work ethic as defining characteristics, and the Baby Boomers who list their work ethic and respectful attitude as outstanding, fewer members of these generations emphasise their uniqueness.

Furthermore, it is important to bear in mind that there are considerable differences within generations, adding to the complex nature of the study of distinctive generational traits (Bonfiglio, 2008:30; Coomes & DeBard, 2004:13-14; Taylor & Keeter, 2010:Online). Especially regarding technology, one would be wise to refrain from the generalisation that the new generation of students have uniform engagement or skill with emerging technology (Bennet et al., 2008:783).

The discussion on the characteristics of Generation Y is divided into the following sections:

- Values and Behaviours

In this section, the attitudes, goals and ideals that influence the perceptions and therefore values and behaviours of Generation Y, will be described.

- Communication styles, skills and needs

Largely, technology is the major factor affecting communication for Generation Y, also contributing to marked intergenerational differences.

- Learning styles and needs

In the higher education environment, different generations co-exist, calling for greater understanding. In addition, teaching and learning approaches are constantly evolving, and must take into account generational influences on learning.

- Environment and shaping events

The premise for generational theory is based on the mutual history, world events and pervasive social environment shared by individuals of a certain age, which leads to the worldview associated with different age cohorts in a population.

2.5.2.1 *Values and behaviour*

Described as optimistic, bold, assertive, self-reliant, collaborative team players, Generation Y tend to express their opinions easily but still follow rules and trust authority (Earle & Myrick, 2009:625; Gibson, 2009:37; Mohr et al., 2011:193; Skiba & Barton, 2006:Online; Walker et al., 2006:372). Brought up to be self-reliant and questioning, they easily challenge authority, believing that respect is earned, not conferred by seniority (Keene & Handrich, 2010:41; Lower, 2008:80; Walker et al., 2006:372).

As they were encouraged to express their opinions from an early age, they appear highly self-confident (Hill, 2004:35). Their assertive attitude and questioning nature coupled with a high-stakes, competitive environment often leads to perceived uncivil behaviour and conflict between lecturers and students (Earle & Myrick, 2009:625; Suplee, Lachman,

Siebert, & Anselmi, 2008:68 - 69). For example, if students engage in the use of technology during class sessions, lecturers may interpret this as incivility, while students regard this as multi-tasking (Pardue & Morgan, 2008:75). In addition, many grew up in environments with unrealistic expectations of success ("anyone can become a star") and set high standards for themselves, and so they experience any feedback besides praise as devastating (Keene & Handrich, 2010:41; Lower, 2008:82).

They highly value work-life balance and are good at multi-tasking and problem-solving (Arhin & Cormier, 2007:562; Gibson, 2009:37; Mangold, 2007:22; Notorianni, Curry-Lourenco, Barham & Palmer, 2009:262; Pardue & Morgan, 2008:74). Although they enjoy being supervised in a structured environment (Notorianni et al., 2009:262), they also need flexibility in work arrangements to achieve work-life-balance. For them, recognition and reward does not necessarily translate to financial incentives (Carver & Candela, 2009:989). They are regarded as hopeful and fun-seeking, craving especially visual stimulation and entertainment (Arhin & Cormier, 2007:562; Lower, 2008:80; Mangold, 2007:22).

2.5.2.2 *Communication styles, skills and needs*

Cell-phones, e-mail and the Internet are commonly used communication tools, ensuring constant connectivity (Billings & Kowalski, 2004:104; Hill, 2004:25). They have access to, use and expect extensive technology applications (Billings & Kowalski, 2004: 104; Hill, 2004:38; Mangold, 2007:22; Walker et al., 2006:372), often causing them to seem impatient (Mohr et al., 2011:193). Furthermore, social networking has led to integration of work and home life, but at the same time selective availability as a means of collaborating asynchronously – being available "online" but not accessible at work, in other words, a recipe for potential conflict (Mohr et al., 2011:193). However, Generation Y students also expect supportive mentoring and value relationships (Billings & Kowalski, 2004:104), in contrast to Generation X (born 1961 – 1980) who are said to be distrustful of authority (Mohr et al., 2011:193).

Generation Y is often described as "technologically savvy" (Arhin & Cormier, 2007:562; Codrington, 2008:Online; Notorianni et al., 2009:262) or "technologically advanced" (Walker et al., 2006:372). Frand (2000:Online) mentioned "the information-age mindset"

emphasising the role of technology in higher education. Although access to technology may be restricted in different spheres of society, it is their attitude to technology that sets Generation Y apart. An ubiquitous part of their everyday life, technology provides the tools with which they work and play, their means of self-expression and communication; in fact, it is an integral part of their life experience (Nimon, 2007:26). Their superior skills in the use of technology may lead to impatience with older generations' seeming inability to master technology, generating contempt for senior staff members (Mohr et al., 2011:193).

However, research by the British Library and Joint Information Systems Committee have indicated that while Generation Y students are tuned in to technology, they may not be as proficient at using it in an educational context, and that many age groups share online research behaviours (Venkatramen, 2009:Online). The impact of technology is so great, however, that whether it is associated with a specific age group or with an era in time, its effects are felt keenly in the educational environment, forcing lecturing staff to adapt (Oblinger & Oblinger, 2005:Online). The difference in generations lies in whether technology has always been a pervasive influence in their lives, or whether they have adopted technology into their environment – "digital natives" vs. "digital immigrants" (Skiba & Barton, 2006:Online).

A project supported by the Carrick Institute for Learning and Teaching in Higher Education in Australia was designed as an attempt at addressing the lack of empirical research data on the Net Generation (Generation Y) and the challenges that arise for higher education from the unique needs and expectations of a new generation of students. Their focus was specifically on the use of emerging technologies and technology-based tools. For this purpose, they made use of the "Experience with Technology Questionnaire" for both students and staff. However, these questionnaires were not designed to survey other aspects of generational characteristics besides technology. The research team was intent on developing guidelines to be used in the approaches to teaching and learning incorporating emerging technologies (Kennedy, Krause, Gray, Judd, Bennet, Maton, Dalgarnot & Bishop, 2006:413-417). Subsequently, some of the latter authors have concluded that students' use of emerging technologies showed great variation in terms of accessibility and familiarity of use among different student groups, necessitating a more cautious approach to reform in pedagogical approaches with reference to emerging technologies (Kennedy et al., 2008:16).

Similarly, the ECAR (EDUCAUSE Center for Applied Research) Study of Undergraduate Students and Information Technology, a longitudinal research project focused on undergraduate students in higher education in the U.S.A. that makes use of web-based surveys, found that while students indicated widespread use of technology and displayed the typical generational characteristics regarding IT use in communication and social networking, they did not necessarily prefer IT use in their academic courses, and desired that it is balanced with face-to-face contact with academic staff (Caruso & Salaway, 2008:Online).

Generation Y is also seen as more casual, informal and flexible. Their communication may lack interpersonal skill, tact or diplomacy because of the extensive use of technology rather than face-to-face contact. Furthermore, their means of self-expression, for example tattoos, leads to conflict, especially in the working environment (Keene & Handrich, 2010:41; Lower, 2008:82). They are also believed to be more tolerant and open-minded due to greater exposure to diversity in all its forms (Gibson, 2009:37; Keene & Handrich, 2010:41; Skiba & Barton, 2006:Online).

2.5.2.3 *Learning styles and needs*

Current literature examines the characteristics of generational cohorts, which place them in positions of specific influences on their learning (Earle & Myrick, 2009:625). However, much criticism is expressed when attempting to attribute general learning preferences to a generation cohort (Bennet et al., 2008:780). Due to frequent reward and praise as children, they expect praise and regular, respectful feedback (Billings & Kowalski, 2004:104; Earle & Myrick, 2009:625; Mohr et al., 2011:193; Notorianni et al., 2009:262).

They have a need for instant gratification (Arhin & Cormier, 2007:562) as well as a sense of entitlement, and may desire personalised educational experiences (Costello, Lenholt, & Stryker, 2004:452; Reeves, 2006:Online; Sandars & Morrison, 2007:89; Twenge, 2009:398) or even individualised, structured learning experiences with limited contact – a form of independent learning (Mohr et al., 2011:194). They want to "construct information" independently, and enjoy innovation and exploration (Billings & Kowalski, 2004:104; Skiba & Barton, 2006:Online).

Lower (2008:82) mentions their preferred learning styles as "listening, seeing and doing", referring to their exposure to the latest technology and fun-based learning activities, albeit in a structured environment. Technological advances have led to a preference for the online environment where updated information is easily accessed and stored electronically, leading to a devaluing of text knowledge (Johnson & Romanello, 2005:214; Mangold, 2007:22; Mohr et al., 2011:196; Notorianni et al., 2009:262). Some authors refer to their "addiction to visual media" (Walker et al., 2006:372) and their supposedly primary visual learning style (Weiler, 2004:46). They are regarded as active learners preferring group and hands-on activities as well as technology (Hunter-Revell & McCurry 2010:272; Notorianni et al., 2009:262; Pardue & Morgan, 2008:75; Skiba & Barton, 2006:Online), are easily bored (Arhin & Cormier, 2007:562) and want to be entertained (Lower, 2008:80). Their thought processes are fast and they like constant change and challenge (Lower, 2008:80; Mangold, 2007:22; Pardue & Morgan, 2008:75).

However, limited data have indicated that Generation Y students may actually still prefer traditional lecture-based educational environments, as opposed to Web-based approaches or group work, although these findings are not widely supported (Earle & Myrick, 2009:626). Additionally, Pardue and Morgan (2008:75) argue that Generation Y students lack certain academic abilities, and need to be taught "quiet contemplation, critical reflection, skills of scholarly expression and the ability to hone in on and discern large amounts of data. It has also been mentioned that while Generation Y students are adept at accessing information electronically, their cognitive abilities are not yet fully developed at undergraduate level, and that they need to develop critical thinking and reflective learning skills (Weiler, 2004:46). The excessive exposure to media and technology may in reality have led to worsening of their interaction, critical reasoning and reflection skills (Reeves, 2006:Online).

In summary, Generation Y students bring to the learning environment their needs for "digital literacy, experiential and engaging learning, interactivity and collaboration, and immediacy and connectivity" (Skiba & Barton, 2006:Online). However, as cautioned by Kennedy et al., (2006:414-416), although the digital culture has greatly influenced Generation Y's preferences for information-seeking and handling behaviour, as well as their learning and communication style, sound evidence is needed to guide decisions

regarding the implementation of Information-Communication Technologies in the higher education environment.

2.5.2.4 *Environment and shaping events*

Growing up in the U.S.A., Generation Y was greatly protected and cherished, nurtured in close family relationships and following structured lives (Mohr et al., 2011:193). Their lives were organised and full of activities, and closely watched over by "helicopter parents" (Hill, 2004:35; Johnson & Romanello, 2005:214; Mangold, 2007:22; Pardue & Morgan, 2008:74). They share a global outlook towards making a positive contribution to societal issues (Mohr et al., 2011:193; Walker et al., 2006:372), and are said to be "future-oriented" and "altruistic" (Clausing et al., 2003:373). Their work should make a difference to the world (Carver & Candela, 2009:989).

Their world was formed by global events and trends including HIV and AIDS, the 9/11 terrorist attacks and Iraq wars, ever-present technology for example cell phones, the Internet, virtual reality, 24 hour media, political correctness, multiculturalism and diversity (Lower, 2008:82).

2.5.3 Generation Y in higher education

In the following sections, the role and impact of Generation Y in the higher education environment, specifically Health Sciences Education will be discussed.

2.5.3.1 *Role and impact of Generation Y in higher education*

The Educause Center for Applied Research (ECAR) constantly updates its data regarding technology use among college students, and their 2006 report included data from more than 28 000 respondents from 96 colleges across the U.S.A. As stated above (cf. **2.5.2.2 Communication styles, skills and needs** p. 38), the 2008 ECAR report, investigated students' familiarity with IT (as in the previous ECAR surveys) as well as including a new section with questions on social networking. The latter report surveyed more than 27 000 respondents from 98 institutions (Caruso & Salaway, 2008:Online).

In a South African context, research done on students who would fall into the Generation Y cohort at four higher education institutions found variable use, proficiency, and access to Information-Communication Technology (ICT), including computers. The survey revealed that 26% of students could be described as having used a computer since the age of 12 years ("digital natives") or having more than 10 years experience, while 33% had less than 4 years and 17% less than 2 years experience with the use of computers. In the "digital natives" group, students were mostly English (32%) or Afrikaans (40%) speaking, had widespread access to ICT at home (73%), regarded their skills as good or excellent (75%) and reported high social use of these technologies (65%). Notably, 22% of students in this survey had less than 4 years experience, and would consequently not be defined as "digital natives", had home languages other than English or Afrikaans, were from poorer socio-economic backgrounds and had very limited access to computers. This study concluded that there was a deepening "digital divide" in South Africa with regard to ICT use, but suggested that innovative application of highly prevalent cell phone access could address these inequalities towards creating a "digital democracy" (Brown & Czerniewiscz, 2010:357).

Reeves' criticism of the trend towards incorporating generational theory in instructional design is based largely on the survey data used to characterise Generation Y students. As he pointed out, these surveys tended to include only middle to upper socio-economic groups of people who were more likely to enter institutions of higher education or follow professional careers (Reeves, 2006:Online). Brown and Czerniewicz (2010:358 -367) noted the effect of socio-economic background on students' access to and familiarity with the emerging technologies in the abovementioned study in a South African context.

In an Australian study where data was collected from 2096 students aged 17 – 26 years enrolled in three universities, Kennedy et al. (2010: 332,333,349) found that 45% of students were "basic" users of emerging technologies, and only 15% fitted the definition of "digital natives" for their extensive and advanced use of technology. They concluded that engaging in sweeping curriculum reform or educational shifts based on assumptions or anecdotal discourse on the "Net Generation" is not justified. Furthermore, students' variable proficiency at educational use of technology requires that these skills are taught and supported in the higher education environment.

To provide a picture from another context, a study on Chilean high school students revealed that there is no definite congruence with the widely held notion of a new generation characterised by its technology use or multi-tasking ability. It was found that while technology use was pervasive for social purposes, it was variable and not determined extensively by socio-economic background as much as by gender (males indicated more extensive technology use). Furthermore, students displayed "sophisticated attention management practices" rather than the commonly referred to multi-tasking ability and these students emphatically preferred face-to-face communication in lieu of electronic forms of social interaction, which are viewed as complementary forms of communication (Sanchez et al., 2010:1-14).

2.5.3.2 *Generation Y in Health Sciences Education*

In Health Sciences Education, limited data are available regarding the generations from surveys done on medical, nursing or allied health professions students. Most authors extrapolate commonly held perceptions from the popular media to medical or nursing students, or generalise according to personal experience with undergraduate students, and address issues arising from these without obtaining direct evidence from specific student bodies.

As stated by Howell et al. (2005:527) the medical work environment is one where the generations interact on a regular and obligatory basis and an entrenched hierarchical style may elicit intergenerational conflict. This has led to a structured set of responses by University of California, Davis, School of Medicine in order to address the challenge of a multigenerational workforce in the academic medicine environment based on the existing literature regarding generational conflicts (Howell et al., 2005:528-531). These authors indicated that issues regarding workload, working hours and compensation, performance evaluation and promotion, recruitment and retention of quality staff as well as attendance of essential meetings were some of the areas impacted by a multigenerational staff composition (Howell et al., 2005:528,529).

Boateng (2011:Online) determined the perceptions of fourth year medical students in a U.S.A. southern medical school in 2007 and who belonged to different generational cohorts regarding the instructional practices they viewed as important both in the lecturing

or clinical teaching setting. This was done by means of a questionnaire developed from the literature describing the perspectives of higher education students. This was a quantitative survey, and the questionnaire included a demographic section and four questions regarding the instructional environment with responses that were ranked according to importance.

The abovementioned survey included 160 fourth year medical students' perspectives, and findings included that students preferred sound educational practices that are theory-driven and focused on learner engagement as well as active, experiential, relevant and sensitive to individual backgrounds and learning styles. To this end, students indicated that they desired a mixture of didactic lectures and online instruction, and that group work combined with online methods was least preferred. Males and females were different in terms of their respective emphasis on "procedural learning" versus "acquiring communication skills". While this study was limited by its low response rate from self-reported survey questions, it does point to the need for evidence regarding students' preferences in the learning environment when planning innovative teaching strategies (Boateng, 2011:Online).

The Society for Academic Emergency Medicine Aging and Generational Issues Task Force have addressed the impact of generational issues in the Emergency Medicine working environment by means of an extensive literature review and a consensus document from a working group utilising Delphi methodology. They presented their findings in a two-part series aimed specifically at Emergency Medicine and the function of Academic Emergency Departments, focusing on addressing the needs of Generation Y students as well as methods of minimising intergenerational conflict (Mohr et al., 2011:193).

In a study conducted at the Northeastern Ohio Universities College of Medicine, Borges et al. (2006:572-575) used Cattell's 16 Personality Factor (16PF) Questionnaire in an attempt to provide quantitative data on the personality differences between Generation X and Generation Y at the Northeastern Ohio Universities College of Medicine. Their results raise various issues, for example, whether the more independent and unstructured revised curriculums many medical schools have adopted really meet the needs of Generation Y that seem to desire structure and supervision. From this study, the authors recommended that other theoretical models of personality differences between generations or men and

women are also used to explore students' characteristics, for example, their values and learning styles, to facilitate a more comprehensive picture of medical students.

Kennedy et al. (2008:Online) reported on 207 pre-clinical and 161 clinical Australian medical students' technology skill, use and access. They found varying familiarity with new technology. For example, the use of computers and mobile phones was "standard"; the Internet was used for the purposes of leisure time, podcasting and services. There were significant differences in experience between pre-clinical and clinical students, as well as between students in terms of access to and capability with technology-based tools.

Numerous authors have mentioned the impact of intergenerational differences on the nursing working environment, both in the U.S.A and Australia (Carver & Candela, 2009:984; Hill, 2004:32; Walker et al., 2006:371). Similarly, in nursing education, various authors have used existing literature that describes the generations as a basis for their suggestions in the management of teaching and learning issues arising from intergenerational differences and conflicts (Johnson & Romanello, 2005:212; Mangold, 2007:21; Pardue & Morgan, 2008:74).

In nursing education, a study of the generational differences of U.S.A Generation X and Y nursing students' learning styles and preferences, yielded interesting results. No significant differences were found between these generations' preferences for teaching methods. In spite of the described technologically oriented environment of Generation Y students, they preferred structured face-to-face lecture formats instead of group work or online learning (Walker et al., 2006:373-374).

However, McCurry and Martins (2010:276-279) found support for the literature in their study on Generation Y nursing students' opinions on innovative strategies that were used for teaching research in undergraduate nursing. Using a qualitative instrument, their results indicated that their students regarded the described activities as more useful to achieve intended outcomes, and that they preferred interactive, experiential, group-based, collaborative activities. Examples of such activities included "active learning assignments, reading quizzes, clinical nurse researcher presentations and collaboration with clinical course assignments" (McCurry & Martins, 2010:276).

2.6 THE HIGHER EDUCATION TEACHING AND LEARNING ENVIRONMENT

In the following sections, the changing teaching and learning environment, including the challenges in Health Sciences Education and the South African context, as well as the guiding principles and theory, including teaching and learning approaches, learning styles, cultural effects on learning, innovation and ICT and adult learning principles will be discussed.

2.6.1 The changing teaching and learning environment

Just as the 21st century has brought new generations of students to higher education, advances in technology and communication require that our teaching and learning approaches change from passive to active learning, from surface to deep approaches and from a teacher-dominated to a learner-centred approach (Brown, Kirkpatrick, Mangum, & Avery, 2008:283-286). In fact, a "paradigm shift in nursing pedagogy" has been advocated to ensure that the needs of future generations are met (Allen, 2010:33-38). This would certainly be applicable within all fields of Health Sciences Education.

Additionally, the so-called "Net Generation" (Generation Y) differs in essential behaviours from previous generations, as observed in the learning, working, social, consumer and communications environment. Therefore, current undergraduate students present a challenge to educators at universities and specifically medical schools to use and create an appropriate teaching and learning environment (Sandars & Morrison, 2007:85-88).
The following sections will describe the pedagogical challenges posed in Health Sciences Education, specifically in the South African context.

2.6.1.1 *Challenges in Health Sciences Education*

The ultimate goal of education in the health professions is to ensure that trained professionals are equipped with the knowledge, skills and behaviours to ensure that patients and the wider community receive excellent and efficient healthcare (Phillips, 2008:705). This means the "construction of a professional identity", requiring transformative, life-long learning (Mann, 2010:61-62). To this end, Health Sciences

Education has to respond to the society it serves (Frank et al., 2010:Online; Gukas, 2007:887-892). Therefore pedagogical approaches should constantly evolve to meet changing needs and values (Phillips, 2008:705).

In addition, medical education has included sociological and anthropological perspectives to better understand the forces at work in the learning environment (Mann, 2010:62). In fact, Mann (2010:61) argues that since Flexner's model of a science-based curriculum where a pre-clinical phase of knowledge acquisition is followed by clinical phase of application where the teacher was responsible for transmitting knowledge, medical education has undergone major shifts in its theoretical and philosophical frameworks. Instead of passive recipients of learning, students are now regarded as "active knowledge builders", and the "learner-centred" curriculum depends on the learners' needs as well as relationships between teachers and learners. Medical education aims at promoting self-directed, life-long learning and personal development, by meeting specific needs through tailoring of educational methods (Gukas, 2007: 887-892).

The educational environment is enhanced if lecturers impart quality to their teaching and if the student-lecturer relationship is sound (McMillan, 2007:e209). Blackie et al., (2010:642-643) argue for an attitude of intentional "caring" towards students, which takes into account the emotional aspects of learning.

In a report highlighting the deficiencies of and therefore need for the redesign of health professions education to "advance health by recommending instructional and institutional innovations to nurture a new generation of health professionals who would be best equipped to address present and future health challenges" (Frank *et al*., 2010:Online), the authors propose a "third generation" of reforms beyond the science-based curricula and problem-based learning of the 20th century to a systems based approach. The ultimate aim is to enhance health systems by developing core competencies without negating global knowledge: "...all health professionals in all countries should be educated to mobilise knowledge and to engage in critical reasoning and ethical conduct so that they are competent to participate in patient and population-centred health systems as members of locally responsive and globally connected teams" (Frank *et al*., 2010:Online).

As stated by McMillan (2007:e209), "The learning environment in health-sciences education has a significant role to play in the development of intellectual and professional

skills in future health-science practitioners." To this end, health professions education needs clear vision, an understanding of the role-players involved in determining the content and process of achieving its intended outcomes as well as the assessment measures to determine whether its vision is ultimately accomplished (Phillips, 2008:706).

2.6.1.2 *South African context*

In the context of higher education, as it applies to Health Sciences Education, and within the unique environment of a South African higher education institution, numerous challenges exist. These include the obstacles faced by students from previously disadvantaged backgrounds who now have access to higher education, including a lack of preparedness for higher education or inadequate competence in the tuition language of the institution (McMillan, 2007:e209-e210).

Issues including increasing enrolment figures with subsequent increased class sizes, greater numbers of Black students since 1994 leading to greater diversity, limited resources as well as demands for innovation in the teaching and learning environment, especially in terms of ICT infrastructure, present institutions of higher education with unique obstacles (Brown & Czerniewiscz, 2010:358 - 359).

The trends in medical education in North America, Europe and Australia have shifted from "information acquisition towards a balance of basic knowledge, communication skills and professional behaviours as the essential competencies of any physician." However, the unique national and cultural identity must be included when planning education for health professionals in any given society (Phillips, 2008:709).

2.6.2 Guiding principles and theory

The changes and adaptations required from higher education have led to the development of formal policies, structures and approaches based on educational theory to ensure that higher education remains viable, available, successful and sustainable world-wide. For example, at the UFS, a Teaching-Learning Policy has been implemented, with the aim "to strive for excellence in teaching and learning practices at the UFS in order to optimise student learning." In order to achieve this, emphasis is placed on practices that encourage a

desire to learn driven by enquiry, critical thinking, reading and writing as well as decision-making skills. For this reason, the UFS strives to create a learning-centred and knowledge-based, outcomes-oriented teaching and learning environment (UFS Teaching-Learning Policy, 2008:Online).

In order to achieve this, the abovementioned Teaching-Learning Policy emphasises the influence of diversity in students' backgrounds (for example educational, cultural), learning styles and needs, as well as factors that lead to effective learning (for example student engagement, active learning, and reflective practice). In turn, effective learning is only possible within an appropriate teaching and learning environment, using innovative approaches, for example, encouraging deep vs. surface learning, engaging students in activities that foster knowledge construction and contextualisation as well as collaboration and tolerance of diversity.

The term Best Evidence Medical Education (BEME) was coined in an attempt to encourage critical reflection about evidence regarding educational practice so that relevant factors may be considered in making decisions about adapting methods or even curricula (Harden & Lilley, 2000:71,88). The abovementioned authors encourage moving away from opinion to evidence when formulating educational approaches (Harden & Lilley, 2000:71-72). In a broader sense, this refers to acknowledgement of the scholarship of teaching and learning (Benson & Brack, 2009:71). The importance of student learning becomes equally emphasised beside other components, including engagement with scholarly literature, reflective teaching practice, and contributing to the research field as mentioned by Benson and Brack (2009:71-72) based on the scholarly writing of Trigwell, Martin, Benjamin and Prosser (2000).

Biggs and Tang (2007:16-19) described three levels of thinking in the teaching and learning environment to illustrate this, namely:

- Level 1: What the student is
- Level 2: What the teacher does
- Level 3: What the student does.

According to these levels of understanding, the achievement of successful outcomes is based on actively engaging students in taking responsibility for their own learning by incorporating teaching and learning activities that encourage active, deep and therefore transformative learning and discourage behaviour that leads to a surface approach to learning that is a mere passive absorption of information. Many of their arguments are based on theories of phenomenography and constructivism, cumulating in a view that "...effective learning changes the way we see the world. The acquisition of information in itself does not bring about such a change, but the way we structure that information and think with it does. Thus education is about conceptual change, not just the acquisition of information" (Biggs & Tang, 2007:21).

Since Abraham Flexner's report that initiated considerable re-thinking, re-examination and re-design of medical education, the discipline has constantly been under the spotlight (Cooke et al., 2006:1229). Postareff, Lindblom-Ylanne and Nevgi (2007:559) refer to "facilitating learning" when a student-centred approach focuses on interaction and active engagement in lieu of the transmission of knowledge by an expert, characteristic of teacher-centred approaches. To this end, Blackie et al. (2010:638) stated that student-centredness is a "threshold concept" – "transformative," "irreversible" and "integrative" - indicating a paradigm shift away from the traditional teacher-centred and content-oriented approach

Chickering and Gamson (1987:3-7) outlined the Seven Principles for Good Practice in Undergraduate Education in response to demands for improved undergraduate education, initiating a widespread and enthusiastic adoption of these principles in pedagogical discourse, educational applications as well as research (Chickering & Gamson, 1999:75-81). These principles were further expanded to form the Twelve Attributes of Quality in Undergraduate Education, the basis of the report Making Quality Count in Undergraduate Education (Education Commission of the States, 1995). These principles as well as various adaptations have been used widely to inform and develop guidelines for educational approaches (Benson & Brack, 2009:71-80; Chickering & Gamson, 1999:75-81; Cross, 1999:255-270; Wilson, 2004:Online).

From this background, various teaching and learning approaches have been put forward to ensure that higher education achieves its intended outcomes. Without a robust conceptual

framework, it would be impossible to address the "contextual, negotiated nature of knowledge" (Benson & Brack, 2009:73), nor would "fundamental growth in the person of the student" be attainable. This is based on the theory described by Blackie et al. (2010:638,639) on ontological learning (the student as a person developing values and attitudes) and epistemological learning (increase in the student's knowledge and skills). In addition, lecturers' underlying belief systems, values and epistemological assumptions exert compelling influences on their interpretation of their teaching practices (Benson & Brack 2009:73).

2.6.2.1 *Teaching and learning approaches*

Canning (2007:399) argues that the term "pedagogy" encompasses more than the interaction between the teacher, learner and knowledge, as indicated in the scholarly work of Lusted (1986). It must of necessity include the impact of the whole environment of higher education, derived from the writing of Castree (2003) in conjunction with the scholarships of teaching, discovery, integration and application, as suggested by Boyer (1990). In spite of sound pedagogical frameworks, training or expertise in instructional practices and learning theories, individual lecturer's approaches to teaching are based more often on "personal experience in learning and teaching the subject matter" – a combination of craft knowledge and pedagogical content knowledge (McKenna & Yalvac, 2007:406-407). This is evident in Health Sciences Education where expertise in one's subject matter (or craft knowledge) does not imply teaching expertise. It does, however, inform pedagogical content knowledge, enabling one to recognise areas where students experience difficulty in learning and subsequently employ strategies to most effectively and powerfully enhance their understanding. Significantly though, this implies a fundamental juxtaposition from knowledge transmission to that of a learner-centred instructional approach which is based on concern for students and their learning and advocates conceptual change (McKenna & Yalvac, 2007:409-410).

In the field of Health Sciences Education, teaching and learning approaches vary from so-called traditional lecture-based or conventional curriculums to student-centred, case-based and problem-based learning (Harden et al., 1999:553; Rideout, England-Oxford, Brown, Fothergill-Bourbonnais, Ingram, Benson, Ross & Coates, 2002:3-17). Spencer & Jordan (1999:1280-1282) reviewed the theories underlying self-directed learning as the method of

choice to encourage active, deep and life-long learning. Collaboration is a vital element in developing responsibility and independence, leading ultimately to self-directed learning. This is fostered when students perceive that they can influence their own learning ("become agents in the learning situation") (Silen & Uhlin, 2008:464).

There are constant challenges to the fundamental principles informing teaching and learning approaches to ensure that students develop more than just a scientific body of knowledge, but are also equipped to be skilled at reasoning, practical application, compassionate action as well as possessing integrity of character (Cooke et al., 2006:1339). Haggis (2006:5) argues for a "process-based view" which aims at identifying the problems in higher education practice that prevent meaningful learning and not merely a "static condition-based view of the individual learner".

Much of the success of students' outcomes depends on good relationships between students and lecturers (Mangold, 2007:21; McMillan, 2007:e209) as well as the quality of teaching. As suggested by Haggis (2006:3), in lieu of focusing on innovative methods only to increase the accessibility of higher education, emphasis should also be placed on "how teaching is done". This focus is determined by the requirements of the institution as well as the public it serves, and in the case of Health Sciences Education, this would refer to the patients and their families populating the health care system. For example, McMillan (2007:e211) argues that university lecturers must be flexible and empowered to make decisions about their teaching that is suitable for their specific context and discipline.

Sandars and Morrison (2007:877) investigated so-called Net Generation medical students' learning preferences, making use of the theory of Multiple Intelligences, as proposed by Howard Gardner (Smith, 2002:Online) and suggested the term "learning ecology" in reference to the optimal teaching and learning environment. Oblinger and Oblinger (2005:Online) found that current undergraduate students who are reportedly more proficient at learning in technology-rich, multimedia environments that encourage them towards active, group-based projects, have learning preferences that do not facilitate reflective learning. Reflective learning is regarded as an essential component to the undergraduate curriculum for the development of professional and personal skills, yet students apparently do not practise it unless it directly affects assessment (Grant, Kinnersley, Metcalf, Pill, & Houston, 2006:379-388). Portfolios have been suggested as a

means of encouraging reflective learning, provided they are implemented using specific guidelines (Buckley, Coleman, Davison, Khan, Zamora, Malick Morley, Pollard, Ashcroft, Popovic & Sayers, 2009:283; Driessen, Van Tartwijk, Overeem, Vermunt & Van der Vleuten, 2005:1235).

Our understanding of learning has expanded. Theoretical frameworks, including for example social cognitive theory, see the learner as an active participant in the learning process, whose goals, attitudes, values, knowledge and experience contribute to learning within an appropriate environment (Mann, 2010:63). To this end, the teaching and learning environment must be conducive to the achievement of intended outcomes by means of appropriate teaching strategies and learning activities as well as assessment practices. Biggs and Tang refer to this as constructive alignment (2007:3), and suggest outcomes-based education or outcomes-based teaching and learning as an example: "Standards are stated up front and teaching is tuned to best meet them, assessment being the means of checking how well they have been met" (Biggs & Tang, 2007:5). As elucidated by Biggs and Tang (2007:11-12), much controversy and confusion clouds the discourse regarding various forms and interpretations of this concept and its practical application - a discussion on which falls beyond the scope of this thesis.

However, suffice to say, that outcomes-based teaching and learning is intended to enhance and optimise the environment in which motivated students may engage actively with learning content in a specific context in order to successfully achieve previously stated intended learning outcomes, through the process of constructive alignment.

Shreeve (2008:23-25) summarised additional approaches including:

- Adult-based learning (utilising student commitment and prior experience and knowledge to encourage active involvement in the planning and participation of the learning experience)
- Problem-based learning (an approach where small student groups are encouraged to find solutions to realistic and applicable clinical problems making use of group interaction)

- Experiential learning theory (a departure from outcomes-based learning where the process is the focus rather than the achievement of outcomes, and experience is emphasised as learning method)
- Appreciative enquiry (developed from business, it makes use of principles of discovery and exploration of excellence and positive improvement of existing strategies by making this information available in a context of participation and facilitation).

When planning instructional approaches, theoretical frameworks may be regarded as foundational. The ontological and epistemological viewpoints and value systems of academic staff will contribute to fostering interaction and the creation of healthy learning communities that take into consideration the "personal and emotional dimensions of learning". Practical strategies include scaffolding, contextualising and multiple representations (McKenna & Yalvac, 2010:414-416). This places much emphasis on the role of the lecturer, or level two understanding as described by Biggs and Tang (2007:10-16), subtly precluding the students' maturation into life-long, self-directed learning. An understanding of generational uniqueness would certainly contribute positively to learning when viewed from the perspective that it changes the level of understanding to what the student does, namely level three (Biggs & Tang, 2007:10-16).

2.6.2.2 *Learning styles*

Learning styles refer to the typical approaches of students to learning, based on cognitive, personality and behavioural factors (Evans, Cools & Charlesworth, 2010:467-478). Ramsden (2006:Online) argues that students learn by various means and at different tempos. How this takes place depends on motivation, ability, peer pressure, available learning resources, previous knowledge and learning opportunities outside the classroom amongst others. Discovering students' learning styles and needs contributes to understanding their approaches to learning, and may guide choices in educational activities and context and therefore improve their educational experience (Biggs & Tang, 2007:; Earle & Myrick, 2009:627; Evans et al., 2010:467-478; Romanelli, Bird, & Ryan, 2009:1-4).

Deep and surface learning present two opposite ends of a spectrum that describes student's approaches to learning. It should be noted that the terms "deep" and "surface" learning are

not fixed identifying characteristics of students (for example he/she is a deep learner), but rather the (mostly subconscious) stance students adopt towards learning tasks. While these approaches are linked closely with whether students have intrinsic or extrinsic motivation, students may use both approaches depending on their preference at a specific time or within a particular subject (Atherton, 2005:Online). Additionally, to what degree students regard their work as worthwhile influences the effort they put into their learning (Biggs & Tang, 2007:32-33).

Ultimately, success depends on students adopting a deep approach to learning. All of these factors are affected by the climate created by interaction with students – when it is productive and supportive, optimal learning occurs (Biggs & Tang, 2007:37-38).This implies that the lecturer can positively influence students' approach, and the good lecturer will attempt to do just that.

Deep learning (what is desired) happens when students actively engage with the subject at hand, and they attain knowledge that is applicable and ultimately valuable. This internalised permanent form of learning is more "real". Surface learning (not desirable) is the result of rote learning, or a superficial short-term acquaintance with facts that does not reflect understanding or meaning – often called "missing the point" (Atherton, 2005:Online).

When students engage in activities that are at a low level and do not allow for achieving intended learning outcomes, it is regarded as a surface approach, in contrast to engagement in activities that allow for achieving higher order intended learning outcomes including reflection, application and synthesis of new knowledge, described as deep learning (Biggs & Tang, 2007:29).

Various instruments are currently available to determine students' preferred learning styles, and are valuable to gain understanding of an increasingly diverse student body (Evans et al., 2010:467-478; Romanelli et al., 2009:1).

The use of the **VARK learning styles** has been described in Physiology students (Lujan & DiCarlo, 2006:13-16); Visual, Aural, Read/Write and Kinesthetic or Multimodal strategies for learning are determined with this instrument (Fleming, 2010:Online).

The well-known **Kolb learning style inventory** based on Experiential Learning Theory, classifies learners as divergers, convergers, assimilators or accommodators (Kolb & Kolb, 2005:Online).

Honey and Mumford developed the **Learning Style Questionnaire**, describing learners to be either activists (learning through experience), theorists (learning from exploring associations and interrelationships) and pragmatists (learning from doing or trying things with practical outcomes) (Honey & Mumford, 2006:Online).

The **Meyers-Briggs Index** (Myers & Briggs, 2011:Online) is sometimes used as a non-specific indicator of learning styles due to its focus on personality indices or psychological types.

The **Index of Learning Styles** (Felder & Silverman, 2011:Online) categorises the following domains: active-reflective, sensing-intuitive, visual-verbal and sequential-global.

While these instruments have been described in various groups of students, including medical students, their validity has been questioned (Cook & Smith, 2006:901,906-907). Furthermore, educators are cautioned against oversimplifying the learning process, which requires motivation as well as an optimal environment besides knowledge of individual learners' personality and preferences (Evans et al., 2010:467-478; Sharp, Byrne, & Bowker, 2008:95). Over-reliance on learning styles in decisions determining teaching and learning activities may rob students of the opportunity to overcome learning obstacles and mature in their learning (Romanelli et al., 2009:3). While an awareness of how individuals learn and how one teaches is an essential component in reflective practice, other factors also contribute to the educational experience.

The influence of culture, which is becoming increasingly significant as universities join the global village, as well as the emerging environment characterised by technological advances, further contribute to a variation in learning behaviours exhibited by students (Bialocerkowski, Wells & Grimmer-Somers, 2011:Online; Romanelli et al., 2009:3).

2.6.2.3 *Cultural effects on learning*

Culture has a compelling impact on the learning environment, requiring great effort in terms of understanding and accommodation to ensure efficacy in higher education. Educational backgrounds, cultural influences, the global environment and student demography may all influence the "culture of learning". The "culture of learning" may also refer to "a set of cultural values about teaching and learning", and requires rigorous attention to the construction of optimal learning environments (Warger & Dobbin, 2009:Online).

Due to the increasing demands of society for greater numbers of skilled health care professionals who are equipped to deal with the challenges faced in multicultural, diverse communities, non-traditional students have to be accommodated in education programmes in the health care professions (Bialocerkowski et al., 2011:3-4). The definition of non-traditional students includes older persons, perhaps with a previous tertiary qualification (i.e. not first-time students who enter higher education from school), and those who represent different racial groups from the historical student enrolment at an institution and for whom English is a second or additional language (Bednarz, Schim, & Doorenbos, 2010:253-260; Bonfiglio, 2008:30).

For these reasons, higher education institutions are enrolling more students from different cultural and ethnic backgrounds. However, diversity poses challenges in the teaching and learning environment (Bednarz et al., 2010:254). These challenges include that the lecturer needs to possess skills including respect and tolerance for students' cultural diversity and learning habits as well as the ability to relate to students (Bialocerkowski et al., 2011:3-4).

Students on their part may face obstacles including disadvantageous educational backgrounds (Allen, 2010:33) or those that arise from instruction in English as a second language (Brown & Czerniewiscz, 2010:357; McMillan, 2007:e209-e210), although it is a commonly used international language in the scientific and medical environment (Van Niekerk, 1999:S44). These challenges are even more compelling in the South African higher education environment, bearing in mind the tumultuous and racially charged history of its recent past.

Some of the issues faced in the classroom include an approach of equality (treating everyone the same irrespective of their background or characteristics) (Rich, 2009:Online). This springs from the so-called Golden Rule: "Do unto others as you would have them do unto you", leading to a well-intentioned but somewhat misguided approach by lecturers who treat students "as they were treated", referring to their educational background or experiences (Bednarz et al., 2010:254). Besides the fact that the teaching and learning environment has to adapt to the 21st century - incorporating technology effectively is one of the major challenges - awareness and sensitivity to diversity issues is essential to ensure optimisation of learning.

In culturally diverse student bodies, lecturers have to take into account how cultural practices or taboos may affect students' participation in learning activities and adjust their teaching strategies accordingly to ensure that no discrimination takes place, but that students still develop the competencies, skills and knowledge required. This was highlighted in a recent publication on a culturally diverse Physiotherapy student cohort at the University of Western Sydney. In addressing the issues arising from students' "cultural individualism", for example an unwillingness to participate in skills training sessions because of cultural constraints, the authors acknowledged that the official requirements of the profession, policies against discrimination as well as ethical principles have to be considered when planning the teaching and learning activities and outcomes of a curriculum. While their study was contextualised in a Physiotherapy programme, their exploration of the issues raised and the methods of resolving these are more widely applicable in multicultural health professional training (Bialocerkowski et al., 2011:Online).

2.6.2.4 *Innovation and Information-Communication Technology*

"The introduction of information technology into virtually every aspect of our lives has led educators and students to think differently about where and how learning takes place. Technology has….helped us better understand facets of learning that have nothing to do with technology" (Warger & Dobbin, 2009:Online).

In fact, technology could alter medical education in the same way that it has altered medical practice (Arky, 2006:1925-1926). ICT in medical education include, for example,

the availability of course materials online, learning management systems, cell phone messaging services, multimedia presentations and wireless technology. However, as pointed out by Frank *et al.* (2010:Online), "the most promising approaches seem to be those that combine full exploitation of digital resources with the human interaction that is the very essence of true education".

As Earle and Myrick (2009:627-628) have cautioned, the emphasis should not only be on the use of technology as an innovative format for knowledge delivery. It should be included in a total reform of our paradigmatic approach to education, moving from "teaching heavy" and "learning light" approaches to a more student-centred view as stated by Bellack (2008:439).

For example, the University of Sheffield School of Medicine has developed the Sheffield Networked Learning Environment. This forms part of a consortium of U.K. universities, to be included in the revision of their undergraduate medical curriculum, with specific focus on the role of e-learning (Roberts, Lawson, Newble & Self, 2003:282-286).

With the improvement and proliferation of tools for technology-based learning, and as the calls for integrating these into medical education become more urgent, it has become imperative that scientific evidence is obtained about the population of students these technologies are intended for. Questions must be answered about students' familiarity, skills, practices and need for modern technology to achieve success in diverse teaching and learning environments, not least in medical education (Kennedy et al., 2008:11). Much technology use is neither applicable to the education environment nor supportive to successfully achieving learning outcomes (Bennet et al., 2008:781).

As stated by Benson and Brack (2009:74), ICT in the educational environment provides for collaborative engagement, wider access to information and greater interactivity with content which leads to individual empowerment. In fact, the "emancipation of learners" is stated as a distinct advantage enabling greater control and engagement on the part of the student – bearing in mind that the lecturer's role should not become marginalised to that of a mere supplier and purveyor of technologically-driven "tricks of the trade".

In a refreshingly sceptical albeit balanced review of Web 2.0 applications in learning activities, Dohn (2009:344) argues that there are "conceptual tensions in the views of knowledge, learning, and the goals of practice implicit in Web 2.0 practices on the one hand, and the educational system on the other". For example, over-emphasis on collaborative participatory aspects inherent to ICT applications (knowledge communication, construction and sharing) might devalue the significance of the acquisition of knowledge and competence which is inherent to educational practice that aims to prepare individuals for the subsequent work environment. Dohn (2009:361) cautions that challenges exist in terms of issues such as "collaboration, evaluation, and the general aim of material production by students". In fact, learning may lose meaning as personal relationships are relinquished to some extent in "programmatic technology-driven curricula" (Blackie et al., 2010:639).

Computer literacy and IT skills are a prerequisite for online learning strategies as used in current Health Sciences Education approaches worldwide, although objective evaluation of students' capabilities besides self-assessment is not a common practice. Students must be equipped to engage effectively with ICT for the purpose of research, information seeking and life-long learning, despite the probability that in a South African setting, these facilities are not widely available in the working environment (Oberprieler, Masters & Gibbs, 2005:595-598). Information literacy is a prerequisite for self-regulation (Silen & Uhlin, 2008:471).

While medical education cannot exclude emerging technologies, the underlying principle should always be that of optimising the learning process. Caution should be exercised to ensure that the value of instructional technology in education is not secondary to the hype surrounding the tool itself (Bonfiglio, 2008:31; Mostaghimi, Levison, Leffert, Ham, Nathoo, Halamka, Prout, Arky, Tosteson & Quattrochi, 2006:Online).

In addition, both the availability as well as skill in using a technology tool determines whether it is successful in achieving educational outcomes. While keeping up with emerging technology is a prerequisite for the future, one should never lose sight of the pedagogy or people involved in higher education (Warger & Dobbin, 2009:Online). As stated by Kennedy et al., (2010:333), "Technologies are not always welcomed by students in learning settings".

Four guiding principles have been suggested when looking into the future of educational technology (Facer & Sandford, 2009:76 - 77):

- Any future-oriented work in the educational field should challenge assumptions rather than make predictions
- Technologies do not present a definitive picture of the future
- The future will involve people and change
- The responsibilities of education have to be addressed in any future endeavours.

These principles should be kept in mind when planning for the implementation of technological innovations in the planning of teaching and learning activities.

2.6.2.5 *Adult learning principles*

Adult-based learning is regarded as a valuable educational approach (Shreeve, 2008:23-25). In medical education, self-directed learning is integral to the student-centred approach and demonstrates a paradigmatic shift away from traditional teacher-centred approaches to learning (Spencer & Jordan, 1999:1281-1282). Adults learn when they are motivated by the perceived relevance of information that is simultaneously problem-focused and based on their experience, and that is immediately practically applicable. If they are encouraged to participate actively taking responsibility for their own learning in cycles of action and reflection in an environment of mutual trust and respect, learning efficacy greatly improves. These principles are remarkably similar to the abilities displayed by self-directed learners, namely:

- To identify learning needs and goals
- To find and implement solutions
- To evaluate their efficacy.

When a teacher's interventions in the learning environment facilitate students' learning activities, teaching supports learning, and the ideal level of thinking about teaching is reached. Students become active learners, building on existing understanding to gain permanent knowledge (Biggs & Tang, 2007:15-21).

In the following section, the issues identified and suggested teaching and learning approaches for Generation Y in Health Sciences Education will be discussed.

2.7 ISSUES IDENTIFIED AND SUGGESTED TEACHING AND LEARNING APPROACHES FOR GENERATION Y IN HEALTH SCIENCES EDUCATION

Data is still lacking on the concept of teaching across the generations (Earle & Myrick, 2009:624; Howell et al., 2005:527; Johnson & Romanello, 2005:212; Reeves, 2006:Online). In addition, the sometimes-wide age gap between teaching staff and students inevitably leads to differences that impact relationships between students and academic staff (Gibson, 2009:38-39; Mangold, 2007:21). In the following section, some of the issues that have been identified in the Health Sciences Education teaching and learning environment associated with the Generation Y cohort, as well as the suggested approaches to address these, will be discussed.

2.7.1 Issues identified

Generation Y learns in different ways from other generations, as they are accustomed to technology. The richly stimulating audio-visual multimedia environment challenges lecturers to attract and retain their attention (Baid & Lambert, 2010:548; Oblinger & Oblinger, 2005:Online). At the same time, these keen technology users still express the need for direct access to university teachers to provide vital experience and expertise (Sandars & Morrison, 2007:85; Walker et al., 2006:371). In addition, as already stated, any educational innovation must meet the requirements of modern pedagogy, i.e. a learner-centred approach aimed at developing students' skills at active learning and critical thinking whilst simultaneously making wise use of technology in a way that contributes to education rather than merely entertainment (Baid & Lambert, 2010:550; Bellack, 2008:439).

Unfortunately, a rather dogmatic "teach as we were taught" rigidity clouds the views of many disciplines outside education, for example Health Sciences Education, whose clinician educators sceptically regard as "soft research" (Gruppen, 2008:1-2) endeavours outside the borders of the clinical, positivist realm and its reputation of scientific rigour, "belonging to an 'ivory tower'" and therefore irrelevant to practice (Gibbs *et al*.,

2011:183). Furthermore, especially in the 21st century environment with the ubiquitous presence of ICT, the danger exists that education is reduced to marketing, if it remains trapped in a somewhat fanatical embrace of ICT without judicious scrutiny of its true place and value in the educational environment (Dohn, 2009:344). As stated by Gibbs *et al.* (2011:183) referring to the scholarly work of Van der Vleuten, Dolmans and Scherpbier (2000:246-250), "educational practice might be quite different if decisions were more evidence-based and theory driven".

Therefore, any educational approaches must take into consideration the following issues:

- Generational characteristics
- The ICT revolution
- The lecturer-student relationship
- Pedagogical theory.

2.7.2 Suggested solutions

Many reforms in higher education and its theoretical frameworks have addressed these issues to some extent. A paradigm shift has occurred away from the didactic strategy of lecturing, towards innovations including simulation and gaming (making learning interactive and fun with immediate feedback) or hands-on experiential tasks and teamwork or group activities – suitable for the Generation Y zeitgeist, as well as incorporating ICT (including online or computer-based activities) (Johnson & Romanello, 2005:215).

In addition, teaching may be powerfully enhanced by the following (Blakely, Skirton, Cooper, Allum & Nelmes, 2010:27-32; Earle & Myrick, 2009:627-628; Johnson & Romanello, 2005:215-216; Mangold, 2007:22; Neuman, Pardue, Grady, Gray, Hobbins, Edelstein & Herman, 2009:159):

- Assimilating Generation Y's mind-set of multi-tasking
- Customising the learning environment through mentoring by older, more experienced lecturers
- Giving students the opportunity to decide on what constitutes essential content.

2.7.2.1 *Technology*

In the nursing education environment, it has been suggested that Generation Y students are encouraged to be creative by means of technology and reward, using group interaction with concise objectives in a varied environment and by alternating lectures with experiential activity. However, technology offers challenges to older generations who teach Generation Y to become skilled not just at using it as an adjunct, but to incorporate it effectively in encouraging interactive, deep learning (Gibson, 2009:38-39).

Similarly, in medical education, Sandars and Morrison (2007:87) pointed out that the challenge of educating the very different Net Generation (Generation Y) includes embracing technology (in the form of e-learning, for example) in a balanced way, without losing vital components of traditional teaching such as personal communication with teachers. Notably, the abovementioned authors' findings are based on existing literature as well as a survey of first year undergraduate students. This draws attention once again to the need to know one's students' needs, preferences and characteristics (Gibson, 2009:37-39; Skiba & Barton, 2006:Online).

2.7.2.2 *Active learning*

For active learning to take place, students must intentionally engage with and purposefully observe the content, and subsequently critically reflect on the experience. This means the lecturer must adapt their instructional style to elicit active learning. Strategies to encourage active learning are not entirely incompatible with lectures. Simple attempts, such as questioning and case discussions, are almost effortless to include in a lecture, and yet allow for the deliberate exploration of ways to enhance the educational process (Graffam, 2007:39-40).

2.7.2.3 *Games, fun and humour*

The value of appropriate and purposeful fun and humour as teaching strategies are methods of addressing current students' needs for an interactive positive learning experience (Baid & Lambert, 2010:548, 551; Lottes, 2009:331). This has led to the development of educational games in Health Sciences Education. Games are of value in the creation of a

supportive, motivating learning environment where knowledge may be reinforced and collaboration encouraged (Blakely et al., 2010:27; Earle & Myrick, 2009:628).

2.7.2.4 *Simulation*

The use of simulation has increased significantly in health sciences. It is a means of encouraging active engagement in a non-threatening environment, and addresses students' needs for a hands-on learning experience as well as their desire to use technology (Pardue & Morgan, 2008:74-79).

In a systematic review of studies done from 2003–2007 on the use of simulators in Health Sciences Education, it was found that although their use has become more widespread, there is great variation in the situations and types of simulators used, and little research has been done on the effects on outcomes (Hardner, 2010:23-28).

The Progressive Professional Development Model contains guidelines to base teaching strategies on a combination of virtual and simulated practice (incorporating technology) and standardised patients together with the more traditional forms of clinical practice. This model is aimed at engaging nursing students across the generations, honing their cognitive, affective and psychomotor skills (Notorianni et al., 2009:266).

2.7.2.5 *Personal response system (PRS) technology*

The use of PRS technology has also been described as a pedagogical approach with many advantages in the current teaching and learning environment. It optimises student engagement and participation in small and large classes, encourages critical thinking and improved learning and addresses students' desire for immediate feedback and technology use. Therefore, it may be a valuable method of meeting the needs of Generation Y students. However, as with any innovation, the true test of its value will lie not in its use per se, but in whether it makes a difference to the achievement of educational outcomes (Hunter-Revell & McCurry, 2010:274-275; Jones, Henderson & Sealover, 2009:3).

2.7.2.6 *Mentoring*

Besides the challenge to incorporate advanced technology wisely, lecturers should also address Generation Y students' desire for guidance by older, more experienced mentors (Mangold, 2007:22-23). In clinical education the model of "preceptorship" may appeal to them as a means of "participatory pedagogy" facilitating understanding between generations, thereby limiting intergenerational conflict (Earle & Myrick, 2009:628). Role-modelling in medical education fulfils an inherent requirement for learning through observation, which powerfully enhances the learning process (Mann, 2010:63).

The so-called hidden curriculum in Health Sciences Education must be addressed to allow for consistency between the learning environment and professionalism in the healthcare professions. It is ultimately achieved not just by transmission of knowledge or developing skills and attitudes, but by providing clear guidance and appropriate, inspirational role-modelling. Blackie *et al*. (2010:639) describe the "core attributes – congruence, unconditional positive regard and empathy", based on the scholarly work of Rogers (1961) that are required of the lecturer to enable true facilitation, going on to liken this to the term "authenticity" as described by Barnett (2008).

This places a rather daunting weight of responsibility on lecturers or educators in Health Sciences Education. As stated by Leibowitz, Bozalek, Carolissen, Nicholls, Rhleder and Swartz (2010:131), "to teach students to become ethical, caring and reflexive professionals, we too, as educators have to become ethical, caring and reflexive".

In summary, this literature survey revealed that there is a paucity of evidence regarding Generation Y in Health Sciences Education, specifically in the South African context. Furthermore, the required reform in both education and health care in the 21st century necessitates an understanding of current students as well as the creative implementation of innovative ICT and pedagogical theory in the design of educational approaches.

2.8 CONCLUSION

In this chapter, the literature describing the Generation Y cohort, and how an understanding of generational characteristics affects Health Sciences Education was

discussed. Various teaching and learning approaches, as well as the impact of generational theory on innovations in teaching and learning were examined, providing a theoretical framework for the research questions at hand.

In the following chapter, Chapter 3, ***Research Design and Methodology***, the philosophical stance and conceptual framework of the researcher, as well as an overview of the methodology and research design used in this study will be described.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

"...research methodologies are merely tools, instruments to be used to facilitate understanding."
(Morse, 1991:122)

3.1 INTRODUCTION

Chapter 3 will provide an overview of the methodology and research design, as well as an explanation of the methods used in this study. After an initial theoretical perspective on methodology and research design, a discussion will follow of the process of data collection, sample selection, pilot study and data analysis. Issues of reliability, validity and trustworthiness as well as ethical considerations will also be discussed.

The term methodology refers to the philosophical foundations of the research process (Creswell & Plano Clark, 2007:4) and guides the researcher in asking questions and choosing methods (Giddings, 2006:198), while research design can be described as the procedures used to collect, analyse, interpret and report data (Creswell & Plano Clark, 2007:58). Once the approach and model of research has been decided on, specific data collection and analysis techniques are referred to as methods (Creswell & Plano Clark, 2007:4; Giddings, 2006:198-199).

The methodology and research design is aimed at addressing this study's objectives by using the following methods:

- Data from the undergraduate student questionnaire survey gave insight as to whether the characteristics of Generation Y as described in the literature (used to compile the survey instrument) are applicable and relevant to undergraduate students in the FoHS at the University of the Free State
- The student and staff questionnaire surveys and a comparison of the results of these surveys yielded data that identified discrepancies in awareness and understanding of

perceptions regarding the characteristics of Generation Y between undergraduate students and academic staff who lecture undergraduate students

- The data from the student and staff questionnaire surveys as well as the focus group interview with staff members were used to formulate an educational approach for the generation profile of undergraduate students in the FoHS, University of the Free State.

3.2 THEORETICAL PERSPECTIVES ON THE RESEARCH DESIGN

The definition of mixed-methods research by Creswell and Plano Clark (2007:5) provides the foundation on which this study is based:

"Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone."

The term, methodological triangulation, is also suggested for use when describing the use of two or more research methods in one study as described in the scholarly work by these authors (Casey & Murphy, 2009; Morse, 1991). For the purpose of this study, however, the term mixed-methods research is used.

In the following sections, the background and rationale for the mixed-methods research approach as well as the mixed-methods research design used in this study will be discussed.

3.2.1 Theory building

The following section will describe the theoretical background and rationale for the selection of the mixed-methods research design.

According to Brannen (2009:4), mixed-method research includes "adopting a research strategy employing more than one type of research method" as well as "working with different types of data". Data collection with quantitative and qualitative methods contributes to the development of well-substantiated conclusions (Plano Clark et al., 2008:367).

As Bazely (2004:2) stated, the term mixed-methods may be used for a variety of different research approaches, and may imply more than just mixing quantitative and qualitative research methods. Even within the mixed research approach, two paradigms emerge, namely using a combination of methods to yield contrasting as well as complimentary information, versus using different methods as a means of ensuring that findings are corroborative; this is also termed triangulation (Brannen, 2009:10).

In order to be true mixed-methods research, integration of different methods must occur within the research questions, sampling and data collection methods as well as analysis of a single study (Yin, 2006:41-42). There are three essential components to mixed-methods research (Plano Clark et al., 2008:364):

- Collecting both qualitative and quantitative data
- Analysis of the abovementioned data, by respectively searching for themes or finding correlations
- Mixing the data and interpreting the findings in an inclusive way.

According to Johnson and Onwuegbuzie (2004:14), mixed-methods research is the "third paradigm in educational research", and can cross the divide between the opposing poles of qualitative and quantitative research. They define mixed-methods research as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study" offering a "logical and practical alternative" (Johnson & Onwuegbuzie, 2004:17).

When many approaches are used to answer research questions, when the research is expansive and creative, and when the researcher desires inclusivity and expanded understanding and not mere corroboration, Johnson and Onwuegbuzie (2004:17-18) suggest eclecticism in method selection that may be described as mixed-method research.

However, Johnson, Onwuegbuzie and Turner (2007:112), later stated that no pure (theoretical) definition exists for mixed-methods research, stating a "workable definition" is more functional in the maturing field of mixed-methods research. They summarised that "mixed methods research is an intellectual and practical synthesis based on qualitative and quantitative research" (Johnson et al., 2007:129).

In this study, quantitative (QUAN) and qualitative (QUAL) research methods were combined to address the aim, hypotheses and objectives of the study comprehensively. Ideally, mixed-methods research (combining the strengths of both quantitative and qualitative methods, while minimising their respective weaknesses) should provide the best answers to research questions (Rocco, Bliss, Gallagher & Perez-Prado, 2003:20), and a complementary approach can be seen as the most productive, especially in medical education research (Bordage, 2006:6; Johnson, 2010:Online).

In fact, using both qualitative and quantitative data collection, analysis and integration may be the most advantageous approach for the medical education research environment where we need to grow our understanding of the processes of teaching and learning and how they are affected (Schifferdecker & Reed, 2009:638). Brannen (2009:12) agrees that using mixed-methods is advantageous to "enable the researcher to go beyond the study of international trends and differences and to pay attention also to cultures, classes, ethnicities, and gender within and across societies".

Due to the stated advantages of mixed-methods research, including multiple perspectives yielding more plausible and substantiated findings, which enhance understanding and construct knowledge (Plano Clark et al., 2008:364), it seems to be the ideal paradigm for this study. It enables a comprehensive description of the trend describing Generation Y in both popular and health sciences education literature within a unique and very diverse group of students comprising a wide spectrum of culture and ethnicity, which in turn enables evidence-based robust conclusions.

The ontology (perceptions or beliefs about knowledge) and epistemology (ways of acquiring knowledge) of the researcher must be considered (Bazely, 2004:2) when deciding on the most appropriate design to answer a research question. For this reason, the paradigmatic philosophy of the researcher is regarded as crucial in order to regard research

questions most appropriately (Brannen, 2009:7; Johnson et al., 2007:113; Rocco et al., 2003;21).

Traditionally, quantitative approaches arise from a positivistic, reductionist philosophy that emphasises generalisability in findings, and is deductive in nature, testing hypotheses. The alternative qualitative approach is based on an inductive, interpretivist logic, that places findings within a specific context and makes use of for example grounded theory – a system of discovery (Brannen, 2009:13-14; Gilbert, 2006:207; Rocco et al., 2003;21-22).

For years, the "paradigm wars" saw purists slurring the principles of those who offered competing philosophical premises (Brannen, 2009;6-8; Gilbert, 2006:206-207; Rocco et al., 2003:21). Rather than continuing on an unproductive course of debating opposing approaches, using two distinctly valuable research methods in a complementary way may yield depth of understanding (Bordage, 2006:S126).

Ideally, philosophical assumptions must not overrule the pragmatic requirement that the research questions should be answered in the best possible way (Bazely, 2004:3). A pragmatic researcher is not driven by a purist stance focused on paradigmatic theories and ideals, but rather seeks to produce results that answer questions in the most practical way (Brannen, 2009:10; Johnson, 2010:Online).

Mixed-methods research may therefore be considered as the most pragmatic method to answer research questions (Bazely, 2004:3; Johnson, 2010:Online). As Bazely (2004:5) pointed out, a combination of methods with distinct theoretical ideologies allows for "generalisation and in-depth understanding to gain an overview of social regularities from a larger sample while understanding the other through detailed study of a smaller sample". However, they caution against corrupting the underlying paradigmatic premises of the methodological approaches involved (Bazely, 2004:5). In addition, some view mixed-methods research merely as a poorly disguised form of positivism that perpetuates the dominance of quantitative approaches (Giddings, 2006:202).

Furthermore, Rocco et al. (2003:21), have argued that within the group of researchers who are not willing to submit to exclusivity within one traditional paradigm (qualitative methods using inductive logic versus quantitative methods using deductive logic), two

distinct positions have emerged. These include pragmatism and dialecticism. On the one hand, pragmatists advocate that the researcher should decide on the philosophical framework, methodological approach or design that works best to answer the questions to specific research problems. Indeed, pragmatism is regarded as a practical way of solving problems providing freedom of choice and responsiveness to issues that arise during the research process (Katsulis, 2003:Online).

In contrast, the dialectical position moves further into the realm of theory, stating that the research is strengthened by intentionally mixing methods from different paradigms in a complementary fashion (Rocco et al., 2003:21). While pragmatism is probably the most common paradigm associated with mixed-methods research, it may also include multiple world-views (Creswell & Plano Clark, 2007:189-190).

Creswell and Plano Clark (2007:9-10) share many of the above views and list the advantages of mixed-methods research as the following:

- Offsetting the weaknesses of either quantitative or qualitative approaches alone,
- Providing more thorough evidence for research questions than one approach only,
- Encouraging collaboration between qualitative and quantitative researchers incorporating multiple worldviews, and
- Providing a practical alternative to best answer research questions.

Bernard and Ryan (2010:39, 40) argue that the practice of combining quantitative and qualitative approaches is common, and hardly controversial. They state that focus groups for example, may include both qualitative and quantitative data. These authors suggest the qualitative analysis of quantitative data and vice versa (Bernard & Ryan, 2010:5).

In their advocacy for an integrated mixed-methods research approach, Castro, Kellison, Boyd and Kopak (2010:4) suggest using both qualitative ("descriptive richness of text narratives") and quantitative approaches ("precision in measurement and hypothesis testing") in a design similar to concurrent triangulation, as described by Creswell and Plano Clark (2007:61).

Both quantitative and qualitative methods have certain strengths and weaknesses as mentioned earlier (Johnson, 2010:Online; Castro et al., 2010:342). Castro et al., (2010:342) pointed out the strengths of quantitative research approaches including the possibility of comparing groups and determining associations between variables, although decontextualisation is a weakness in such an approach. Johnson (2010:Online) refers to the strengths of quantitative research including testing of hypotheses and validating existing theories, generalisation of findings and greater precision and significance of findings (based on statistical analysis) when studying larger numbers of people.

However, quantitative research could be based too heavily on the researcher's categories or theories that might not reflect the understanding of the subjects studied, and therefore yield information useful to confirm theory but not generate theory. In addition, the abstract nature of findings might reduce its applicability to specific contexts (Johnson, 2010:Online).

On the other hand, Castro et al., (2010:343) contrasted the strengths of the qualitative approach as its ability to include context and to provide for the assimilation of comprehensive accounts of human beliefs and behaviours, within its limitations of restricted generalisability, replication, and somewhat ill defined confirmatory conclusions. Johnson (2010:Online) agrees with the strengths mentioned above, pointing out that qualitative research provides the "insider's viewpoint" that may describe how and why certain phenomena occur by yielding data in the form of words and experiences. However, he also points out the time-consuming nature of qualitative data gathering and analysis, and its lack of credibility due to lower generalisability and the effect of personal bias.

Therefore, in this study, by employing the positivistic, objective nature of quantitative research approaches in combination with the constructivist interpretive style of qualitative research, a form of eclecticism is achieved which draws from the strengths and aims to eliminate the weaknesses of quantitative and qualitative approaches alone. Indeed, as pointed out before, the strengths of mixed-methods research, includes that it answers a broader range of research questions and gives stronger evidence, greater insight and more comprehensive knowledge, as derived from the scholarly work of the listed authors (Johnson, 2010:Online; Plano Clark et al., 2008; Rocco et al., 2003).

Brannen (2009:10) pointed out that those who contribute to the genre of mixed-methods research include many from education, health sciences and nursing research. As Morse (1991:122) eloquently points out: "Researchers who purport to subscribe to the philosophical underpinnings of only one research approach have lost sight of the fact that research methodologies are merely tools, instruments to be used to facilitate understanding. Smart researchers are versatile and have a balanced and extensive repertoire of methods at their disposal".

Schifferdecker and Reed (2009:638) proposed that both quantitative and qualitative approaches are necessary in the expansion of knowledge in the field of medical education research. Barbour (2005:743) agrees that there is a clear role for mixed-methods approaches in medical education research. In fact, Schifferdecker and Reed (2009:642) concluded that mixed-methods research could be the best option to improve the integrity and applicability of medical education research findings. These arguments are compelling when considering the context of this study within health sciences education research.

As indicated by Johnson and Onwuegbuzie (2004:22), the rationale for conducting mixed-methods research includes the following objectives, included in a design framework for mixed-methods (Greene, Caracelli & Graham, 1989:255255-274; Greene, 2007:2-13). Brannen (2009:12-13) also lists these as possibilities when combining results from different data analyses to sensibly arrive at truth, including:

- To converge and corroborate the results of different designs studying the same subject (triangulation) (Brannen, 2005:22). This increases the validity of the design, contributing to the defensibility of knowledge (Brannen, 2009:12)

- To clarify and expand results from one method by means of another method (complementarity) (Brannen, 2009:12; Johnson & Onwuegbuzie, 2004:22). According to Greene (2007:Online), in this design, methods are equal and implemented concurrently, creating a more comprehensive understanding of social phenomena

- To reveal contrasts or paradoxes that may adjust the initial research question (initiation). Also called transformation, in this design the value-based and action-oriented aspects of different methods are emphasised, leading to more insight and

better perspectives (Greene, 2007:2-13). As stated by Brannen (2009:12) "the use of a first method sparks new hypotheses or research questions that can be pursued using a different method"

- To inform across methodological approaches (development). Here different methods are used alternatively and sequentially during phases of a study – referred to as iteration (Greene, 2007:5). Brannen (2009:13) termed this phase "contradictions", where quantitative and qualitative methods might derive conflicting findings, which are subsequently further explored

- To increase the research range due to different methods of enquiry (expansion) (Johnson & Onwuegbuzie, 2004:22), making use of different methods for different aspects, either sequentially or concurrently (Brannen, 2009:12; Greene, 2007:2-13).

The main aim of this study is to provide evidence that can be used to enhance quality in a higher education teaching and learning environment. Mixed-methods research with its stated objectives above provides the ideal springboard to address this aim.

Johnson and Onwuegbuzie (2004:21) listed eight steps in a mixed-methods research process model that ensure that methodological and research requirements are met. For the purposes of this study, the researcher has designed a flowchart using the aforementioned eight steps, which may be viewed in Figure 3.1.

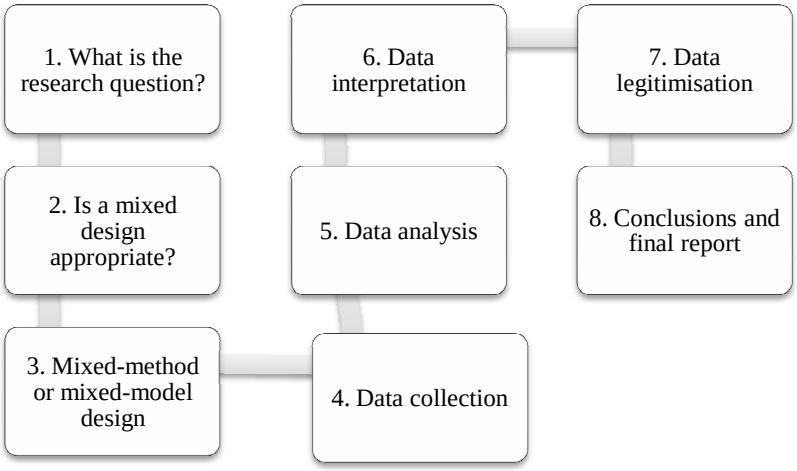


FIGURE 3.1 STEPS IN A MIXED-METHODS RESEARCH PROCESS MODEL [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project from Johnson and Onwuegbuzie (2004:21)]

Admittedly, however, the qualitative vs. quantitative debate remains ongoing in the scholarly literature, and mixed-methods research has still not been satisfactorily defined in scholarly works cited (Johnson & Onwuegbuzie, 2004; Schifferdecker & Reed, 2009). Therefore, this study may not fully meet the paradigmatic assumptions underlying methodological approaches, as stated in other scholarly work (Bazely, 2004:2-5).

For the purposes of this study, the researcher agrees with the following statement by Johnson and Onwuegbuzie (2004:23-24), "By utilizing quantitative and qualitative techniques within the same framework, mixed-methods research can incorporate the strengths of both methodologies". This allows for the opportunity to use the methods and approaches best suited to comprehensively answer a research question, rather than become immersed in debates regarding paradigms that do not contribute to enhancing understanding. As stated by Schifferdecker and Reed (2009:642), "…when studying new questions or complex initiatives in natural settings, as is often the case in medical education research, mixed-methods approaches may prove superior in increasing the integrity and applicability of the findings".

3.2.2 Strategy of inquiry and research approach

A significant challenge in the mixed-methods research community is the complexity and inconsistency seen in the description of the designs available for use (Tashakkori, 2009:288). While the rationale for mixed-methods research is obvious, the guidelines and specific research design models are ill defined, inconsistently termed, confusingly complex, divergently described and multivariate (Collins & O'Cathain, 2009:3-4; Creswell & Plano Clark, 2007:59; Schifferdecker & Reed, 2009:638). In addition, the weaknesses of mixed-methods research include the time-consuming and expensive nature of the process, as well as the vulnerability of the single researcher negotiating largely unchartered waters (Johnson, 2010:Online).

Collins and O'Cathain (2009:4-5) suggest that the researcher may either select from the plethora of mixed-methods designs described, or choose to develop their own design suitable for their study's purposes, objectives and questions. Unlike the traditional approach seen with quantitative research, the researcher does not have a menu of designs to choose from, but rather creates a design most effective to answer the research question (Johnson & Onwuegbuzie, 2004:20). Johnson and Onwuegbuzie (2004:20) mention the fact that mixed-methods typologies emphasise divergent aspects, namely

- At which stage qualitative and quantitative approaches are mixed (within-stage vs. across-stage designs)
- The choice of emphasis (QUAL/qual + QUAN/quan) or timing (concurrent vs. sequential) of qualitative and quantitative approaches
- To what extent mixing occurs (mono-method vs. multi-method)
- Where mixing occurs (data collection, analysis or interpretation).

A notation system and visual diagrams are commonly used to describe mixed-methods, and aim to simplify the communication of designs. The notation system indicated by Creswell & Plano Clark (2007:40-41) is based on that described by Morse (1991:120-23), and indicates in uppercase and lowercase which is the primary and secondary method (weighting). "QUAN" or "quan" and "QUAL" or "qual" denote quantitative and qualitative methods respectively.

When methods are used concurrently, it is indicated by "+", while sequential timing is indicated with "→". QUAN (qual) indicates that the qualitative methods are embedded in the quantitative design.

Furthermore, visual diagrams using boxes or ovals with solid arrows indicating the flow of the steps in the process aid understanding of the phases of mixed-methods studies (Ivankova, Creswell & Stick, 2006:15-16). Based on the scholarly work of Ivankova et al., (2006:15-16) as well as the commentary by Creswell and Plano Clark (2007:44-53), a visual diagram of the procedures in the study is provided in Figure 3.2. The procedures illustrated in Figure 3.2 were preceded by an in depth literature review.

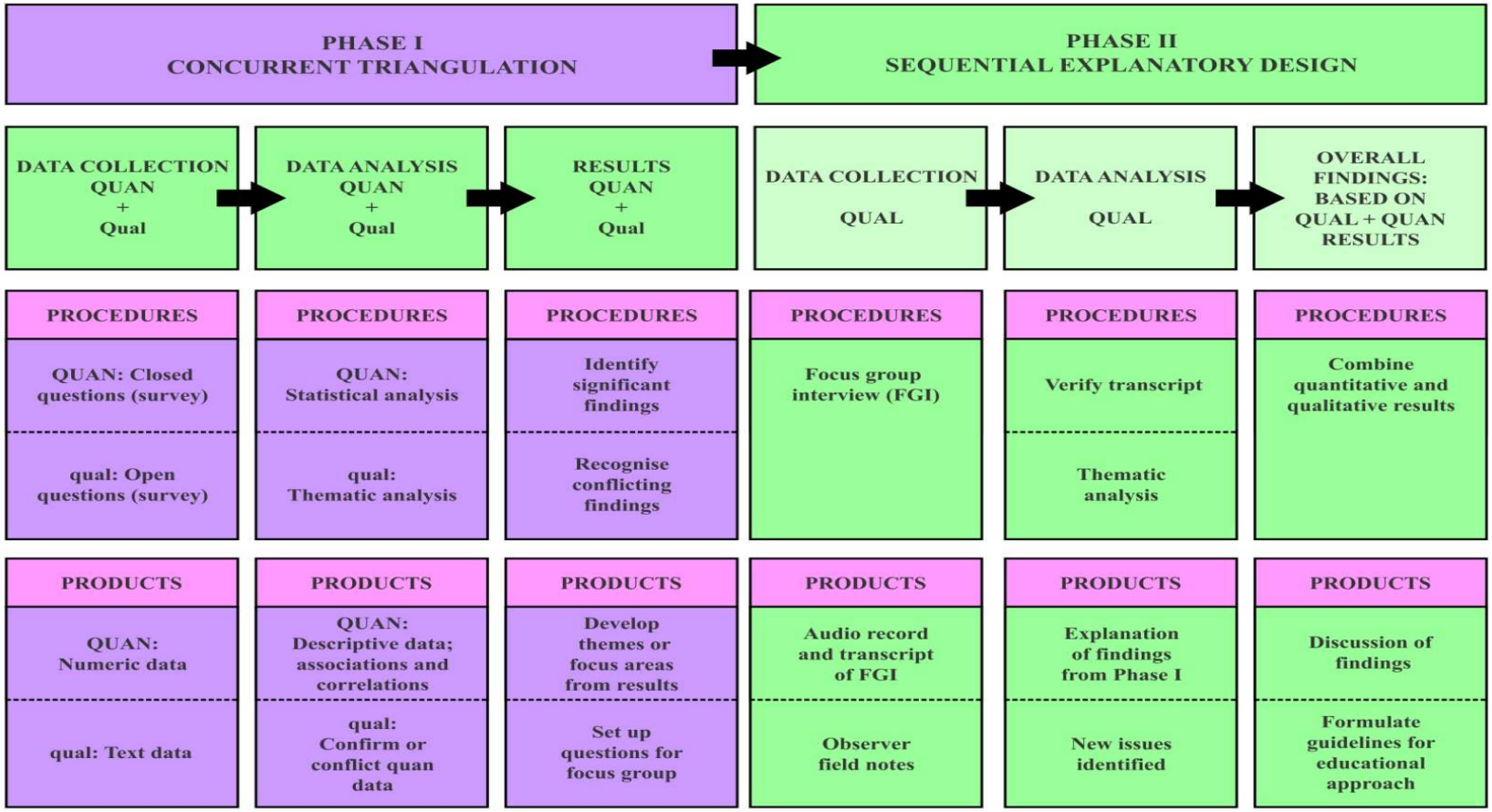


FIGURE 3.2 VISUAL DIAGRAM OF THE PROCEDURES IN THE STUDY [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project]

The following discussion elucidates the design implemented in the study. Creswell and Plano Clark (2007:59-79) listed four chief mixed-methods designs. These include the Triangulation, Embedded, Explanatory and Exploratory designs. This is an effort on their part to consolidate the wide variety of design classifications and terminology described in the literature from a range of disciplines. Examples include nursing, educational research and policy, health research, public health education, primary medical care, social and behavioural research and evaluation (Creswell & Plano Clark, 2007:59-79; Creswell et al., 2006:9).

The triangulation design is used the most and is probably the most familiar. It embodies one of the chief tenets of mixed-methods research, namely to utilise the strengths of the quantitative and qualitative approaches respectively, whilst minimising the impact of their weaknesses. The main aim of a triangulation design is to confirm, enhance or validate the results from quantitative methods by making use of qualitative methods (Creswell & Plano Clark, 2007:59-79). It may be described as QUAN + QUAL, based on the nomenclature by Morse (1991:120-123) as well as Leech and Onwuegbuzie (2009:272-273).

- The embedded design is a mixed-methods design where data sets are mixed, and although data are gathered simultaneously, one approach is supplementary to the other so that different questions may be answered. It may be indicated as QUAN + qual (Morse, 1991:120-123; Leech & Onwuegbuzie, 2009:272-273)

- Explanatory design is used when qualitative data build on the results of quantitative data, and is typically done in two phases. Qualitative data collection and analysis is done after the quantitative phase, as described in the scholarly work of these authors (Creswell & Plano Clark, 2007). This is indicated as QUAN → QUAL (Morse, 1991:120-123; Leech & Onwuegbuzie, 2009:272-273). The exploratory design refers to the use of qualitative methods to make the quantitative phase possible, e.g. by developing an instrument. In this design, the sequential approach is indicated as QUAL → QUAN (Morse, 1991:120-123; Leech & Onwuegbuzie, 2009:272-273).

Within each of these design types, variants also occur, as illustrated in the abovementioned authors' scholarly classification of twelve mixed-methods designs (Creswell & Plano Clark, 2007).

Similar to the previously mentioned arguments by Johnson & Onwuegbuzie (2004:20) and described by Rocco et al. (2003:22), Creswell and Plano Clark (2007:59-79) and Leech and Onwuegbuzie (2009:267-272) additionally state that the decision regarding which design to use depends on the following factors:

- Timing – whether the quantitative or qualitative phases of the study are implemented concurrently or sequentially. It is important to note that this refers more to when data analysis and interpretation occurs than when it is collected
- Weighting (emphasis) – which of the quantitative or qualitative approaches is given greater priority. Factors affecting weighting decisions include philosophical questions such as the researcher's world-view (positivistic, naturalistic or pragmatic), experience, as well as the resources available to conduct research or the audience for whom the research is intended
- Mixing – how data from quantitative and qualitative methods are mixed. This may include merging or integrating data, embedding data from one method into another or connecting data by using the analysis of one method to collect data by another method, for example.

Johnson and Onwuegbuzie (2004:20) further explain their suggestion of designing the research study along either a mixed-model or a mixed-method typology. The mixed-model design mixes qualitative and quantitative approaches during the stages of the research process, while the mixed-methods design includes distinct quantitative and qualitative phases. Mixed-model research may take place "within-stage" or "across-stage" of the research process.

For example, a questionnaire including open (qualitative) and closed (quantitative) questions would be seen as within-stage mixed-model research. Across-stage model research happens when quantitative and qualitative approaches are mixed across at least two stages of the research, for example using quantitative methods to analyse qualitative data. The mixed-method research design described by Johnson and Onwuegbuzie

(2004:21-22) includes qualitative and quantitative phases that are grouped according to time order (concurrent versus sequential) or paradigm emphasis (equal versus dominant status). This is congruent with the abovementioned description by Creswell and Plano Clark (2007:59-79). However, as Johnson and Onwuegbuzie (2004:20) point out, ultimately it is the researcher's choice of design places mixed-method research within a less prescriptive paradigm.

Teddlie and Tashakkori (2006:12-14,25) suggested the "Methods-Strands Matrix" including four groups of designs for mixed-methods, including sequential, concurrent, conversion and fully integrated design. They based design decisions on the following criteria, namely the number of methodological approaches, the number of strands in each research design, and the type of implementation as well as when integration occurs. Following from here, they suggest seven steps that facilitate the decision regarding which design to use. In Table 3.1, the researcher has developed an adapted list of the seven steps as summarised by Teddlie and Tashakkori (2006:25) when selecting an appropriate research design.

TABLE 3.1 SEQUENCE OF QUESTIONS AND STEPS IN THE DESIGN OF MIXED-METHODS RESEARCH [Compiled by the researcher (Van der Merwe, 2011) as part of this Ph.D. project from Teddlie and Tashakkori (2006:25)]

1. Does the research question require a mono-method or mixed-method design?
2. What mixed-method research designs are available; what do they look like?
3. Which is the best design for my project – if one exists?
4. What are the criteria that differentiate between designs?
5. Which of these criteria are important for this study?
6. Apply the criteria and select the design.
7. If necessary, develop a new design.

Growing from the work by Creswell and Plano Clark, in medical education research, four models have been described to illustrate mixed-methods research, namely the Instrument Development Model, the Explanatory Model, the Triangulation Model and the Model of Longitudinal Transformation (Schifferdecker & Reed, 2009:639-640), described as follows:

- The Instrument Development Model is similar to Exploratory design (Creswell & Plano Clark, 2007:77), and refers to the use of qualitative data for the development of a quantitative instrument. The danger of this design is that the survey instrument may be excessively comprehensive which makes for a time-consuming effort on the part of respondents (Schifferdecker & Reed, 2009:639-640)
- The Explanatory Model described by Schifferdecker and Reed is similar to that described by Creswell & Plano Clark (2007:1-75) and refers to the use of qualitative data to explain, explore or enhance quantitative findings (Schifferdecker & Reed, 2009:639-640). These authors recommend that the participants in the qualitative phase be selected from those who completed the quantitative survey so that the qualitative data collected truthfully reflect the results of the quantitative phase
- The Triangulation Model is also similar to that described by Creswell & Plano Clark (2007:62-67), and refers to the concurrent collection of quantitative and qualitative data from one group of respondents and finally integrating the findings subsequent to analysis of each data set (Schifferdecker & Reed, 2009:639-640)
- The Model of Longitudinal Transformation utilises aspects from each of the abovementioned three designs. It involves sequential data collection from a variety of respondents and using many different methods. These data are analysed and interpreted at various stages of the project (Schifferdecker & Reed, 2009:639-640). Longitudinal transformation has been used in medical education research, for example in a study by Coady, Walker and Kay (2004:639), where they used focus groups, in-depth interviews, survey questionnaires as well as nominal groups at various stages of the project to arrive at a set of core skills for musculo-skeletal system examinations. Similarly, in this study, quantitative and qualitative methods were used at different times to formulate an educational approach for the generation profile of undergraduate students in the FoHS at the University of the Free State.

Based on the abovementioned discussion of mixed-methods research designs, and indicated in Figure 3.2 (cf. p. 79), the design used in this study, included two phases, including a concurrent triangulation design (QUAN + qual) in phase I, followed by a sequential explanatory design (QUAN → QUAL) in phase II, drawing from these authors' scholarly contributions (Creswell & Plano Clark, 2007; Schifferdecker & Reed, 2009).

The first phase comprised the questionnaire survey. The questionnaires yielded quantitative data (from closed questions) and qualitative data (from open questions). The qualitative responses provided additional information, either to validate or refute quantitative findings. Some would describe this as an example of a within-stage mixed-model research design where the qualitative phase is embedded in the quantitative phase, notated as QUAN (qual). This is described in scholarly literature (Creswell & Plano Clark, 2007; Johnson & Onwuegbuzie, 2004).

However, Creswell & Plano Clark (2007:84) indicate that in the embedded design, a secondary question is answered by the embedded method – which was not the case in this study. An alternative would be to describe this phase as concurrent triangulation, where quantitative and qualitative data are collected at the same time, and separate analysis follows with eventual integration of findings to answer a single question – the validating quantitative data model (Creswell & Plano Clark, 2007:71). Schifferdecker and Reed (2009:639 - 640) mention this model as the Triangulation model (QUAN + qual); pointing out that it is useful to integrate findings from a single group of participants.

In the second phase, analysis of the quantitative data from the questionnaire surveys was used to develop questions for the focus group interview, indicating the Explanatory Model (Schifferdecker & Reed, 2009:239-240). This is similar to the sequential explanatory design follow-up explanations model (Creswell & Plano Clark, 2007:85), and is noted as QUAN $\rightarrow$ QUAL.

All of the abovementioned methods of data collection and analysis (representing a mixed-methods research approach) were ultimately included so that the primary goal of the current study could be addressed in a manner that is representative of all the role players in a unique teaching and learning environment.

The researcher collected quantitative (numerical) data for statistical analysis from closed questions in the questionnaire surveys. Qualitative (text) data were collected from the literature survey, open questions in the questionnaire surveys as well as from a focus group interview for analysis by means of recognition of categories, themes and codes. Mixing occurred during the interpretation phase, with interaction of results leading to valid answers to the research question. O'Cathain, Murphy and Nicholl (2010:1147) call this

integration “the interaction or conversation between the qualitative and quantitative components of a study”. Using a mixed-methods research design is therefore a useful way to generate theory or demonstrate variables as well as compare, confirm or corroborate findings.

3.3 RESEARCH METHODS

In the following section, the data collection methods as well as related issues including the sample selection and pilot study will be described. Data collection methods included a literature review, questionnaire surveys for undergraduate students as well as academic staff who lecture them in the FoHS (including both open and closed questions) as well as a focus group interview. Appendices A to F will be alluded to in the text with reference to the research methods.

3.3.1 Data collection: Literature review

Generation demographics in the workplace have been documented, and various organisations exist that monitor the characteristics of and trends within generations offering workshops and training programmes to address intergenerational conflicts and the management of Generation Y (Arnsparger, 2008: Online; Codrington 2008:Online; Kelan, 2008:Online; Meister & Willyerd, 2010:68; Robert Half International, 2008:Online).

These include telephonic surveys, for example, the Pew Research Center report (Taylor & Keeter, 2010:Online), or online surveys, for example the Gen Y Perceptions Study (Pham et al., 2008:Online).

However, in Health Sciences Education, there are limited data available describing generational cohorts. These data include surveys done on medical students, or others in the Allied Health Professions, including Nursing. Most authors extrapolate commonly held perceptions from the popular media to medical or nursing students, or generalise according to personal experience with undergraduate students, and address issues arising from these without obtaining direct evidence from specific student bodies, as described in scholarly literature (Borges et al., 2006; Howell et al., 2005; Johnson & Romanello, 2005; Mangold, 2007; Pardue & Morgan, 2008). However, most research does not survey other aspects of

generational characteristics besides technology, as indicated by other scholarly works (Caruso & Salaway, 2008; Kennedy et al., 2006).

From the above discussion, it appears therefore that the most commonly used methods of characterising or describing Generation Y is by means of either anecdotal data from the popular media, or from various questionnaire survey methods (telephonic or online, for example). These surveys are aimed at the general population within the Generation Y cohort or when aimed at those who are in higher education, studies focus on technology and its impact. There are limited data regarding this generation in health sciences. Furthermore, as far as could be ascertained, there are currently no empirical data available on Generation Y in health sciences education in South Africa.

3.3.2 Data collection: Questionnaire survey

As discussed in the above literature review, it emerged that there are limited current instruments available to obtain data to address the hypotheses and aims of this study. The available data are limited to those focused on students' use of technology and their ICT involvement, e.g. the ECAR Study (Caruso & Salaway, 2008:Online), or individual aspects, for example personality traits (Borges et al., 2006:571). The Pew Research Center Report on the Millennials is based on a survey of 18 – 29 year olds during 2010, but is not focused on higher education (Taylor & Keeter, 2010:Online). Furthermore, these data are from the United States, which is a society vastly different from South Africa. For the purposes of this research, it was therefore necessary to design a survey questionnaire tailor-made for a unique and specific population. This questionnaire could then focus on not only attitudes and perceptions, but also aspects related to communication, learning behaviours as well as technology.

The design of the questionnaire was guided by the scholarly contribution of Day, Sammons and Gu (2008:333) and examined the perceptions of both undergraduate students and academic staff regarding Generation Y. From the literature, common issues that characterise the different generations were identified and divided into key concepts and thematic categories (cf. **Table 2.1 Defining the Generations**, p.29 and **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education**, p.19). For the purposes of data gathering, the categories were

expanded to include a priori codes, which were then explored by means of closed and open questions in the questionnaires. The key concepts and thematic categories (in parentheses) addressed in the questionnaires included the following:

- Values and behaviour (attitudes, goals and ideals)
- Communication styles, skills and needs (connectivity, social contact and feedback)
- Learning behaviour (learning styles and needs)
- Environment and shaping events (background and social, political, economic and historical context of Generation Y).

A section on demographic information was also included in the questionnaire, to generate ethnographic data that contributed to placing the study within a specific context and setting, namely that of undergraduate students and the academic staff who lecture them in the FoHS at the University of the Free State.

The questionnaires for students and staff were similar, with the exception of those on demographics and personal information. There were both closed and open questions in the student and staff questionnaire surveys. This combination allowed for generating both quantitative data (responses from structured, closed questions categorised from the abovementioned predefined thematic categories as determined by the literature survey) and qualitative data (open question responses allowing for probing) (Brannen, 2009:18).

For the purposes of the discussion in this chapter, reference will be made to Appendices A to D.

Eiselen, Uys and Potgieter (2005:Online) based the questionnaire design on the following suggestions. These steps include:

- **Formulation of the research question and objectives**

The research questions were described in Chapter 1, *Overview of the study*.

- **Definition of the target population**

The target population included both undergraduate students and academic staff who lecture them in the FoHS, University of the Free State. A detailed description of the respective target populations is given on p. 93 (cf. 3.3.4.1.1) and p. 97 (cf. 3.3.4.2.1).

- **Formulation of the questions to answer the research question**

As recommended by Eiselen, Uys and Potgieter (2005:Online), the existing literature on the research question and questionnaires available to study this were reviewed (see literature survey above), questions were adapted or new questions formulated and the methodological approach to the analysis of the questions was decided on. For the survey questionnaire, this included both quantitative and qualitative research approaches for the closed and open questions included in the questionnaire respectively.

- **Organisation of the questions**

The questionnaire was organised to include the demographic questions in the first section, as a factual, non-threatening introduction to the questionnaire. The sections then followed in a logical order with clear instructions and explanations before each section, as well as the response format for the questions to follow. The questions were arranged to ensure that questions related to the same topic were grouped together. However, some repetition of questions was included in different sections of the questionnaire as a means of ensuring reliability.

Question wording was, as far as possible, clear, unambiguous, without double negatives, and phrased neutrally without emotional language or intention to make the respondent feel guilty. However, some colloquial phrases were used (e.g. "Being 'smart' is 'cool'") as an expression of the zeitgeist and context of the topic under scrutiny.

In the demography section, nominal measurements were used, while in the closed questions in the other sections, a Likert scale was used to obtain ordinal measurements. The response formats were designed to include no overlap or imbalance, and to accommodate all possible answers to a question. For the ordinal measurements, the responses did not include a neutral or middle category, so that respondents could not use this option to avoid answering the question despite having an opinion on the question at

hand. Sufficient open space was provided following the open questions so that respondents could write down their responses.

- **Consultation of experts**

An expert at questionnaire design who is also a staff member from the Directorate for Institutional Research and Academic Planning (DIRAP) at the University of the Free State evaluated the questionnaire and gave suggestions regarding the question and response format.

- **Adherence to ethical standards**

The questionnaire was included in the study protocol, which was approved by the Ethics Committee of the FoHS at the University of the Free State (Ethics Committee approval number: ETOVS 205/09).

Undergraduate students in the FoHS, UFS, were included in the study. Students were asked to complete the anonymous questionnaire (Appendices A1–A2) during an academic contact session. These sessions were arranged by contacting the staff members involved with each class group in each of the Schools within the FoHS, and obtaining their permission to make use of scheduled academic contact sessions. The researcher introduced the study by means of a short PowerPoint© presentation (Appendix B), and then handed out the questionnaire and explained how to complete it. The first page of the questionnaire included information explaining the study. Consent was implied by voluntarily completing the questionnaire survey.

Closed questions in the written questionnaires were coded numerically following which the Computer Services Division of the University of the Free State entered the data onto a database. This database was made available to the Biostatistician involved in the study from the Department of Biostatistics in the FoHS. Data from the open questions were entered into a database using Microsoft Word© table-format.

Academic staff involved in teaching and facilitating learning in the FoHS, UFS were included in the study. Staff were approached via e-mail (letter of invitation) to complete a voluntary, anonymous questionnaire (Appendices A3–A4), and similar to the student questionnaire, of which the first page of the questionnaire addressed information

explaining the study. Staff members had the option of completing the questionnaire online (via a link in the e-mail message), or completing a written questionnaire which was included in the e-mail message as an attachment available to be printed. Staff members could also obtain a printed version of the questionnaire either from the researcher or from a central office collection point.

It has been suggested that following such a "mixed-mode strategy", i.e. making use of internet-based as well as printed survey instruments, contributes to ensuring maximal response rates (Kaplowitz, Hadlock & Levine, 2004:94). However, some doubt exists that internet-based surveys improve the response rate even amongst populations with ease of access, when compared with other survey methods (Cook, Heath & Thompson, 2000:821). Other authors have suggested that electronic data collection yields similar but not necessarily higher response rates (Baruch & Holtom, 2008:1139).

Follow-up e-mail communication was sent on a weekly basis for two weeks to staff members, in order to encourage response and to provide follow-up so that adequate response to the questionnaires were received. It can be noted that while the use of reminders may contribute to increasing response rate, research at organisational or management level is notoriously characterised by lower response rates. However, the use of methods to facilitate responses, including pre-notification of the survey, publicising the survey, attention to design and length, and providing enough opportunities for survey completion (which may include making use of incentives or reminders) are nevertheless recommended (Baruch & Holtom, 2008:1139).

3.3.3 Data collection: Focus group interview

Focus group interviews are interviews with groups of people meeting in a non-threatening environment to provide for an opportunity to clarify the participants' views on a specific topic (Skinner, 2007:320-321). Participants should share common characteristics, and relate to the topic at hand. The purpose is to gain an improved understanding of people's perspectives about a specified topic, as expressed in a secure, tolerant, non-threatening environment (Greeff, 2005:299,312).

As a means of qualitative research, focus groups use words and observations expressing reality in the description of people in natural situations. It enables further investigation and gathers unique data (Lewis, 2000:Online). The purpose of the focus group interview is to yield qualitative data from small numbers of respondents who interact with each other (Stewart, Shamdasani, & Rook, 2007:44). In medical education research, there has been an increase in the use of focus groups within the context of mixed-methods projects in order to encourage uninhibited discussion and to provide understanding of areas of medical education that are not uncovered through conventional methods (Barbour, 2005:742 - 750).

In this study, the focus group provided additional data and contributed to interpreting and corroborating data obtained from the questionnaire surveys (Bernard & Ryan, 2010:41). This is a recognised purpose of focus groups, besides gaining a variety of perspectives on a topic in a short time through group interaction (Greeff, 2005:300).

According to Stewart et al. (2007:43), the advantages of the focus group interview include that it may be done quickly; at short notice and that it is flexible and user-friendly. It can dissect responses and clarify data as well as yield data in respondents' own words, which give deeper levels of meaning. Furthermore, non-verbal responses contribute to identifying important connections. However, Barbour (2005:745-746) points out that misconceptions exist that focus groups may be done quickly or cheaply, and that the focus group method should be considered circumspectly bearing in mind its purpose and appropriateness for the study.

Greeff (2005:312) states that dynamic group interaction allows for generating concentrated data that would not be available in an individual setting, for example. However, it could be argued that the small size of the group may make the data gathered non-representative of a larger group, as the credibility of a group may be influenced by bias, both due from the moderator or generated by group interaction. The open data are also difficult to interpret (Stewart et al., 2007:43). Greeff (2005:312) agrees with the aforementioned authors regarding the issue of bias, and points out the costly nature of the focus group interview as well as the requirement for moderators/facilitators skilled in group work.

As stated by Stewart et al., (2007:42), the focus group interview may be useful to interpret previously obtained qualitative results. Therefore, significant results from the

questionnaires were used to formulate the topics for discussion during the focus group interview. The questions (growing from the original research question) were unstructured, open and pre-phrased, so that maximum responses could be obtained from all participants as suggested in the literature (Lewis, 2000:Online; Skinner, 2007:320-321).

Greeff (2005:309) suggests that one "focus on opening, introductory, transition, key and ending questions". Generally, less than ten questions are suggested, starting with general and ending with questions that are more specific (Greeff, 2005:309; Lewis, 2000:Online). The agenda for the focus group interview (including questions in both English and Afrikaans) that was made available to the participants may be viewed in Appendix C1. The expanded agenda including prompting/explanatory questions for the use of the facilitator are included in Appendix C2.

The interviewer (also called facilitator/moderator) directed the interview. The interviewer was selected based on skill, training and experience in the conducting and facilitation of focus group interviews and group communication, as well as capability to engage the participants in a friendly, open, empathetic manner, as well as being prepared to listen and control their personal views. The researcher approached an expert in the field of focus group interviews to conduct the interview.

The researcher acted as the assistant (also called observer/recorder/analyst) and recorded the findings, using a tape recorder, as well as making detailed notes, and handling the logistics of the interview (Greeff, 2005:306-307). During a one-hundred and twenty minute period, the interviewer made provision for group members to share their perceptions and opinions on the previously determined topic and list of questions. The environment was comfortable and promoted communication (Greeff, 2005:309; Skinner, 2007:320-321).

3.3.4 Sample selection

Issues in sample selection, including the target population, survey population, sample size and a description of the sample for the questionnaire surveys and focus group interview will be discussed in the following section.

3.3.4.1 *Sample selection: Undergraduate student questionnaire survey*

The following section describes the target population, survey population, sample size and a description of the sample for the student questionnaire survey.

3.3.4.1.1 *Target population*

The target population is "the entire group a researcher is interested in; the group about which the researcher wishes to draw conclusions" (Easton & McColl, 1997:Online). The target population included all the undergraduate students in the FoHS, UFS. This included first-year to final-year undergraduate students registered for degree courses offered in the Schools of Medicine, Allied Health Professions and Nursing at the FoHS, UFS.

The FoHS consists of the School of Medicine, School of Allied Health Professions and School of Nursing. The School of Medicine offers a 5-year undergraduate programme for general practitioners (the degree M.B., Ch.B.), as well as a 3-year undergraduate programme for medical scientists in the discipline of radiation science (degree B.Med.Sc. Radiation Science). The School of Allied Health Professions includes the Departments of Occupational Therapy offering a 4-year programme for occupational therapists (degree B. Occupational Therapy), Physiotherapy offering a 4-year programme for physiotherapists (degree B.Sc. Physiotherapy), Nutrition and Dietetics offering a 4-year programme for dieticians (degree B.Sc. Dietetics) and Optometry offering a 4-year programme for optometrists (degree B. Optometry). The School of Nursing offers a 4-year undergraduate programme for professional nurses (degree B.Soc.Sc. Nursing). The undergraduate degree courses offered by the FoHS, UFS, may be viewed in Table 3.2.

TABLE 3.2 UNDERGRADUATE DEGREE COURSES OFFERED BY THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project from the Faculty of Health Sciences Yearbooks 2010]

SCHOOL	DEGREE	PROGRAMME
Medicine	M.B., Ch.B.	Undergraduate programme for Professional Medicine
	B.Med.Sc (Radiation Science)	Undergraduate programme for Radiation Sciences
Allied Health Professions	B. in Occupational Therapy	Undergraduate programme for Occupational Therapists
	B. in Optometry	Undergraduate programme for Optometrists
	B. Sc. in Dietetics	Undergraduate programme for Dieticians
	B.Sc. in Physiotherapy	Undergraduate programme for Physiotherapists
Nursing	B.Soc.Sc in Nursing	Undergraduate programme for Nursing

Table 3.3 represents the numbers of registered, undergraduate students in the FoHS during 2009. Therefore target population included 1305 students in the FoHS. Almost half of the total number of students was in the School of Medicine undergraduate programme for Professional Medicine, M.B., Ch.B.

TABLE 3.3 NUMBERS OF UNDERGRADUATE STUDENTS REGISTERED IN THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE, 2009 [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project from information obtained from the Division Student Administration: Office of the Dean, FoHS, UFS, September 2009]

STUDENTS	YEAR OF STUDY					TOTAL
	I	II	III	IV	V	
M.B., Ch.B.	149	122	103	135	99	608
B.Med.Sc. (Radiation Science)	4	6	7	NA	NA	17
B. Occupational Therapy	39	39	28	35	NA	141
B.Sc. Physiotherapy	41	41	39	37	NA	158
B. Sc. Dietetics and Human Nutrition	8	19	19	17	NA	63
B. Optometry	30	24	27	34	NA	115
B.Soc.Sc. (Nursing)	46	70	38	49	NA	203
TOTAL						1305

NA = not applicable as these are either three- or four-year degree courses.

3.3.4.1.2 *Survey population*

The survey population was selected from the abovementioned target population, and included male and female as well as English and Afrikaans students. This included all the students in the population who voluntarily completed the anonymous questionnaire during an academic contact session.

The researcher approached academic staff members who lecture to each student group to obtain permission to distribute the questionnaires during an academic contact session. Due to the large size of the target population (1305 students), it was decided to include second-year and final-year students during 2010, providing representative data from a wide range of junior to senior students.

3.3.4.1.3 *Sample size*

As can be seen from Table 3.2 above (cf. p. 94), the large number of students (n = 1305) made it necessary to select a sample of the population. By means of convenience sampling, a representative sample of second-year and final-year students from the Schools of Medicine, Allied Health Professions and Nursing respectively in the FoHS, UFS, was obtained. All second-year and final-year undergraduate students enrolled in the FoHS in 2010 who complete the abovementioned anonymous questionnaire were included in the study. As indicated by Barbour (2005:746), larger sampling is wise to ensure representativeness in undergraduate student surveys – even when employing qualitative approaches, such as with the open questions included in the questionnaire survey.

3.3.4.1.4 *Description of the sample*

The sample consisted of all second-year and final-year undergraduate students registered for the undergraduate degree programmes in the Schools of Medicine, Allied Health Professions and Nursing respectively, in the FoHS, UFS as stated above, during 2010. This included Afrikaans and English as well as male and female undergraduate students, representing White, Black, Coloured, Asian and Indian ethnic groups.

From Table 3.2 (cf. p.94), the number of second-year students in the FoHS during 2010 could be estimated from the current first-year students in the School of Medicine, Allied Health Professions and Nursing during 2009 (n = 317).
Although the questionnaire survey was conducted during the first quarter of 2010, the final student numbers for each class was not available, as the registration process had not been completed. Therefore the numbers of students were estimated from the 2009 figures.

The number of final year students could be estimated from the number of third year students in the School of Allied Health Professions and Nursing (n = 151), as well as the number of fourth-year students in the M.B., Ch.B programme (n = 135) and the number of second-year students in the B.Med.Sc. (Radiation Science) programme respectively (n = 6). This estimated number (n = 292) may have been affected by the number of students who did not progress to the next year of study, either by not advancing to the subsequent year of study, or by repeating their final year. The total estimated number of students included in the sample was therefore six-hundred and nine (n = 609).

The questionnaire survey was completed during the first quarter of 2010. Second-year students were included in the sample because of the assumption that they have adapted to their course and the University environment by the end of their first year. Final-year students were included in the sample to reflect the opinions of older, more mature students with exposure to the working environment of their respective occupations due to clinical rotations that form part of their training. In addition, first-year Occupational Therapy students were also included in the sample, as they attend a second-year undergraduate year course in Physiology for students in the Allied Health Professions classes simultaneously with second-year Physiotherapy, Dietetics and Human Nutrition and B.Med.Sc. (Radiation Science) students.

3.3.4.2 Sample selection: Academic staff questionnaire survey

In the following section, the target population, survey population, sample size and description of the sample for the staff questionnaire survey will be described.

3.3.4.2.1 *Target population*

The target population included all members of the academic staff in the Schools of Medicine, Allied Health and Nursing in the FoHS, UFS who lecture to undergraduate students. Only academic staff members permanently employed by both the University of the Free State or the Free State Department of Health and who are staff members of the Schools of Medicine, Allied Health Professions or Nursing in the FoHS, UFS were included. Part-time or temporary academic staff members appointed on a contract or session basis, or academic staff members from other Faculties at the University of the Free State who lecture to undergraduate students in the FoHS, were not included in the target population. A total of 206 academic staff members were eligible to participate in the study. These numbers were obtained from the list of Faculty Board members, Division: Administration, Office of the Dean, FoHS, during March 2010.

3.3.4.2.2 *Survey population*

The survey population included all the academic staff members of the Schools of Medicine, Allied Health and Nursing in the FoHS, permanently employed by the University of the Free State or the Free State Department of Health, who lecture to undergraduate students in the FoHS and gave consent to complete the voluntary questionnaire survey.

3.3.4.2.3 *Sample size*

All members of the target population as described above, and who voluntarily completed the questionnaire were included in the sample to ensure a large enough sample for quantitative statistical analysis. For quantitative research, sampling is preferably large and random, while for qualitative research the sample may be smaller and non-random (Bazely, 2004:5). As stated by Bernard & Ryan (2010:360), "Twenty to sixty knowledgeable people are enough to uncover and understand the core categories in any well-defined cultural domain or study of lived experience". To answer the research question satisfactorily, generalisation of ideas from a large sample, as well as in-depth analysis and interpretation of cases within a large sample can assist in the development of ideas (Bazely, 2004:5).

3.3.4.2.4 *Description of the sample*

The sample consisted of male and female academic staff members from the Schools of Medicine, Allied Health Professions and Nursing, FoHS, UFS, who lecture to undergraduate students from the Schools of Medicine, Allied Health Professions and Nursing in the FoHS respectively. Only academic staff members permanently employed by the University of the Free State or the Free State Department of Health were included in the sample. Academic staff appointed on a part-time contract or session basis as well as academic staff members who are not from the FoHS were not included, for example lecturers from other Departments on the campus of the University of the Free State who lecture to undergraduate students in the FoHS. All the permanent academic staff members in the Schools of Medicine, Allied Health Professions and Nursing at the FoHS, UFS, were approached to complete the questionnaire by means of a letter of invitation that was sent via e-mail.

3.3.4.3 *Sample selection: Focus group interview*

In the following section, a description will be given of the target population, survey population, sample size and a description of the sample for the focus group interview with academic staff members. As the participants for the focus group interview were selected from the same population as the participants for the academic staff member's survey questionnaire, there are some similarities in the discussion regarding target population and survey population (cf. 3.3.4.2.1 Target population; 3.3.4.2.2 Survey population, p. 97).

3.3.4.3.1 *Target population*

For the focus group interview, the target population included the permanent academic staff members in the FoHS, who lecture to the undergraduate students in the Faculty, and who complete the abovementioned questionnaire for academic staff. As recommended by Schifferdecker and Reed (2009:640), the participants selected for the focus group interview (phase II) were included in phase I (academic staff members approached to complete the questionnaire survey) to obtain optimal representation of individual's viewpoints. This constitutes nested sampling, where the participants of one phase (QUAN) provide the

group from which a subset is selected for another phase (QUAL) of the study (Collins & O'Cathain, 2009:5).

Participants for the focus group interview were recruited because they had been identified to be skilled in the topic under discussion or could make a meaningful contribution towards it. This is termed purposive sampling (Bernard & Ryan, 2010:365). The aim of the focus group was to generate additional and complementary data to that obtained from the questionnaire surveys determining student and staff members' perceptions of Generation Y. This was described above as an example of mixed-method design where qualitative and quantitative paradigms have equal status and the methods are conducted in sequential time order (QUAN→QUAL): the sequential explanatory design (Johnson & Onwuegbuzie, 2004:20-21).

In the context of the main aim of the study, namely to develop an educational approach suitable for the generation profile identified, an appropriate composition for such a focus group would include lecturers who are experienced in lecturing to undergraduate students and who take an interest in or are knowledgeable in the scholarship of teaching and learning. Therefore, a degree of homogeneity was required (Greeff, 2005::299-313).

3.3.4.3.2 *Survey population*

The survey population included academic staff members who complied with the purposive sampling selection criteria, and who gave informed consent to participate in the focus group interview. The composition of the focus group included staff members from the Schools of Medicine, Allied Health Professions (including each of the Departments of Dietetics and Human Nutrition, Occupational Therapy, Optometry and Physiotherapy) as well as Nursing respectively.

3.3.4.3.3 *Sample size*

A number of ten academic staff members who gave consent to participate in the focus group interview from the three schools in the FoHS; were included in the sample.

3.3.4.3.4 *Description of the sample*

Both the design of the questions used in the interview, as well as the recruitment of the group, are essential ingredients to construct a useful research instrument (Stewart et al., 2007:51). An ideal group should consist of six to twelve members (Lewis, 2000:Online; Skinner, 2007:320-321). The group should consist of representative members of a study population, using purposive sampling to recruit group members. Over-recruiting by about 20% ensures that the group is big enough if any participants should withdraw (Stewart et al., 2007:54).

The grid below indicates the eligibility criteria with which participants were selected for recruitment – a form of homogenous purposeful sampling (Springer, 2010:113). A list of names was compiled as first option in each of the three schools in the FoHS to be approached to participate in the focus group interview. Additional names were used as alternatives should the first round of invitations not yield sufficient numbers to conduct the interview. These staff members were regarded as representative of the larger population (Lewis, 2000:Online).

Forty-seven (47) staff members and 322 undergraduate students in the School of Medicine had completed the questionnaire survey. Therefore, four academic staff members were approached for recruitment to ensure that a representative sample of participants was included from the School of Medicine.

The first group of four academic staff members in the School of Medicine who were approached according to the purposive sampling criteria (described below) could not participate due to alternative commitments on any of the proposed dates and times for the focus group interview. Subsequently a second group of four academic staff members was approached, who were available on the proposed date and time for the focus group interview.

Twenty staff members and 226 undergraduate students in the School of Allied Health Professions had completed the questionnaire survey. Four academic staff members (one from each of the Departments of Dietetics and Human Nutrition, Occupational Therapy, Physiotherapy and Optometry respectively in the School of Allied Health Professions)

were approached for recruitment for the focus group interview, to ensure representation from every Department in the School of Allied Health Professions. Two staff members in the School of Nursing were approached to participate in the focus group interview, because only five staff members from the School of Nursing and 68 undergraduate Nursing students had completed the questionnaire surveys. All the staff members from the Schools of Allied Health Professions and Nursing respectively who were approached with the first round of invitations to participate in the focus group interview, and based on the purposive sampling criteria (described below), were available to participate.

The questionnaire survey for academic staff members was completed anonymously, either online or in a written format. There was therefore no possibility to know whether the staff member approached to participate in the focus group interview had completed the questionnaire. The information document provided with the invitation to participate in the focus group interview included information regarding the study, and indicated that the proposed participant could contact the researcher if there were any queries regarding the research. The assumption was made that proposed participants who had not completed the questionnaire would also not consent to participate in the focus group interview, and therefore that those who did consent to participate had participated in the questionnaire survey.

Table 3.4 represents the purposive sampling criteria that were used to identify possible academic staff members who would be eligible for invitation to participate in the focus group interview.

TABLE 3.4 ELIGIBILITY CRITERIA USED FOR PURPOSIVE SAMPLING OF ACADEMIC STAFF MEMBERS FOR FOCUS GROUP INTERVIEW

[Compiled by the researcher (Van der Merwe, 2011) as part of this Ph.D. project]

No	Criterion	Description
1	The staff member lectures to undergraduate students	This was an essential criterion, as those staff members who do not lecture to undergraduate students will have neither the experience nor interest required to take part in the focus group interview
2	The academic staff member has a permanent appointment in the FoHS	This was an essential criterion, as those staff members who do not lecture to undergraduate students will have neither the experience nor interest required to take part in the focus group interview
3	The age of the staff member (birthdates in one of the following cohorts: 1941 – 1960 [Baby Boomers], 1961 – 1980 [Generation X], 1981 – 2000 [Generation Y])	The focus group had to represent academic staff members from all these generational cohorts (age categories), bearing in mind that there would be very few lecturers in the cohort Generation Y (1981 – 2000) as these members' young age would exclude many as academic staff members
4	The academic staff member's years of experience as lecturer to undergraduate students in the FoHS (> 8 years, 5 – 8 years, < 5 years)	The focus group had to consist of at least eight members with > 5 years experience lecturing to undergraduate students
5	Qualifications in either Health Professions Education or another educational qualification, e.g. SPALHE, short courses in HPE, courses presented by the University of the Free State in teaching and learning	Regarding criterion 5, the expertise and knowledge of two senior staff members in the FoHS from the Division: Health Professions Education as well as from the Office of the Dean, FoHS, UFS, were consulted
6	Interest or involvement in research in health professions education or medical education	Regarding criterion 6, the expertise and knowledge of two senior staff members in the FoHS from the Division: Health Professions Education as well as from the Office of the Dean, FoHS, UFS, were consulted
7	Experience with the use of or involvement in the use of technology, e.g. e-learning, Classroom Performance System (CPS)© or simulation in the teaching and learning environment	Regarding criterion 7, the expertise and knowledge of two senior staff members in the FoHS from the Division: Health Professions Education as well as from the Office of the Dean, FoHS, UFS, were consulted

Staff members had to comply with at least four of the seven eligibility criteria stated above as follows:

- Criterion 1 AND Criterion 2 (if not 2, criteria 5, 6 and 7) AND
- Criterion 3 (if < 5 years experience, also criteria 5, 6 and 7) OR 4 (if Generation Y, also criteria 6 and 7)
- Criteria 5 OR 6 OR 7.

Senior members of staff in the FoHS who are experienced in medical education research, and who have managerial insight into the staff corps in the FoHS were consulted in the development of the sampling criteria. Regarding criteria 5 – 7, the expertise and knowledge of two senior staff members in the FoHS from the Division: Health Professions Education as well as from the Office of the Dean, FoHS, UFS, were consulted.

After purposive sampling complying with the abovementioned criteria, potential participants were approached via e-mail. The invitation letter included an information document explaining the purpose and nature of the focus group interview. In the letter three possible dates and times were suggested, in order to accommodate academic staff members' busy programmes. The final participants were selected based on eligibility according to the abovementioned criteria, consent to participate as well as availability on the specific date and time. Participants gave written informed consent.

3.3.5 Pilot study

The pilot study as applicable to the questionnaire surveys and focus group interview will be described.

3.3.5.1 *Pilot study: Questionnaire survey*

A pilot study was done on both the undergraduate student and academic staff questionnaire surveys.

3.3.5.1.1 *Questionnaire survey: Undergraduate students*

A pilot study was conducted on five English and five Afrikaans third-year students respectively in each of the undergraduate programmes in the Schools of Medicine, Allied Health Professions and Nursing in the FoHS, UFS. Students were approached during an academic contact session after the academic staff member responsible for that session had granted permission. Students were asked to voluntarily complete the anonymous questionnaires during the contact session.

The time needed to complete the questionnaires as well as any confusing questions or misunderstanding was noted. Students completed the questionnaires comfortably within 20 minutes, and there were no difficulties during completion. Sixty (60) questionnaires were included in the pilot study. Questionnaires were coded, but the data from the questionnaires in the pilot study were not included for analysis. No changes to the questionnaires for students were made after the pilot study.

3.3.5.1.2 *Questionnaire survey: Academic staff*

Five academic staff members in the FoHS participated in a pilot study. Two (2) staff members each from the Schools of Medicine and Allied Health Professions respectively, and one from the School of Nursing took part in the pilot study. Staff members could exercise a choice between completion of either an online or a written questionnaire. No changes were made to either the online or the written questionnaire after the pilot study. The questionnaires were coded. The pilot study questionnaire data were not included for analysis in the study results.

3.3.5.2 *Pilot study: Focus group interview*

The agenda and questions for the focus group interview were discussed with three academic staff members in the FoHS experienced in medical education research and the focus group method. Questions were assessed for clarity and usefulness, and were refined to meet the purposes of the focus group interview. Questions had to allow open responses, and elicit in-depth discussion of the topic at hand.

3.4 DATA ANALYSIS

In the following section, the data analysis of the study will be discussed, both with reference to quantitative as well as qualitative phases of the mixed-methods design.

The researcher's challenge in mixed-methods data analysis is to find satisfactory and defensible answers to questions within the constraints of perhaps not entirely fulfilling the philosophical assumptions underlying either quantitative or qualitative approaches (Bazely, 2004:8). As suggested by Skinner (2007:318-319), when used in conjunction with other types of research, qualitative research methods provide additional perspectives that can confer meaning to significant findings made in a quantitative survey. Similarly, Bernard and Ryan (2010:109) pointed out that while quantitative data analysis provides data processing and the recognition of patterns in data, the act of qualitative analysis is essentially the interpretation of findings.

As stated by Bernard and Ryan (2010:109), "Analysis is the search for patterns in data and for ideas that help explain why those patterns are there in the first place". The abovementioned authors suggest that there is no need to use either inductive or deductive approaches in a mutually exclusive manner, but rather to appropriately combine these epistemological backgrounds for the questions at hand (Bernard & Ryan, 2010:288).

Mixed-methods analysis means using either quantitative or qualitative analytical techniques more or less at the same time (concurrently) or sequentially, when the analysis of one form of data leads to or informs the other type of data analysis (Collins & O'Cathain, 2009:6). As described by the latter authors, it may involve several steps, including reduction, display, transformation, correlation, consolidation, comparison or integration of data.

3.4.1 Quantitative data analysis

The data from the questionnaire surveys were analysed with the help of a biostatistician from the Department of Biostatistics, FoHS, UFS. Quantitative data were analysed descriptively using frequencies and percentages for the categorical variables and means, and standard deviations or percentiles as appropriate for the numerical variables. The

associations between categorical variables were determined using contingency tables with 95% confidence intervals (CI's) for the differences in percentages and Chi-squared tests or Fisher's exact tests where appropriate.

3.4.2 Qualitative data analysis

As suggested by Skinner (2007:323), the qualitative analysis was adapted to meet the demands of the specific context and data. The analysis of qualitative data was done continuously, in a systematic, thorough, sequential and verifiable fashion (Barbour, 2005:747; Greeff, 2005:311), and comprised analysing thematic variables. Comparisons, feedback and alternative explanations are integral to this process (Greeff, 2005:311). Qualitative data were aggregated into categories of information that eventually yielded diverse insights (Creswell & Plano Clark, 2007:6), which may be called "descriptive themes" (Collins & O'Cathain, 2009:6).

Qualitative data were analysed by means of content analysis. Responses in qualitative data (themes, variables, concepts, categories or values) were coded so that information may be understood and retrieved (Bazely, 2004:6). Unlike statistical analysis, where coding is of necessity a priori and must be precise and focus on a single dimension only, new codes could be defined or data could be recategorised after coding. This was possible because the original source data were always available for review, and codes could represent multiple texts about a specific concept or theme (Bazely, 2004:7).

As suggested by Gonzalez-Castro, Kellison, Boyd and Kopak (2010:342--360), responses to the open questions in the questionnaire survey were coded and then categorised into themes corresponding to the key concepts forming the focus of the research question. Many response codes were included into each thematic category, and these were analysed descriptively in corroboration with the statistical analysis of quantitative results, so that a "story line" or contextualisation could be constructed. This was done by reading all the text data, and recording the responses to open questions into separate text files for each of the three schools in the FoHS.

The text data were then re-read and coded into the four main categories that formed the focus areas of the research question, namely, Values and behaviour, Communication

styles, skills and needs, Learning styles and needs as well as Environment and shaping events. Subsequently, these data were categorised into themes that reflected the main categories as mentioned above. From these themes and codes, quoted text responses were used to corroborate or explain quantitative findings, or to illustrate conflicting or contrasting perceptions, thereby enhancing the depth and breadth of the analysis.

Mixed-methods research data analysis may include various combinations of analytical process. For the purpose of this study, data reduction and data correlation were used to analyse the questionnaire responses. Data reduction refers to descriptive statistical analysis of quantitative data as well as thematic analysis of qualitative data. Data correlation implies correlating quantitative data with qualitative data (Collins & O'Cathain, 2009:22-7).

Greeff (2005:311) indicated that the focus group interview should be analysed with the group interaction as well as the individual contributions in mind. Both verbal and observational data were therefore included in a comprehensive record of the discussion, so that content analysis could reveal emerging trends and patterns (Lewis, 2000:Online; Stewart et al., 2007:15).

In this study, qualitative data analysis focused on identifying and refining themes and categories, progressing systematically and thoroughly from description to analysis (Barbour, 2005:747). The content analysis approach refers to the method of identifying responses to pertinent focus questions – termed response codes. Thematic categories were then created that included the response codes, and were further refined to include the variety of words used by participants (concordance analysis). This is described by Castro et al. (2010:348-354), in their overview on integrative mixed-methods research and data analyses.

The responses from the open questions in the questionnaire survey (both for students and academic staff) as well as the transcript for the focus group interview were coded by identifying text and making use of a priori coding based on themes within the categories according to which the questionnaires were compiled and arranged into key concepts. Codes were connected and interrelated, and a narrative compiled. Figure 3.3 illustrates the

qualitative data analysis, by indicating the key concepts as central with the thematic categories and codes arising from the key concepts.

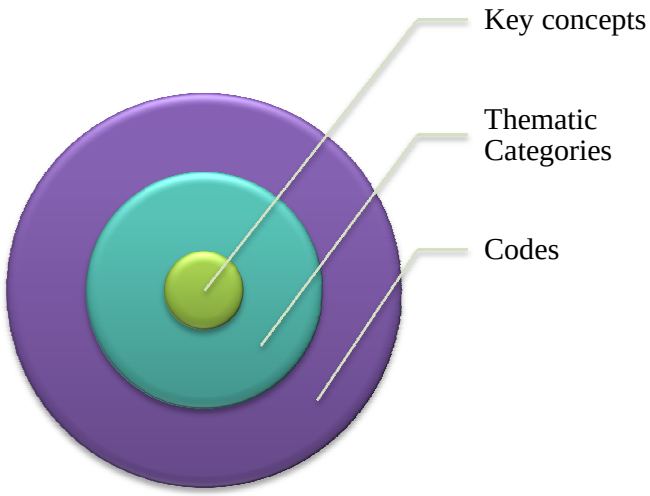


FIGURE 3.3 APPROACH TO QUALITATIVE DATA ANALYSIS [Compiled by the researcher (Van der Merwe, 2011) as part of this Ph.D. project]

In the literature, generational attributes may be identified as including the following areas of interest:

- Values and behaviour
- Communication style, skills and needs
- Learning behaviour
- Environment and shaping events.

These identified areas were termed key concepts, which were subsequently broadened into thematic categories. For example, under the key concept “Values and Behaviours”, the thematic category “Attitudes” was stated. From the thematic categories, response codes could be identified, for example under “Attitudes”; the response codes “Ambitious, confident” or “Casual, easy-going” were included. Subsequently the open responses in the questionnaires as well as the transcript from the focus group interview were coded to match the abovementioned response codes. In the example mentioned above, this included “Assertiveness”, “Ambitious”, “Open-minded” and “Liberal”.

Table 3.5 is a list of the key concepts, thematic categories and codes used in the qualitative data analysis.

TABLE 3.5 KEY CONCEPTS, THEMATIC CATEGORIES AND CODES FOR DATA ANALYSIS OF QUALITATIVE DATA [Compiled by the researcher (Van der Merwe, 2011) as part of this Ph.D. project]

KEY CONCEPTS: GENERATIONAL ATTRIBUTES	Values and behaviour	Communication styles, skills and needs	Learning behaviour	Environment and shaping events
THEMATIC CATEGORIES	**Attitudes** **Goals & ideals** **Approach**	**Connectivity** **Social contact** **Feedback**	**Learning styles** **Learning needs**	**Background** **Community** **Social context** **Shaping events**
CODES	Positive, Friendly, Pleasant, Self-esteem, Self-centred, Assertiveness, Casual, Open-minded, Liberal, Easy-going, Intergenerational conflict, Ambitious, Confident, Street-wise, Brand-conscious, Materialistic, Instant gratification, Entitlement, Work-life balance, Respect, Responsibility	Technology, Interpersonal communication, skills, Relationships Information, Diversity, Group work, Attitudes, Interaction with lecturers	Technology, Thinking and academic skills, Environment, Preferences, Basic skills, Technology, Challenges	Diversity: culture / ethnicity, Socio-political situation: challenges, Technology, Background: home life, Background: socio-political, Attitudes and moral values, Work and economic environment: challenges, Education: challenges, Influences

3.5 ENSURING THE QUALITY OF THE STUDY

In this section, issues of reliability, validity and trustworthiness will be discussed. These concepts must be addressed to ensure the quality of research done. It has been suggested, however, that in mixed-methods research the terms reliability, validity and trustworthiness should rather be replaced with auditability, fittingness and credibility respectively (Brannen, 2009:25). While neither the quantitative nor qualitative component in this study overrules the other's significance (Brannen, 2009, p. 25), the researcher has retained the use of the terms reliability, validity and trustworthiness as suggested by Creswell and Plano Clark (2007:146).

3.5.1 Reliability

Reliability refers to the consistency and uniformity of results when observations or measurements are repeated under the same conditions or over time (Creswell & Plano Clark, 2007:133; Trochim, 2006:Online). The reliability of the questionnaire survey was ensured by using a well-constructed questionnaire, e.g. by "asking similar questions which should give similar answers" (Katzenellenbogen & Joubert, 2007:119), by doing a pilot study, as mentioned in section 3.3.5, as well as making use of statistical analysis by an expert (Creswell & Plano Clark, 2007:133).

The reliability of the focus group interview was addressed by making use of stringent data analysis methods and by triangulating data with the data from questionnaires as well as the literature survey. Unless codes are compared among multiple researchers, reliability is emphasised less in qualitative research (Creswell & Plano Clark, 2007:135). In addition, reporting of data that does not confirm established findings ("disconfirming evidence") may contribute to supporting the accuracy of data analysis – this mirrors "real life" (Creswell & Plano Clark, 2007:135).

3.5.2 Validity

Validity is independent of the methodological approach followed in research, and may be found in how appropriately, thoroughly or effectively the methods are used (Bazely, 2004:141141-156). According to Katzenellenbogen and Joubert (2007:117), validity is an indication of the truth or accuracy of the measurement, to what extent an instrument measures what it is intended to measure. In this study, a mixed-methods research approach was used to provide the best direction and to give a basis for logical explanation of findings (Creswell & Plano Clark, 2007:133).

Validity in such an approach implies how accurately the researcher can reach meaningful conclusions (Creswell & Plano Clark, 2007:146). Using qualitative evidence (responses to open questions) also contributes to the validity of results from quantitative survey methods (Plano Clark et al., 2008:367).

The questionnaire addressed content validity by accounting for a wide range of characteristics of Generation Y as derived from the literature survey, using questions addressing the aims of the study (Creswell & Plano Clark, 2007:134). As suggested by these authors, the survey instrument was developed with attention to its reliability and validity. This included a section eliciting qualitative data with open questions, to validate and illustrate the responses from the quantitative data survey (Plano Clark et al., 2008:367).

The questions for the focus group interview were based on significant findings from the questionnaire survey. External audit of qualitative data was done by asking an independent expert to view the answers to open questions as well as the data generated from the focus group interview (Creswell & Plano Clark, 2007:135).

Onwuegbuzie and Johnson, (2006:48) suggest that by critically evaluating the quality of inferences and generalisations drawn from both qualitative and quantitative data analysis, legitimisation is repeatedly practiced. This guided the researcher in the process of data analysis. The focus of validity of the qualitative data was to ensure that the derived conclusions are plausible, truthful and precise (Creswell & Plano Clark, 2007:134).

Triangulation refers to converging and corroborating findings obtained by different methods (Brannen, 2009:12; Johnson & Onwuegbuzie, 2004:22), and was used to ascertain that the information is credible. Although the use of triangulation as a means of ensuring validity is regarded sceptically, it is seen by some as a way of providing for different perspectives on findings that overcomes methodological and personal biases (Bazely, 2004:2-4) and makes the knowledge claims defensible (Brannen, 2009:12; Greene, 2007: 2,4), therefore supporting validity.

3.5.3 Trustworthiness

Trustworthiness is ensured by paying close attention to how quantitative data is collected and analysed. This includes addressing reliability and validity, as mentioned above. The credibility and competence of the qualitative researcher as well as factors such as objectivity and truth are more difficult to assess than with quantitative research

methodology, but will depend largely on the epistemological background of the researcher doing the analysis (Patton, 1999:Online).

3.5.4 Minimising of potential misinterpretation of results

Correct analysis of quantitative data was ensured by making use of a statistician from the Department of Biostatistics, FoHS, UFS. Analysis of qualitative data was done with cognisance of the responsibility of the researcher to maintain high ethical standards in terms of objectivity, cross-referencing and scientific referencing. Both the participants and the facilitator verified the transcript of the focus group interview to ensure its accuracy.

3.6 ETHICAL CONSIDERATIONS

In order to fulfil ethical requirements, approval, informed consent and right to privacy were addressed, as discussed below.

3.6.1 Approval

Permission to perform the study was obtained from the Ethics Committee of the FoHS, the Dean of the FoHS, the Faculty Management Board of the FoHS, the Head of the Schools of Medicine, Allied Health Professions and Nursing respectively as well as the Vice-Rector, Academic Planning, UFS. The allocated Ethics Committee of the FoHS number (ETOVS 205/09) is indicated on all documents pertaining to the study.

3.6.2 Informed consent

The following section is a discussion of the applicable consent from students and academic staff members for the questionnaires, as well as from academic staff members for the focus group interview.

3.6.2.1 *Informed consent: Questionnaires*

The first page of the questionnaire survey for both undergraduate students and academic staff members contained an information letter (Appendices A1–A4). All members of the

target population received information about the study in either Afrikaans or English, according to their preference, and the questionnaires were available in both Afrikaans and English.

Participants were informed that their participation was voluntary, and that they had a choice regarding participation or withdrawing their participation at any time during completion of the questionnaire. The information letter was based on the guidelines for informed consent as prescribed by the General Guidelines of the Ethics Committee of the FoHS, University of the Free State (Appendix D).

The questionnaires were anonymous and participants were assured that all information would remain confidential. Consent for the questionnaire surveys was implied by completing the questionnaire. The name and contact details of the researcher as well as the Secretariat of the Ethics Committee of the FoHS were made available to the participants on the information letter.

3.6.2.2 *Informed consent: Focus group interview*

Written informed consent was obtained from the participants in the focus group interview (Appendix C3). Information and consent forms regarding the focus group interview were available in Afrikaans and English, according to the preference of each participant. Participation in the focus group interview was voluntary, and all participants were assured that they could withdraw participation at any time during the focus group interview.

While the focus group interview could not be conducted entirely anonymously, every effort was made to ensure that data was treated confidentially. For example, each participant received a number during the focus group interview, and the facilitator and participants addressed one another using these numbers.

Similarly, no mention was made of the participants' names in the transcript of the focus group interview; although the observer (researcher) has record of the name of each participant and the number they were allocated during the focus group interview.

3.6.3 Right to privacy

Participants' right to privacy in the questionnaire survey and focus group interview is discussed below.

3.6.3.1 *Right to privacy: Questionnaire survey*

The questionnaire surveys were voluntary, anonymous and confidential. Sample subjects' names did not appear on the questionnaires. Each questionnaire was numbered, but no identification of the demographic information or other responses was included in the questionnaire. All personal information was strictly confidential, and participants could not be identified from the questionnaire data at any time.

All participation by both students and academic staff members was voluntary and anonymous. All data were treated with strict confidence. Participants were informed that no information would be provided at any time to parties other than the FoHS or for the purposes of academic communication (e.g. research articles or presentations).

3.6.3.2 *Right to privacy: Focus group interview*

Participants in the focus group survey gave informed consent. Their participation was voluntary, and all data were treated with strict confidence. Participants were informed that no information would be provided to parties other than the FoHS or for the purposes of academic communication (e.g. research articles or presentations).

3.7 FORMULATING THE EDUCATIONAL APPROACH

As stated in Chapter 1, **Overview of the study**, this study aims at formulating an educational approach for the generation profile of undergraduate students at the FoHS. The questionnaire surveys were designed to focus on specific concepts as determined from the literature survey (cf. **3.3.2 Data collection: Questionnaire survey**, p.86), including values and behaviours (attitudes, goals and ideals), communication styles, skills and needs (connectivity, social contact and feedback), learning styles and needs, environment and shaping events (Appendices A1–A4).

The student questionnaire survey provided data from undergraduate students regarding their perceptions and opinions of the generation profile of Generation Y students, while the staff questionnaire survey provided data regarding the perceptions and opinions of academic staff members who lecture undergraduate students, the so-called Generation Y cohort in the FoHS. The questionnaires yielded quantitative data (from closed questions) and qualitative data (from open questions). The questionnaire surveys therefore contributed to exploration and discovery enabling greater understanding of undergraduate students belonging to the Generation Y cohort. The focus group interview provided insight (qualitative data) into the context and depth of these data.

Analysis of the quantitative and qualitative data revealed a comprehensive description of undergraduate students in the Schools of Medicine, Allied Health Professions and Nursing in the FoHS, based on the profile of Generation Y as described in the literature, as well as the perceptions of the undergraduate students and academic staff in the FoHS who lecture these students. In addition, various opinions, behaviours or ideas indicating strengths and areas of concern in the teaching/learning environment at the FoHS could be identified.

Finally, following final analysis and interpretation of the data, the researcher could formulate guidelines and recommendations for consideration in the educational approach specific for the generation profile of undergraduate students in the FoHS.

It should be noted that data interpretation was ongoing and concurrent with data validation and that both reflexivity (an awareness of the limitations of personal bias) and negative case-sampling (identifying cases that do not corroborate the proposed findings) were used to facilitate interpretation (Johnson, 2010:Online).

3.8 CONCLUSION

In Chapter 3, an overview was given of the research design and methodology used in this study, as well as the procedures followed for the research.

In Chapter 4, ***Results and Discussion of Findings of the Questionnaire Survey***, the researcher will present the results from both the undergraduate students' and academic staff members' questionnaire surveys conducted as part of this study. The questionnaire

survey yielded both quantitative (numerical) and qualitative (text) data from closed and open questions respectively. This chapter reports on the first phase of the mixed-model research design used in the study.

CHAPTER 4

RESULTS AND DISCUSSION OF FINDINGS OF QUESTIONNAIRE SURVEY

"The opposite of a correct statement is a false statement. But the opposite of a profound truth may well be another profound truth."

(Niels Bohr, 2011:Online)

4.1 INTRODUCTION

This chapter will present the results from both the undergraduate students' and academic staff members' questionnaire surveys conducted in the Faculty of Health Sciences, University of the Free State (UFS) as part of this study. The questionnaire survey yielded both quantitative and qualitative data from closed and open questions respectively. This chapter reports on the first phase of the mixed-methods research design used in the study, namely concurrent triangulation (QUAN + qual) (cf. **Figure 3.2 Visual diagram of study design**, p.79). Quantitative (QUAN) and qualitative (qual) data collection occurred simultaneously, and the qualitative findings corroborated the results of the quantitative data analysis. The instrument used during this phase of the mixed-method study design included the Questionnaire for Undergraduate Students and the Questionnaire for Academic Staff that were available in both English and Afrikaans (Appendices A1-4).

The questionnaires for both undergraduate students and academic staff members were designed to determine both undergraduate students' and academic staff members' perceptions regarding the attitudes, characteristics, preferences and expectations of the so-called Generation Y students (born 1981-2000) enrolled in the Faculty of Health Sciences (FoHS) at the UFS. The questionnaire design was based on generational theory as described in Chapter 2, **Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education** (cf. p.19). Chapter 3, **Research Design and Methodology** (cf. p.67) describes the design and implementation of the questionnaire survey. As elucidated in Chapter 3, the statements included in the questionnaire were based on the available literature describing Generation Y. The questionnaire was divided into five sections as follows (cf. Appendices A1-A4):

- *Section A: Demographic information*
- *Section B: Values and behaviours*
- *Section C: Communication styles, skills and needs*
- *Section D: Learning styles and needs*
- *Section E: Environment and shaping events*.

The results for **Section A, Demographic Information,** is presented first, followed by the results for sections B to E. The quantitative results reflecting demographic information for both the student and staff members participating in the questionnaire survey included a description of the study population and the distribution thereof in the FoHS in terms of representation in the SoM, SoAH and SoN respectively. For the student population this included data regarding numbers of undergraduate students in each School within the FoHS, age, gender, ethnicity, home language, academic year, duration of study and previous academic qualifications. For the academic staff population this included data regarding age, gender, ethnicity, home language, which undergraduate students the academic staff members lecture to and for what duration, as well as their academic qualifications.

Sections B to E consisted of both closed and open questions, yielding quantitative and qualitative data respectively. The quantitative data were analysed statistically, while the qualitative data were analysed by thematic analysis.

Section B, Values and behaviours, focused on attitudes, goals and ideals described to be relevant to Generation Y students. This was done by means of statements to determine undergraduate students' and academic staff members' perceptions about the attitudes that are characteristic of Generation Y students as well as the goals and ideals important to them.

Section C, Communication styles, skills and needs, comprised of three divisions, namely connectivity, social contact and feedback. In each division, undergraduate students' and academic staff members' perceptions of statements reflecting commonly held perceptions or judgments about the communication styles, skills and needs of Generation Y students were determined. The first division, namely connectivity, addressed technology in

communication, followed by the division regarding issues describing social contact of Generation Y students, while the final division referred to the feedback needs of Generation Y students.

Section D, Learning styles and needs, dealt with aspects of the teaching and learning environment applicable to Generation Y students. Regarding both learning styles and needs, undergraduate students and academic staff members indicated the extent of their agreement or disagreement with a series of statements, and then indicated their perception of the importance of each statement with reference to the learning styles and needs of Generation Y students, using a four-point Likert scale.

Section E, Environment and shaping events, described the factors thought to influence the environment and therefore the attitudes and actions of Generation Y students. The first division of this section determined to what extent a series of statements was in line with either undergraduate students' or academic staff members' own views. In the student questionnaire, additional questions determined the access to and use of specific technology and devices by undergraduate students.

Each section containing closed questions was followed by an open question where responses were requested in the form of any additional comments on the preceding section. The final questions in the questionnaire included two open questions regarding the perceived differences between Generation Y students and older generations, and the challenges that Generation Y students face. The text data from the responses to open questions were included in the qualitative data analysis.

For the quantitative data, results are represented by means of frequencies and percentages for the categorical variables, and means, standard deviations and percentiles for the numerical variables. Significant associations between the categorical variables are expressed by means of 95% confidence intervals. Chi-squared tests or Fisher's exact test were used where appropriate, as described in Chapter 3, **Research Design and Methodology** (cf. **3.4.1 Quantitative data analysis**, p.105). The quantitative data (responses to the open questions in the questionnaire survey) were coded in order to understand and retrieve information, making use of a priori coding and based on the themes used to compile the questionnaires, as described in Chapter 3, **Research Design**

and Methodology (cf. **3.4.2 Qualitative data analysis**, p.106). Table 3.5 (cf. p.109) indicates the key concepts (arrangement in the questionnaires) central to the thematic categories and codes arising from these. The qualitative data led to insight into the diverse perspectives held by undergraduate students and academic staff members alike, providing broad descriptive themes that either conflicted with or corroborated the statistical analysis of quantitative data. This provides the researcher with the ability to enhance both comprehension and completeness of data (Casey & Murphy, 2009:40-55).

For each section, the results of the statistical analysis of closed questions in the undergraduate student questionnaires are presented first, followed by the results of the academic staff members' questionnaires. The responses to open questions (qualitative data) from both the undergraduate students' and academic staff members' questionnaire surveys are included in the results. This phase of the mixed-methods research design is referred to as concurrent triangulation (annotated as QUAN + qual).

The number of undergraduate students and academic staff members in the study population who responded to the closed questions in the questionnaire survey is indicated for each individual statement in the tables below (cf. **Table 4.1** to **Table 4.22**). A minimum of 96% of undergraduate students responded to the closed questions (in the form of responses to statements on a four-point Likert scale); with the exception of one question where 56% of undergraduate students responded. This question in Section E of the questionnaire survey for undergraduate students determined their response to how often they use other forms of technology than the listed forms of technology. A possible explanation for the low number of students answering this question could be that most of the technologies that undergraduate students would be inclined to use had already been listed in the preceding questions, so that fewer students would have found it necessary to answer this question. The percentage of academic staff members who responded to the closed questions in the questionnaire survey was 88.2%.

The number of undergraduate students in the study population who responded to the open questions was similarly high. In the SoM, 88% of undergraduate students indicated responses to the open questions, while 96% and 93% of undergraduate students in the SoAH and SoN respectively responded to the open questions. The number of academic staff members in the study population who responded to the open questions was 83.1%

The high percentages of responses to both closed and open questions in the questionnaire surveys by undergraduate students as well as academic staff members provide a comprehensive and broad perspective on the sample population, and contribute to the validity and reliability of the findings.

4.2 DEMOGRAPHIC DESCRIPTION OF THE SAMPLE POPULATION

The results described regarding the demographic description of the sample population reflect Section A of the Questionnaire for Undergraduate Students as well as the Questionnaire for Academic Staff respectively (Appendices A1–A4). The results for undergraduate students will be discussed first, followed by the results for academic staff members. Each section will be concluded with a brief summary of the findings.

4.2.1 Undergraduate students

The study population included six hundred and twenty-seven (627) undergraduate students who completed the Questionnaire for Undergraduate Students during an academic contact session. According to the survey results, 11 undergraduate students (1.97%) indicated birth years before 1981, and were therefore excluded from the sample because this study made use of the age cohort for Generation Y students as those born between 1981 and 2000 (Barbour, 2005:742-750; Clausing et al., 2003:373-379; Mangold, 2007:21-23). The remaining 616 questionnaires were included for analysis.

Due to the fact that 69 (11.2%) undergraduate students did not indicate their age on the questionnaires, it could not be determined whether they fall within the defined Generation Y age cohort (1981–2000) that was used in this study (Barbour, 2005:742-750; Clausing et al., 2003:373-379, Mangold, 2007:21-23). However, these 69 undergraduate students were not excluded from the data for analysis, for the following reason. As only 1.97% (n=11) of the undergraduate students who completed the questionnaire survey (n=627) were born before 1981, it could therefore be assumed that approximately the same percentage of the 69 undergraduate students who did not indicate their age on the questionnaires would have been born before 1981. Calculating 1.97% of 69 yields 1.35 (one individual), whose responses to the questionnaire would not significantly affect the results of the study.

As indicated in Chapter 3, **Research Design and Methodology** (cf. **3.3.4.1 Sample selection: Undergraduate student questionnaire survey**, p.93), the target population included 1305 undergraduate students in the FoHS (number of registered, undergraduate students in the FoHS in 2009 (cf. **Table 3.3**, p.94). According to the research protocol, the sample was made up of all second year and final year undergraduate students registered in the FoHS, and was determined to be 609, based on the abovementioned Table 3.3 (cf. p. 94). The final number may have been affected by students' progression in their academic programmes, as students might not have advanced to the subsequent year of study, or might have repeated their final year, as explained in Chapter 3, **Research Design and Methodology** (cf. 3.3.4.1, p.93).

However, the final number of questionnaires included for analysis (n=616) indicates a high response rate (100%), and that the results are representative of the sample population. The high response rate may be attributed to the fact that the questionnaires were administered during an academic contact session. According to the regulations of the FoHS, undergraduate students are obliged to attend 100% of their lectures, but may be absent for a maximum of 20% of lectures with prior approval. This means that students regularly attend classes. The research question and questionnaire survey was introduced and explained by the researcher making use of a PowerPoint© presentation (Appendix B) that included interesting and humorous visual content, and this may have contributed to students' willingness to participate in the questionnaire survey. In addition, the anonymous nature of the survey also encouraged participation.

4.2.1.1 *Distribution of undergraduate students in the Faculty of Health Sciences*

The study population (n=616) included undergraduate students from the SoM, SoAH and SoN in the Faculty of Health Sciences (FoHS), UFS, who voluntarily completed an anonymous questionnaire during an academic contact session. As shown in Figure 4.1, at least half of the students were from the SoM, while a smaller number (n=68, 11%) was from the SoN.

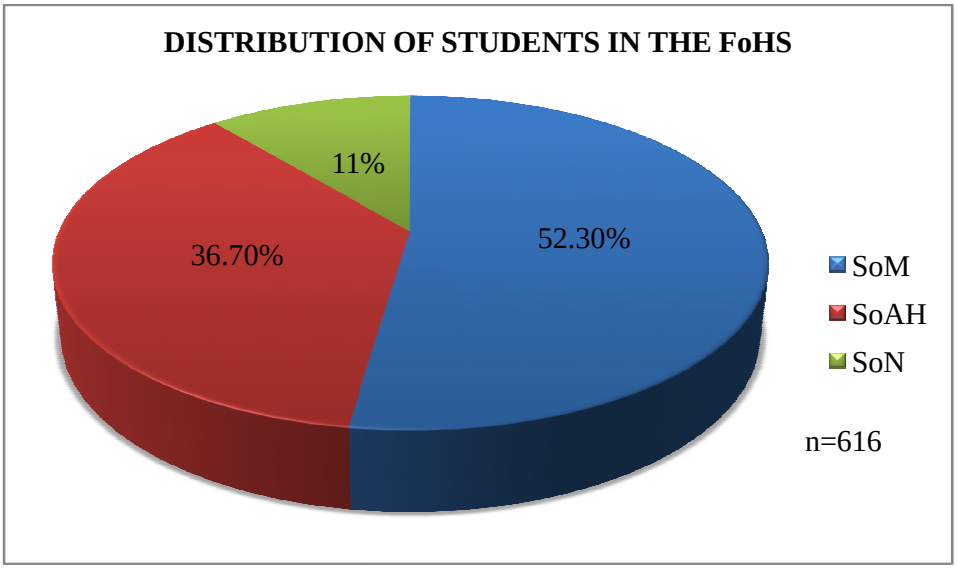


FIGURE 4.1 DISTRIBUTION OF UNDERGRADUATE STUDENTS IN THE FoHS

There were 322 (52.3% of the total) participants from the SoM, of whom the majority, 312 (96.9%) were M.B., Ch.B. undergraduate students, and 10 (3.1%) were B.Med.Sc. (Radiation Science) undergraduate students, as illustrated in Figure 4.2.

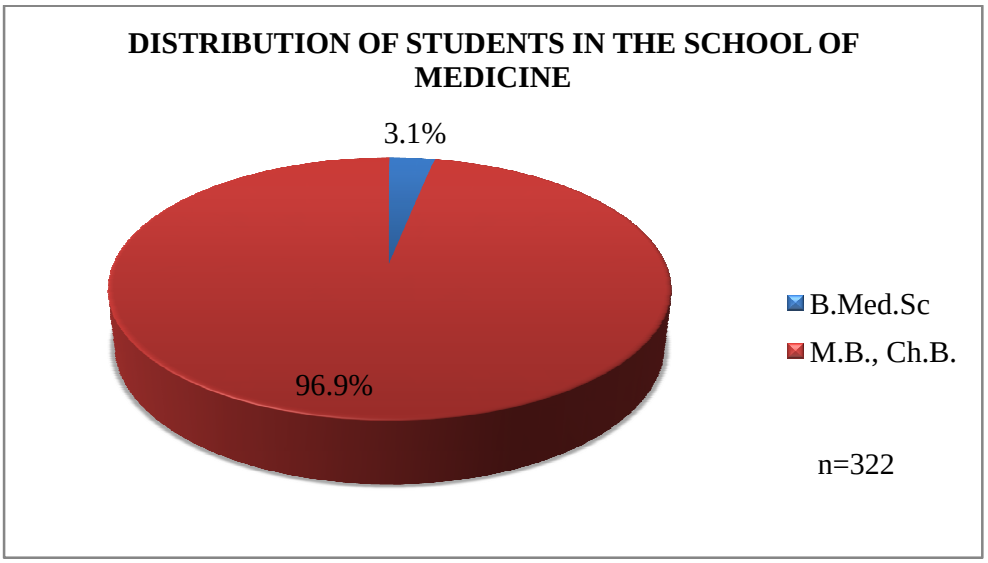


FIGURE 4.2 DISTRIBUTION OF UNDERGRADUATE STUDENTS IN THE SoM

The distribution of undergraduate students in the SoAH is represented in FIGURE 4.3. There were 226 (36.7% of the total) participants from the SoAH, including 25 (11.1%) B.Sc. Dietetics, 83 (36.7%) B. Occupational Therapy, 72 (31.9%) B.Sc. Physiotherapy and 46 (20.3%) B.Optometry undergraduate students. First-year Occupational Therapy undergraduate students were also included in the sample, as well as second- and final-year

undergraduate students, which led to the higher number of Occupational Therapy undergraduate students included in the sample when compared with the other departments in the SoAH. These students were included because the first-year Occupational Therapy undergraduate students do the same Physiology module as second-year Physiotherapy and Dietetics undergraduate students, and the questionnaire surveys were conducted during an academic contact session that the first-year Occupational Therapy undergraduate students attended at the same time as the second-year Physiotherapy and Dietetics undergraduate students. The departments of Optometry and Dietetics and Human Nutrition have smaller numbers of undergraduate students than the Departments of Occupational Therapy and Physiotherapy, and therefore represent smaller numbers of the sample.

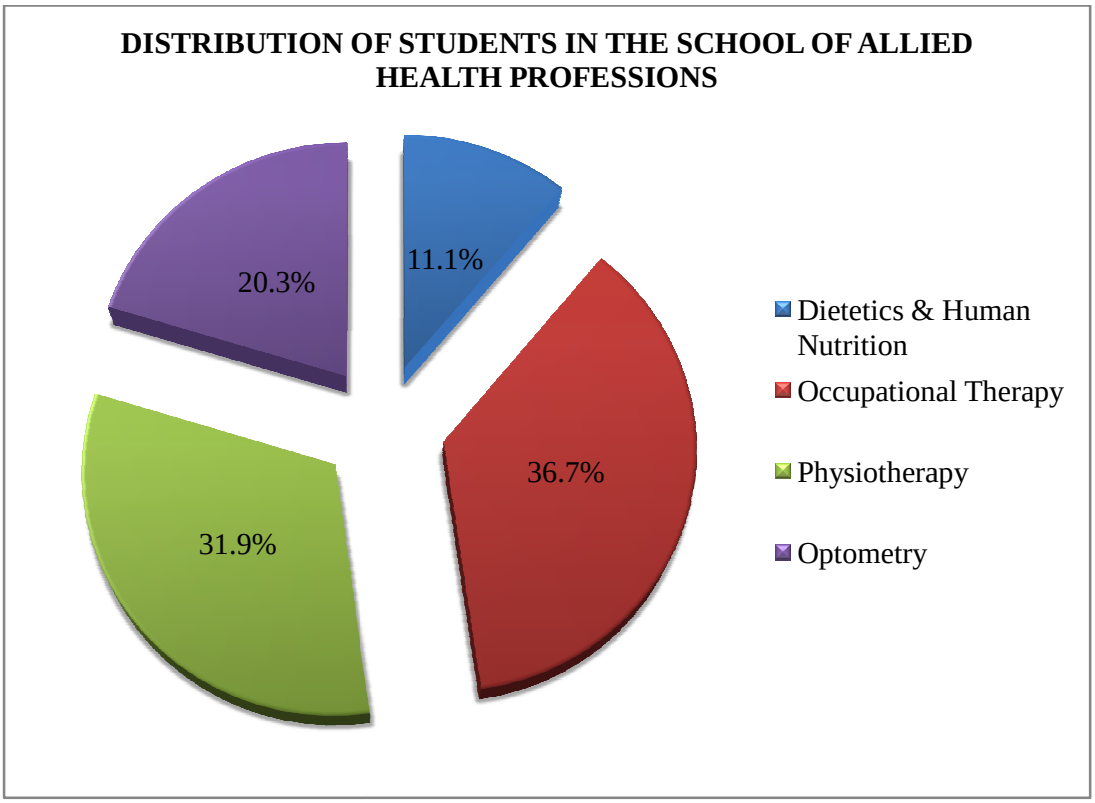


FIGURE 4.3 DISTRIBUTION OF UNDERGRADUATE STUDENTS IN THE SoAH

Figure 4.4 indicates the academic year of study of the undergraduate students in the sample population. As stated in Chapter 3**, Research design and Methodology** (cf. 3.3.4.1, p.93); the sample population included all second-year and final-year undergraduate students in the Faculty of Health Sciences. Second-year and final-year undergraduate students were

selected from the target population as a representative sample to reflect a wide range of student maturity and experience.

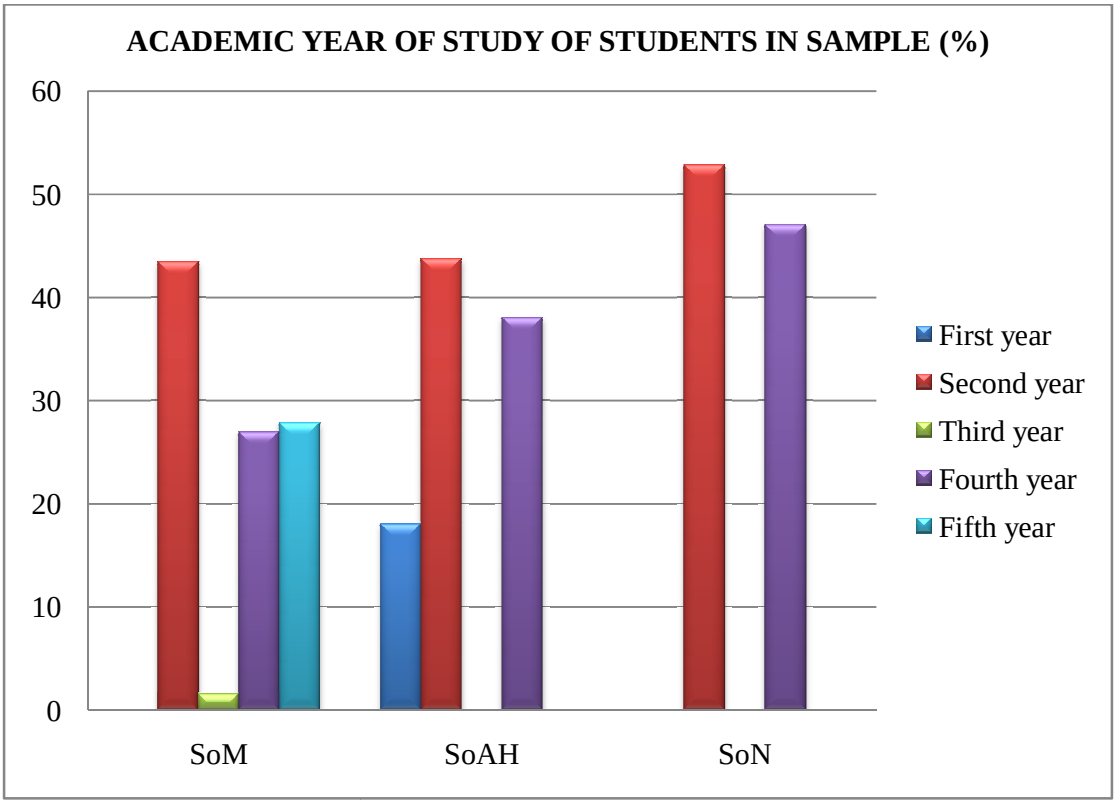


FIGURE 4.4 ACADEMIC YEAR OF STUDY OF UNDERGRADUATE STUDENTS IN SAMPLE (%)

There were five (0.8%) third-year students in the SoM included in the sample. These students are in the B.Med.Sc. (Radiation Science) programme, which is a three-year degree course, and so these third-year students are in their final year of study.

Fourth- and final- (fifth) year M.B., Ch.B (programme for Professional Medicine) students attend academic contact sessions together on Wednesday afternoons. The questionnaires were completed during these contact sessions, and therefore both fourth- and final-year M.B., Ch.B students were included in the sample.

Similarly, as mentioned previously, first-year B. Occupational Therapy students were also included in the sample, as they attend the same academic contact sessions in their physiology module as second-year B.Sc. Physiotherapy, B.Sc. Dietetics and B.Med.Sc.

(Radiation Science) students. First- to final-year students in the FoHS would still be within the age range for the Generation Y cohort, and the study did not aim to distinguish between students in different study years, but rather undergraduate students as a group.

The study population included 43.5%, 43.8% and 52.9% second-year students from the SoM, SoAH and SoN respectively. In the SoAH and SoN, there were slightly smaller numbers of final-year students in the sample (38.1% and 47.1% respectively), which may indicate that not all undergraduate students tend to complete their course in the prescribed four year period. However, this could also be because final-year students spend most of their time in clinical contact areas and not in lectures, and that their attendance of academic contact sessions is poor. Although the number of senior students (including fourth and final years) in the SoM in total (54.9%) is larger than the number of second years in the sample, the smaller number of final-year students in the sample from the SoM (27%) is also most likely a reflection of students' poor attendance of academic contact sessions in their final year.

Figure 4.5 indicates the duration of years of study in the FoHS of undergraduate students in the sample population. From these results, it can be seen that in some cases, undergraduate students are registered in the FoHS for a longer period than the prescribed duration of the course.

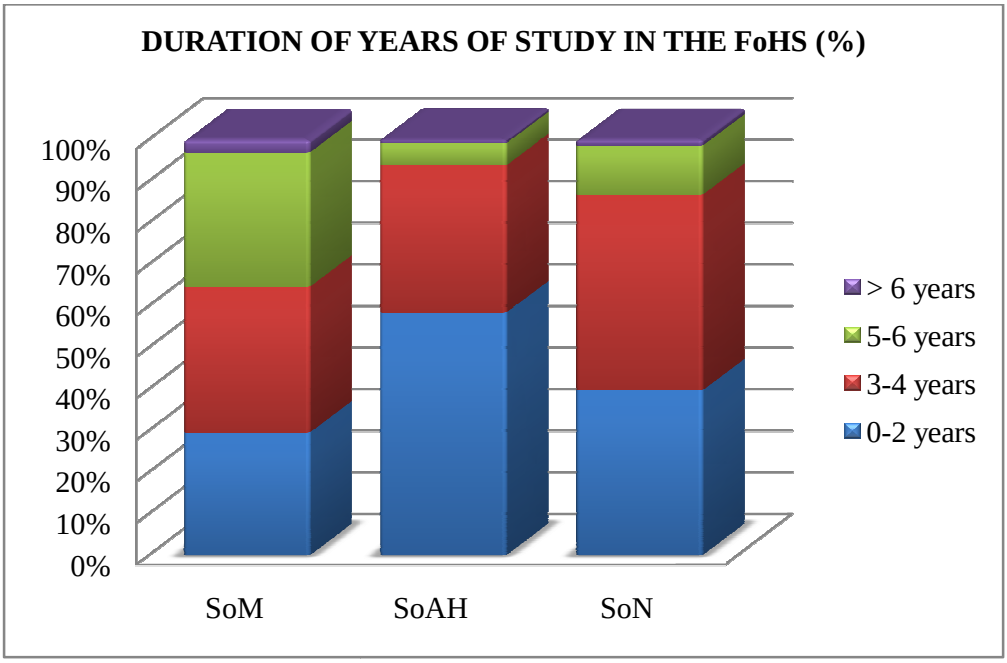


FIGURE 4.5 DURATION OF YEARS OF STUDY IN THE FoHS (%)

A small minority of undergraduate students in each of the three schools had been studying for more than six years, which is longer than the duration of any of the degree courses presented in the Faculty of Health Sciences (SoM 2.8%, SoAH 0.9% and SoN 1.5%). This could be due to small numbers of undergraduate students who may initially start their study in one of the degree courses offered in the FoHS, and then move to another course when they qualify for selection into another degree programme. For example, undergraduate students may be accepted into the SoAH, start with their studies, and then apply for admission to the M.B., Ch.B. course. If they are admitted to the M.B., Ch.B. programme, they would then spend a longer duration of time as undergraduate students in the FoHS than the actual duration of their degree programme.

The larger number of undergraduate students who have been studying between five and six years in the SoM (29.1%) compared to the SoAH (5.3%) or SoN, (11.8%), is due to the fact that the M.B., Ch.B. programme has duration of five years. As previously stated, 27.9% of undergraduate students in the sample from the SoM were fifth (final) years, and this is similar to the number of 29.1% of undergraduate students in the SoM studying between five and six years, as mentioned above.

In the SoAH and SoN, the programmes offered are all four-year degree courses. When compared to the numbers of final- (fourth-) year students in the SoAH (38.1%) and SoN (47.1%), the undergraduate students' duration of study of three to four years in the SoAH (35.4%) and SoN (47.1%) are similar.

Due to the fact that first-year Occupational Therapy students were included in the sample, there was a larger number of undergraduate students in the SoAH (58.4%) who indicated that they have been studying for between zero and two years than in the SoM (26.6%) and SoN (39.7%) respectively. However, when compared with the numbers of students who are in their second academic study year (SoM 43.5%, SoAH 43.8%, SoN 52.9%), as well as with the numbers of undergraduate students who have been studying between three and four years (SoM 31.6%, SoAH 35.4%, SoN 47.1%), it appears that many undergraduate students in the FoHS are repeating an academic year.

4.2.1.2 *Age distribution of undergraduate students in the sample population*

The mean age (standard deviation in parentheses) of study participants in the SoM, SoAH and SoN was 22.2 (SD 18–28), 21.3 (SD 19–29) and 22 (SD 18–29) years respectively. As mentioned previously, forty-one first-year Occupational Therapy students were included in the study population, which could explain the slightly younger age of the participants from the SoAH. As described in Chapter 3, **Research Design and Methodology** (cf. 3.3.4.1, p.93), second-year and final-year students were included in the survey population to obtain a representative sample of the target population for convenience purposes. However, no exclusion criteria existed for undergraduate students in other year groups, and so the data from these first-year students are included for analysis.

The emphasis of the study was on the perceptions of a group of undergraduate students as a whole, representing the Generation Y cohort, and not on the differences between junior and senior undergraduate students, as the ages of these undergraduate students were all within the Generation Y birth cohort (1981–2000) (Barbour, 2005:742-750; Clausing et al., 2003:373-379; Mangold, 2007:21-23). In addition, a larger sample size contributes to the representative nature of the findings, and therefore these undergraduate students' responses were included in the analysis.

4.2.1.3 *Gender distribution of undergraduate students in the sample population*

The gender distribution for all the undergraduate students (n=616) in the sample population from the Faculty of Health Sciences is represented in Figure 4.6.

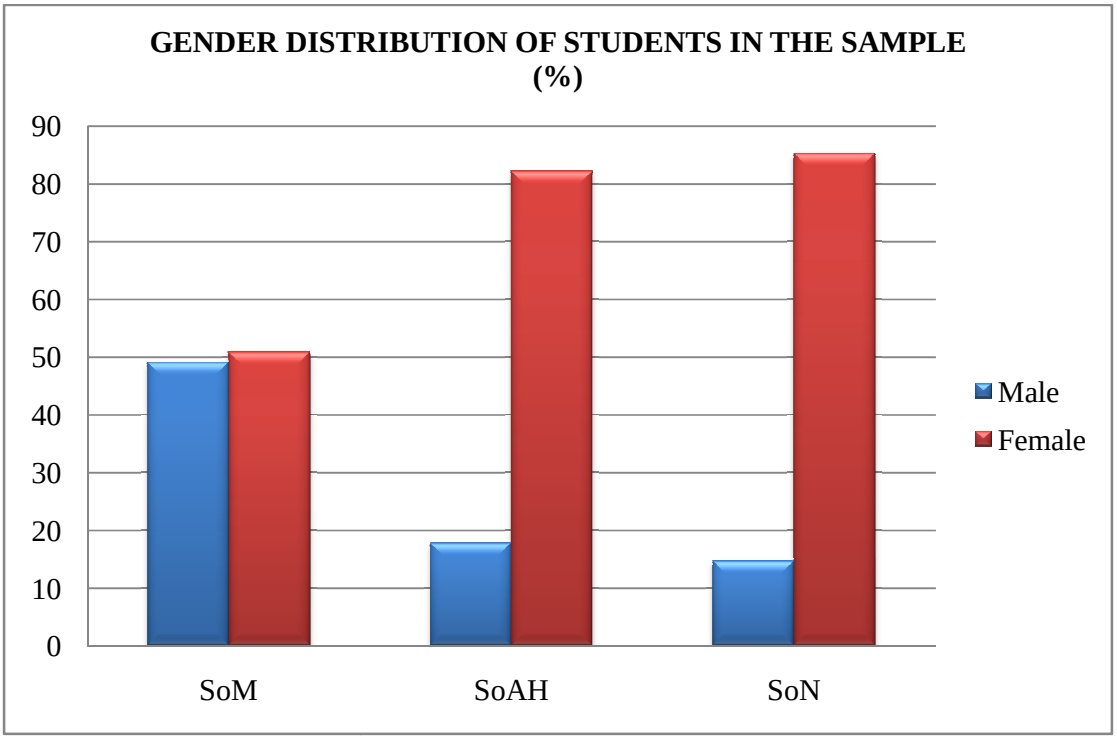


FIGURE 4.6 GENDER DISTRIBUTION OF UNDERGRADUATE STUDENTS IN THESAMPLE (%)

In the SoM, the gender distribution was almost equal (49.1% male, 50.9% female); while in both the SoAH (17.8% male, 82.2% female) and SoN (14.7% male, 85.3% female), female students made up the majority of the groups. In the SoM, the selection process ensures that equal numbers of male and female students are admitted to the M.B., Ch.B. programme (Selection Policy 2010, FoHS, UFS). The professions of Nursing [SoN] and Occupational Therapy, Physiotherapy and Dietetics [SoAH] are traditionally and historically dominated by females, which may explain the larger numbers of female students in the SoAH and SoN.

4.2.1.4 *Home language of undergraduate students in sample population*

Figure 4.7 represents the home language as indicated by undergraduate students in the sample population (n=616).

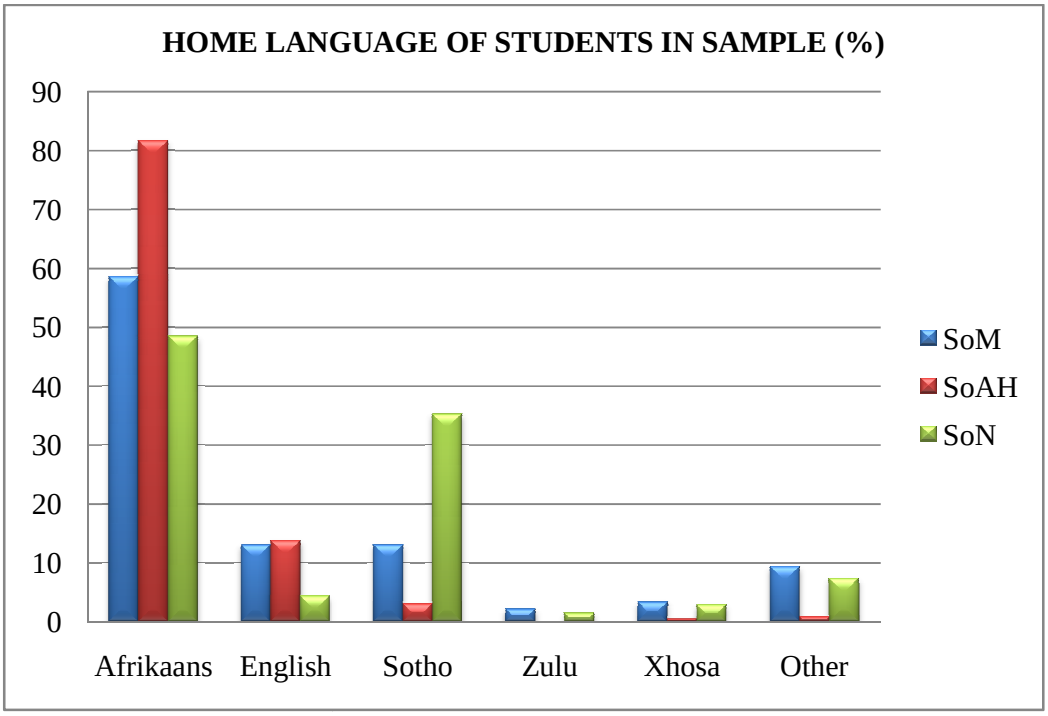


FIGURE 4.7 HOME LANGUAGE OF UNDERGRADUATE STUDENTS IN SAMPLE (%)

The majority of undergraduate students in the SoM (58.6%) and SoAH (81.7%) indicated that their home language was Afrikaans, while almost half of the undergraduate students in the SoN indicated that their home language was Afrikaans (48.5%). Only a small percentage in the three schools indicated that their home language was English (SoM 13.1%, SoAH 13.8%, and SoN 4.4%). About one third of undergraduate students in the SoN indicated that their home language was Sotho (35.3%), while 13% of undergraduate students in the SoM indicated Sotho as their home language. Small percentages of undergraduate students indicated other home languages, including Zulu, Xhosa and Tshwana, for example (SoM 15.2%, SoAH 1.3%, and SoN 5.4%). Most of the undergraduate students in the study population indicated Afrikaans as home language, while at least a third of SoN undergraduate students spoke Sotho as home language. In the SoM fewer undergraduate students indicated English as home language than the numbers of undergraduate students who indicated that their home language included other official South African languages.

4.2.1.5 *Ethnicity of undergraduate students in sample*

Figure 4.8 indicates the ethnic groups that undergraduate students in the sample belong to (n=616), as indicated by undergraduate students in the questionnaire survey.

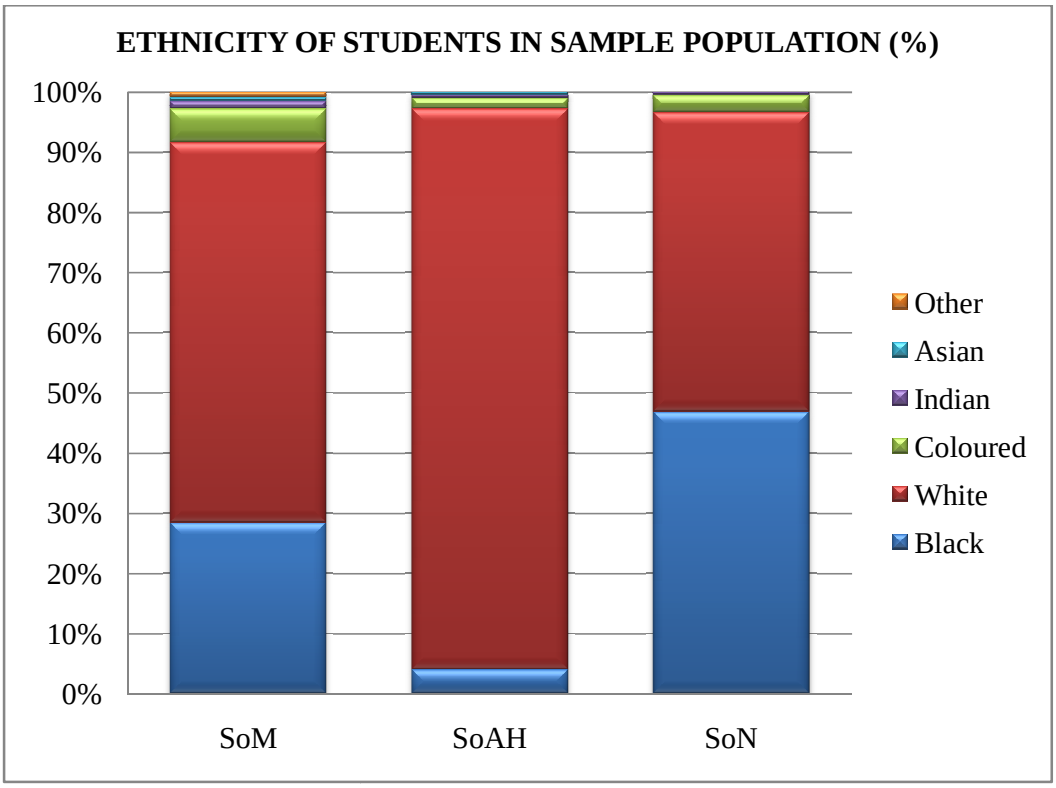


FIGURE 4.8 ETHNICITY OF UNDERGRADUATE STUDENTS IN SAMPLE POPULATION (%)

The majority of undergraduate students in the SoM (63.1%) and SoAH (93.3%) were White, while 50% of undergraduate students in the SoN were White. The rest of the students were Black (SoM 28.4%, SoAH 4%, SoN 47.1%), and only small numbers of students represented other ethnic groups. In the SoM, 5.6% of the students were Coloured, and 1.9% were Indian or Asian, while in the SoAH, 1.8% were Coloured and 1% Indian or Asian respectively. In the SoN, besides 2.9% Coloured students, no additional ethnic groups were represented. From these results, it appears that this cohort of undergraduate students represents mostly White students, although almost one third and one half of undergraduate students in the SoM and SoN respectively were Black.

4.2.1.6 *Academic qualifications of undergraduate students in sample*

The majority of undergraduate students had no tertiary qualifications beyond Grade 12 (SoM 89.7%, SoAH 92.8%, and SoN 86.6%). Small numbers of undergraduate students had post-matric diplomas or certificates (2.2%, 1.8% and 10.5%) baccalaureate degrees (6.6%, 2.2% and 3%) or post-graduate qualifications (1.6%, 2.2% and 0) in each of the SoM, SoAH and SoN respectively. It appears, therefore, that most of the undergraduate students entered their degree courses immediately after completing their schooling. The nature of undergraduate students' tertiary qualifications was not asked.

4.2.1.7 *Summary of demographic information of undergraduate students in sample population*

From the abovementioned results, it can be seen that in the SoM (52.3% of the sample) undergraduate students included almost equal numbers of male and female White, Afrikaans students of about 22 years of age, who entered the M.B., Ch.B. degree programme directly after school. Fewer students indicated English as home language (13.2%) than other official South African languages (13% Sotho, 15.2% other languages, e.g. Zulu, Xhosa, Tshwana). In the SoAH (36.7% of the sample), there were mostly female, White, Afrikaans students, between 21 and 22 years of age, also studying for their first tertiary qualification. In the SoN, which represented 11% of the sample, students were mostly female, and almost equally distributed between White and Black ethnic groups, as well as Afrikaans and Sotho home languages. A small number (13%) of students indicated previous academic qualifications prior to their entry to the B.Soc.Sc. Nursing programme.

4.2.2 Academic staff members

Seventy-one respondents completed the questionnaires for academic staff members, either online (n=46, 64.8%) or in a written questionnaire format (n=25, 35.2%). As discussed in Chapter 3, **Research Design and Methodology** (cf. 3.3.4.2, p.96), all permanent academic staff members employed in the SoM, SoAH and SoN, who completed a voluntary and anonymous questionnaire, either online, or in a written format, were included in the sample.

A list of academic staff members who fulfilled the inclusion criteria, namely permanent academic staff members employed in the FoHS and who lecture to undergraduate students in the FoHS, was obtained from the Administration of the FoHS, UFS. Two-hundred and six academic staff members on the Faculty Board fulfilled the inclusion criteria and were invited via e-mail to participate in the study by completing the questionnaire survey.

The response rate of academic staff members participating in the questionnaire survey was 34.5%. According to Baruch and Holtom (2008:1139-1160) a response rate of 35 – 40% may be regarded as the norm for studies at organisational level, while at individual level this rate may rise to 50%. When comparing web-based and mail survey response rates, Kaplowitz et al., (2004:94-101) found that responses varied between 20.7% and 31.5% for either e-mail only and mail only surveys respectively, with combinations of the above achieving response rates between these percentages.

Although Baruch (1999:421-438) indicated a response rate of 55.6% (SD 19.7%) for academic studies, this author did indicate that response rates decline over years or at organisational level. Furthermore, it has been suggested that many studies with low response rates are not published, and therefore meta-analyses of the response rates of studies may indicate falsely high response rates (Cook et al., 2000:821-836).

The fact that the questionnaire for academic staff members was not "administered" as it was for the undergraduate students, who completed the questionnaire during an academic contact session, but rather completed voluntarily on invitation by academic staff members, may have led to the low response rate.

Academic staff members in the Faculty of Health Sciences have a considerable workload (academic duties, service delivery, clinical work and administrative burden) which may also contribute to the low response rate in this study. Non-responders may include academic staff members whose lecturing responsibilities take up less of their time than their clinical work (e.g. lecturers responsible for one or two lecture sessions per year as compared to their daily clinic and ward round duties).

The questionnaire survey was made available for completion over a six-week period, which included a two-week recess in the academic schedule of the UFS, during which

academic staff members may have been on leave. This period also included two weeks of assessment for the SoM, during which time academic staff members were probably inundated with administrative duties, including marking of assessments and finalising results. These factors could also have contributed to the low response rate by academic staff members.

4.2.2.1 *Distribution of academic staff members in the Faculty of Health Sciences*

Figure 4.9 represents the distribution of academic staff members in the SoM, SoAH and SoN respectively (n=71).

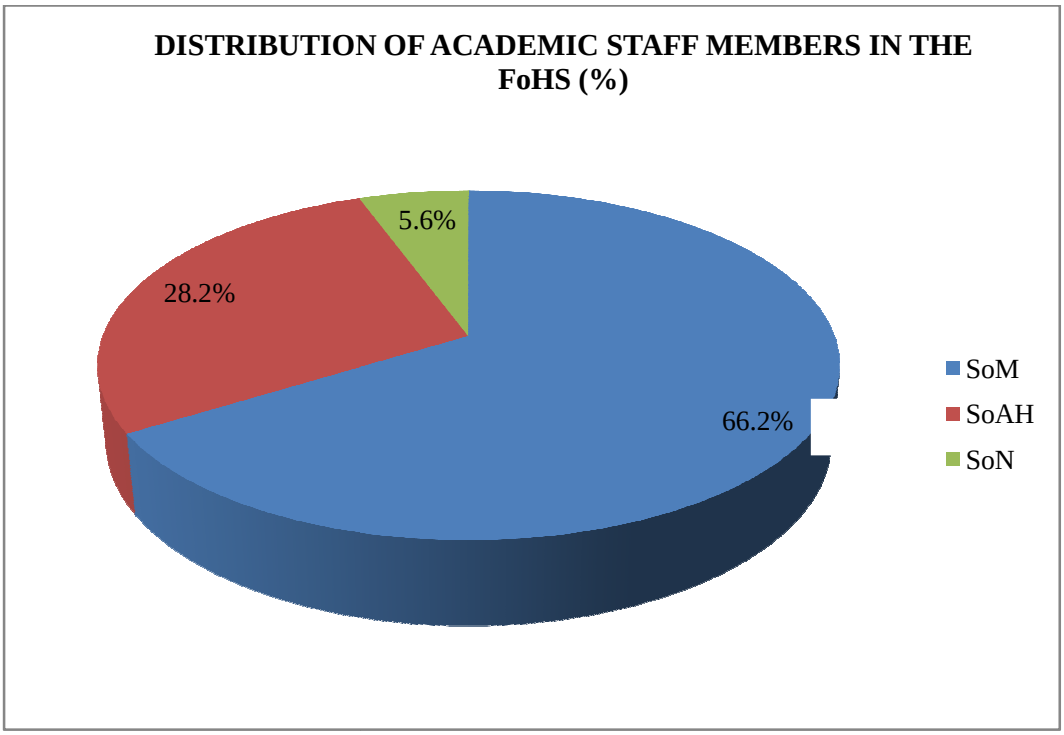


FIGURE 4.9 DISTRIBUTION OF ACADEMIC STAFF MEMBERS IN THE FoHS (%)

Most staff members who participated in the study were from the SoM (n=47, 66.2%), while twenty (28.2%) academic staff members from the SoAH and four (5.6%) from the SoN participated respectively participated in the study.

The majority of the academic staff members who completed the questionnaire survey indicated that they lectured to one group of undergraduate students only (n=50 [70.4%]),

and of these participants, 29 lectured to M.B., Ch.B. students only. Six academic staff members indicated that they lectured only to B.Sc. Physiotherapy students, while 5 lectured to B.Soc.Sc. Nursing students only. Although only four academic staff members from the SoN completed the questionnaire survey, five academic staff members indicated that they lectured to SoN undergraduate students only. This could be because lecturers employed in the SoM may lecture to undergraduate students in other Schools in the Faculty of Health Sciences, and not exclusively to undergraduate students in the SoM.

Four each of the academic staff members indicated that they lectured to B.Sc. Dietetics or B. Occupational Therapy students only, while 1 academic staff member indicated that they lectured to B.Optometry or B.Med.Sc. (Radiation Science) students only. Eleven academic staff members (15.5%) indicated that they lectured to two student groups, four (5.6%) to three and six (8.5%) to four or more student groups respectively. No academic staff member indicated lecturing to all the student groups in the FoHS.

Considering that M.B.,Ch.B. students are the largest group of undergraduate students in the FoHS, as well as being the largest group of participants in the survey, it may be expected that the majority of the staff members who participated in the study indicated lecturing to M.B.,Ch.B students. Besides the 29 academic staff members who indicated lecturing only to M.B.,Ch.B. students, a further 16 (22.5%) of academic staff members indicated lecturing to M.B.,Ch.B. students (the largest group of undergraduate students in the sample) as well as to other undergraduate student groups. Their responses regarding opinions on Generation Y students therefore reflect their actual experience, contributing to the generalisability of their responses.

The fact that 21 (29.6%) of academic staff members lecture to more than one student group and therefore have wide experience of different undergraduate students also adds to the depth and richness of the data, enhancing a more comprehensive, accurate reflection of this cohort of undergraduate students. Although the response rate for academic staff members to the questionnaire survey was low (35.8%), their responses may therefore be regarded as valid and reliable.

Furthermore, the fact that academic staff members lecture to undergraduate students in all three schools in the FoHS, points to the interaction and cooperation that is required in this

unique environment. This is compelling when one considers that members of the professions in Health Sciences must be able to follow a multi-disciplinary approach in clinical judgment and patient management. Exposure to lecturing staff from a variety of disciplines enhances undergraduate students' awareness of the multi-disciplinary approach and teamwork required in the healthcare environment.

Almost a third (n=22; 31%) of staff members indicated that they have been lecturing for more than 15 years in the Faculty of Health Sciences, while 10 (14.1%) and 18 (25.4%) indicated that they have been lecturing for between 11 and 15 years and six and 10 years respectively. This places 50 (70.4%) of academic staff members in a position of having more than five years experience as lecturers. This would equip them to give reliable and accurate information regarding undergraduate students in Health Sciences Education. Of the participating academic staff members, 21 indicated that they have been lecturing for less than five years [10 (14.1%) between three and five years; 11 (15.5%) less than two years].

4.2.2.2 *Age distribution of academic staff members in sample population*

Twenty-three academic staff members (34.3%) were born between 1944 and 1960, regarded as the birth cohort for the so-called Baby Boomer generation (Barbour, 2005:742-750; Clausing et al., 2003:373-379; Mangold, 2007:21-23). Most of the participating academic staff members (n=43; 64.2%) were born between 1961 and 1980, during the described birth years for Generation X (Barbour, 2005:742-750; Clausing et al., 2003:373-379; Mangold, 2007:21-23). Only 1 participant (1.5%) was born after 1981 (namely 1985), in other words, belonging to the Generation Y birth cohort; this is less than 2% of the total.

Four academic staff members did not indicate their age on the questionnaires. Because the majority of staff members who did indicate their age were born during the birth years for the Baby Boomers (1941–1960) or Generation X (1961–1980), one could assume that the participants who did not indicate their age on the questionnaires were also born during these periods. Any academic staff members born before 1940, would be above the age of 70 years at the time of completion of the questionnaire (2010), and would therefore be of retirement age. This makes it unlikely that any respondents to the questionnaire who had

not indicated their age were born before 1940, belonging to the so-called Silent Generation (Barbour, 2005:742-750; Clausing et al., 2003:373-379; Mangold, 2007:21-23).

4.2.2.3 *Gender distribution, home language and ethnicity of academic staff members*

The majority of academic staff members participating in the study were female (60.6%). Of the academic staff members from the SoM (n=47; 66.2% of the participants), 25 (53.2%) were male. In the SoAH (n=20; 28.2% of the participants), 17 (85%) of the academic staff members were female, while all four (5.9%) participating academic staff members from the SoN were female.

Most of the participants indicated Afrikaans as home language (n=57; 80.3%). Twelve (16.9%) and one (1.4%) participants respectively indicated English and Sotho as home language, while one academic staff member indicated both English and Afrikaans as home language. Most of the academic staff members who participated in the questionnaire survey were White (n=67; 95.7%). There were two Black (2.9%) and one Indian (1.4%) participants. One participant did not indicate their ethnicity.

4.2.2.4 *Tertiary qualifications held by academic staff members*

All staff members had tertiary qualifications, with seven (9.9%) having a Baccalaureus degree(s), 42 (59.2%) post-graduate qualifications, and 22 (31%) a Doctorate (either Ph.D. or M.D.). Although the questionnaire did not elicit information regarding the nature or field of the post-graduate qualification, it is apparent that the academic staff members who lecture to undergraduate students have advanced tertiary qualifications. This coupled with their duration of employment as lecturing staff (70.4% of academic staff members have been lecturing for six years or more, as mentioned above) indicates their experience in the higher education teaching and learning environment.

4.2.2.5 *Summary of demographic information of academic staff members in sample population*

Most academic staff members who participated in the questionnaire survey were employed in the SoM, held post-graduate qualifications and had a long period of experience as

lecturing staff. They were mostly White females with Afrikaans as home language. The majority of participating academic staff members' age placed them within the so-called Generation X birth cohort (1961–1980).

4.3 RESULTS OF QUESTIONNAIRE SURVEY SECTION B, VALUES AND BEHAVIOURS

The results described in the following section reflect **Section B, Values and behaviours,** of the Questionnaire for Undergraduate Students and Questionnaire for Academic Staff respectively (Appendices A1–A4). The results from the undergraduate students' questionnaire survey are reported and discussed first, followed by the results of the academic staff members' questionnaire survey. This is followed by a short summary of the results for **Section B, Values and behaviours** (cf. 4.3.3, p. 183).

4.3.1 Undergraduate students

Section B, Values and behaviours, focuses on attitudes, goals and ideals important to Generation Y students. These were determined by means undergraduate students' responses to statements regarding the characteristic values and behaviours of Generation Y, as described in the literature (cf. **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education,** p.19). Data collected included quantitative (statistical) data in the form of responses on a Likert scale to closed questions, as well as qualitative (text) data in the form of written responses to open questions.

As mentioned in Chapter 3, **Research design and Methodology** (cf. 3.4.1, p.105), quantitative data were analysed descriptively, while qualitative data were analysed by content analysis. Content analysis of qualitative data in the section on the attitudes reflecting values and behaviours of Generation Y students yielded response codes for the responses to open questions, which were subsequently categorised into themes. These qualitative (text) data serve as corroboration and explanation of the quantitative (statistical) findings.

The first set of statements in this section examines undergraduate students' perceptions about their attitudes as members of Generation Y. Quantitative data collection included asking them to indicate their agreement or disagreement with the given statements on a Likert scale of 1 – 4, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree and 4 = Strongly agree. Table 4.1 indicates the quantitative results for the statements reflecting commonly held perceptions or judgments about the attitudes reflecting Generation Y students' values and behaviours, in each of the three Schools in the FoHS.

In the table the responses 1 and 2 on the scale are indicated together to represent disagreement, while the responses 3 and 4 on the scale are indicated together to represent agreement with each statement. Qualitative data were collected by asking undergraduate students to record written responses to the open questions following each set of statements. The original source data (responses to open-ended questions) related to the key concepts in **Section B, Values and behaviour,** may be reviewed in Appendix E1.

TABLE 4.1 UNDERGRADUATE STUDENTS' AGREEMENT / DISAGREEMENT WITH STATEMENTS REGARDING ATTITUDES OF GENERATION Y

[Table continues on the following page]

	DISAGREEMENT n (%)			**AGREEMENT n (%)**		
STATEMENTS	**SoM**	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
I am optimistic about the future (n=613)	31 (9.7)	14 (6.2)	9 (13.4)	289 (90.3)	212 (93.8)	58 (86.6)
I can be described as friendly and pleasant (n=614)	23 (7.2)	1 (0.4)	4 (6)	298 (92.8)	225 (99.6)	63 (94)
I typically display positive, assertive behaviour (n=601)	26 (8.30)	16 (7.2)	8 (12.1)	287 (91.7)	206 (92.8)	58 (87.9)
I have a casual approach that may appear to lack professionalism (n=614)	179 (55.6)	155 (68.6)	46 (69.7)	143 (44.4)	71 (31.4)	20 (30.3)
I may seem arrogant (n=612)	271 (69)	171 (75.7)	56 (83.6)	102 (32)	55 (24.3)	11 (16.4)
I am self-centred (n=613)	260 (81)	189 (83.6)	56 (84.9)	61 (19)	37 (16.4)	10 (15.1)
I feel entitled to benefits not yet earned (n=613)	250 (77.6)	195 (86.7)	48 (72.7)	72 (22.4)	30 (13.3)	18 (27.3)
I will change the world (n=614)	98 (30.4)	71 (31.6)	16 (23.9)	224 (69.6)	154 (68.4)	51 (76.1)
I am ambitious (n=615)	13 (4)	5 (2.2)	0	309 (96)	221 (97.9)	67 (100)
I appear confident (n=612)	43 (13.4)	27 (12)	9 (9)	277 (86.6)	198 (88)	61 (91)
I will improve the future with innovative ideas (n=614)	62 (19.3)	41 (18.2)	8 (12)	260 (80.7)	184 (81.8)	59 (88)

	DISAGREEMENT n (%)			AGREEMENT n (%)		
STATEMENTS	**SoM**	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
I have high expectations of success (n=611)	16 (5)	8 (2.6)	2 (3)	303 (95)	217 (96.4)	65 (97)
I want instant gratification meaning I am not willing to wait for delayed rewards (n=613)	217 (67.6)	173 (76.9)	39 (58.2)	104 (32.4)	52 (23.1)	28 (41.8)
I have high self-esteem (n=614)	43 (13.3)	30 (13.3)	5 (7.5)	279 (86.7)	195 (86.7)	62 (92.5)
I am a fun-seeking, easy-going individual (n=615)	47 (14.6)	8 (3.5)	6 (9)	275 (85.4)	218 (96.5)	61 (91)
I think I am entitled to everything I want (n=614)	245 (76.1)	183 (81.3)	43 (64.2)	77 (23.9)	42 (18.7)	24 (35.8)
I am not easily impressed (n=606)	144 (45.4)	150 (67.6)	33 (49.2)	173 (54.6)	72 (32.4)	34 (50.8)
I don't pay much attention to propaganda by older people in positions of authority (n=613)	182 (56.7)	166 (73.8)	36 (53.7)	139 (43.3)	59 (26.2)	31 (46.3)
I am a street-smart, brand-conscious consumer (n= 613)	139 (43.4)	111 (49.1)	36 (53.7)	181 (56.6)	115 (50.9)	31 (46.3)
I think life is not just about work (n=614)	30 (9.3)	9 (4)	7 (10.4)	291 (90.7)	217 (96)	60 (89.6)
I am influenced by the media (internet, TV) (n=614)	161 (50.2)	80 (35.4)	36 (53.7)	160 (49.8)	146 (64.6)	31 (46.3)
I prefer acceptance from peers more than parents (n=612)	251 (78.7)	163 (72.1	58 (89.6)	68 (21.3)	63 (27.9)	9 (13.4)
I am bored by routine (n=615)	138 (42.9)	97 (42.9)	31 (46.3)	184 (57.1)	129 (57.1)	36 (53.7)

Quantitative data revealed that undergraduate students' perceptions of these statements concurred with the literature describing Generation Y for most of the statements. The statements that the majority of undergraduate students indicated agreement with described Generation Y students in positive terms. Quoted statements from qualitative (text) data are included where applicable to corroborate with and elaborate on the quantitative findings, especially for statements where differences existed between the three student groups' responses to closed questions, namely the SoM, SoAH and SoN.

Text responses to open questions in the questionnaire are included as qualitative data (in italics). [Text responses in Afrikaans were translated by the researcher into English and are indicated within quotation marks (in "italics") with the English translation for each statement in italics, in parentheses ( ) and underlined. The quoted responses are the respondents' own words and have not been edited for language].

The statements that describe Generation Y students in positive terms include the following.

"I am ambitious"

Supporting statements include:

- *More driven, ambitious, competitive [SoM]*
- *"Opwindend en gemotiveerd" (Exciting and motivated) [SoAH]*
- *Self-motivated, go-getters [SoN]*
- *Want to improve lives and make a success of studies [SoN]*

However, some undergraduate students indicated disagreement with this statement by means of their responses to open questions, for example:

- *"Ambisieloosheid; 'lack' dryfkrag" (Lack of ambition, drive) [SoM]*
- *No sense of purpose in life [SoM]*
- *"Minder toegewyd" (Less dedicated) [SoM]*
- *"Slap houding, sukkel om self verantwoordelikheid te neem" (Weak attitude, struggle to take responsibility for self) [SoM]*
- *Don't have a high level of work ethic [SoAH]*
- *Difficult to focus on thing we want as there are to many distraction [SoN]*

"I have high expectations of success"

This is corroborated by the following statements:

High expectations to achieve, search for success [SoM]

- *"Vir ander generasies te wys hulle is nie 'slapgatte' nie en dat hulle die wêreld net so goed of beter sal kan bestuur" (To show other generations that they are not 'spineless' and that they can manage the world just as well or even better) [SoN]*
- *More driven ambitious, competitive [SoM]*
- *To be the best in everything we do [SoM]*

"I can be described as friendly and pleasant"

Statistically significantly higher percentages of SoAH students (99.6%) compared with either SoM [92.8%; p = 0.002; CI 3.8–9.7%] or SoN [94%; p = 0.0105; CI 0.2-11.3%] undergraduate students agreed with this statement. However, as more than 92% of all three groups of undergraduate students agreed with this statement, this difference is not

significant in practice. Undergraduate students' responses to the open questions provide further insight into their perceived attitude:

- *"Meer positief" (More positive) [SoM]*
- *More positive about life [SoM]*
- *More light-hearted [SoM]*
- *"Geniet die lewe" (Enjoy life) [SoM]*
- *"Wil genot uit die lewe put" (Want to enjoy life) [SoAH]*
- *Love life [SoN]*
- *Love the world and all the things in it [SoN]*

However, some undergraduate students do not share these perceptions, indicated in the following statements from SoN students:

- *Antisocial behaviour*
- *Don't care about life*
- *Depression – lots of ppl (sic) have it and don't know it they can't handle it*

"I think life is not just about work"

Statistically significantly higher percentages of SoAH students compared with either SoM [90.7%, p = 0.0164; CI 1.3–9.4%] or SoN [89.6%, p = 4.1, CI 1.3-14.2%] students agreed with this statement. From SoAH students' responses to open questions, many indicated maintaining a balanced life as an important challenge, illustrated as follows:

- *To concentrate on more important things in life*
- *"Rekreasie wat rus verseker" (Recreation that ensures rest)*

A small number of SoM students referred to the challenge of maintaining balance ("Balanseerd te lewe" [Living a balanced life]). Related to the concept of work-life balance, SoM students indicated the following challenges:

- *Managing fincances and time*
- *Making a success of career and relationships*

SoN students mentioned challenges such as

- *"Om suksesvolle individue te wees in hulle lewe: beroep, huwelik, Christelike leefwyse" (To be successful individuals in their lives: career, marriage, Christian lifestyle)*
- *"Balans te handhaaf tussen akademie, sosiaal en sport [te min ure in 'n dag]" (Maintaining balance between academics, social and sport [too few hours in a day])*

"I typically display positive, assertive behaviour"

Undergraduate students in all three schools indicate a clear perception of their attitude as positive and assertive, evidenced by the following statements:

- *Meer energiek, lewenslustig, groot drome vir die toekoms (More energetic, lively, big dreams for the future) [SoM]*
- *Sien die wêreld nie as 'n bedreiging nie maar iets met baie potensiaal (Don't see the world as a threat but as something with a lot of potential) [SoAH]*
- *Dink baie positiewe planne uit (Think up many positive plans) [SoN]*
- *"Voel vry om te sê hoe ons voel oor sekere dinge" (Feel free to say how we feel about certain things) [SoN]*
- *Emotionally stronger and can handle difficult situations [SoAH]*
- *Strong opinions, but give others opportunity to have own opinions [SoAH]*

However, despite the fact that the majority of undergraduate students agreed with the statement describing them as positive and assertive, they mentioned these responses to open questions indicating that they experience challenges to remaining positive in their environment:

- *"Uitdaging om positiewe, hoopvolle uitkyk te behou tsv wêreld van wreedheid / siekte" (Challenge to maintain positive, hopeful outlook in spite of a world of cruelty or disease) [SoM]*
- *"Uitdaging om positief te bly in 'n wêreld waar die bose dikwels seevier" (Challenge to remain positive in a world where evil often triumphs) [SoAH]*

"I am optimistic about the future"

This statement is related to the aforementioned statement referring to Generation Y students' positive and assertive attitude, and is supported by these statements:

- *Meer positief oor die toekoms (More positive about the future) [SoAH]*
- *More "enthusiasm" [SoM]*
- *See endless possibilities [SoM]*

"I am a fun-seeking, easy-going individual"

A statistically significantly lower percentage of SoM (85.4%) students agreed with this statement, compared to SoAH (96.5%) students, although the differences between SoAH and SoN (91%) students, and SoM and SoN students were not significant. This is exemplified by the following quoted responses from undergraduate students in the FoHS, describing Generation Y students' emphasis on enjoying life:

- *Tend to want to enjoy the ride filled with fun and joy while attempting to succeed [SoAH]*
- *Want to live life to the fullest and enjoy experiences [SoAH]*
- *Know how to have fun, enjoy life [SoM]*

Statements like the following support the findings above that significantly fewer SoM students agree with the abovementioned statement:

- *Self-centred personalities, not good interaction skills, hence more stressed*
- *Experience stress differently, easily go onto antidepressants*

However, most responses to open questions in the SoM indicated similar attitudes to those seen in the SoAH and SoN:

- *"Meer informeel en ontspanne in voorkoms" (More informal and relaxed in appearance)*
- *"Meer sosiaal en informeel" (More social and informal)*

This is reflected in statements from students in the SoM describing Generation Y students as:

- *More lively, not serious about the future, live stress free lives, short-term thinking*
- *Less rule-following, inclined to explore new things*
- *More flexible and easygoing*
- *Flexible in terms of lifestyle*
- *Informal, more fun, lazier*
- *Less rule-following, inclined to explore new things*
- *"Meer ontspanne, nie eng" (More relaxed, not narrow-minded)*
- *More casual about life*

Possible explanations for SoM students' lower percentage agreement with the abovementioned statement may be their apparently acute awareness of responsibility, illustrated by the following statements indicating the perceived challenges to Generation Y students:

- *"Verskil te maak te midde van sosiale druk wat jou wil dwing om 'don't care' houding in te neem" (Making a difference in the midst of social pressure that wants to force you to take on a don't care attitude)*
- *"Druk om sukses te behaal" (pressure to achieve success)*
- *"Nie te val onder druk nie" (Not to fall due to pressure)*
- *"Om alles te geniet" (To enjoy everything)*

However, students in the SoAH and SoN also mentioned this weight of responsibility in their responses when they indicated the following challenges to Generation Y students:

- *"Om die brug te wees tussen die volgende en vorige generasie" (To be the bridge between the following and previous generation) [SoN]*
- *Making sure you make right decisions so you don't have to go back to your elders crying [SoN]*

- *"Om uit te staan bo die res en baklei vir jou reg, vrees vir toekoms" (To stand out above the rest and fight for your right, fear for the future) [SoAH]*
- *"By te hou met druk van lewe en verwagtinge van wêreld m.b.t. wat dit kos om suksesvol en gemaklik te leef" (To keep up with the pressure of life and expectations of the world with regards to what it costs to live a successful and comfortable life) [SoAH]*

"**I appear confident**"

Undergraduate students' responses to open questions reflected their apparent confidence:

- *"Kan vir hulself dink en opstaan" (Can think for and stand up for themselves) [SoAH]*
- *"Meer selfvertroue, voel hul het 'n stem en mening wat gehoor moet en mag word" (More self-confidence, feel they have a voice and opinion that must and may be heard) [SoAH]*
- *"Kom meer selfversekerd voor" (Appear more self-assured) [SoAH]*
- *Willing to challenge authority than accepting things as they are [SoM]*
- *Think we are smart yet not [SoN].*

The latter statement might indicate confidence tempered by a degree of realism.

"I have high self-esteem"

This statement is closely related to the previous statement, and the responses to the closed questions indicate the same high percentage of patients who agree with this statement. Responses to the open questions, such as the following, provide evidence of this:

- *More intelligent and fast in learning because of available resources [SoN]*
- *"Meer self-versekerd" (More self-assured) [SoM]*

However, some undergraduate students indicated an opposing view, reflected in the following statements:

- *Low self-esteem [SoM]*

- *"Meer selfbewus en dra 'maskers' - gee voor iets wat hul nie is nie" (More self-conscious and wear 'masks' – pretend to be something that they are not)*

"I will improve the future with innovative ideas"

The following responses to open questions support this statement:

- *Use tools at our exposal (sic) to make our lives better [SoM]*
- *More open and willing to experiment [SoM]*

"I will change the world"

It is intriguing to note that in spite of indicating high percentages of agreement with these abovementioned statements, lower percentages of undergraduate students agreed with the statement that Generation Y students will change the world. This is inconsistent with their responses to the statements listed above, as well as with their responses to open questions, for example:

- *The world is ours for the taking [SoM]*
- *"Kan die wêreld verander – meer as genoeg talent" (Can change the world – more than enough talent) [SoAH]*
- *Change the world to be a better place for us and future generations [SoN]*

Not unexpectedly, most undergraduate students did not agree with statements that highlighted less flattering or favourable perceptions of Generation Y as shown (in descending order, indicating percentage of undergraduate students who disagreed with the statements listed):

"I am self-centred"

Although the majority of undergraduate students indicated that they did not agree with this statement (supporting responses include "Nie self-gesentreerd" [Not self-centred]), responses such as the following refute this:

SoM:

- *"Meer self-gesentreerd" (More self-centred)*

- *Self-centred, think the world revolves around them*
- *Care less about others (selfish)*
- *"Fokus meer op self; huwelike, verhoudings minder belangrik" (Focus more on self; marriages, relationships less important)*
- *Self-centred personalities, not good interaction skills, hence more stressed*

SoAH:

- *"Gaan meer oor onsself en nie oop vir ouer manier van doen nie" (More about ourselves and not open for older way of doing things)*
- *"Egosentries en leef met 'n 'die-wêreld-skuld-my-iets'-houding" (Egocentric and live with a 'the-world-owes-me-something' attitude)*

"I seem arrogant"

Compared to SoAH (75.7%) and SoN (83.6%) students, statistically significantly lower percentages of SoM students (69%) disagreed with this statement [p = 0.0524; CI = 0.1 - 15.2%, Fisher's exact test]. There was no statistically significant difference between SoAH and SoN students, however [p = 0.173). Responses to open questions such as the following by SoM students support these findings that SoM students perhaps see Generation Y students as more arrogant ("Nie bang om ons mening te verdedig nie – mag disrespekvol voorkom vir ouer mense" [Not afraid to defend our opinion – may appear disrespectful to older people]; Misperception of older generations of high standards as arrogance). However, undergraduate students' responses to open questions indicate that they actually agree with the perception of Generation Y students as being arrogant, therefore contrasting the abovementioned qualitative findings. The following statements serve as examples:

- *"Meer arrogant, maak asof beter as ander" (More arrogant, act as if better than others) [SoAH]*
- *"Nie bang om op te staan vir wat reg is nie – ouer mense dink dis arrogant" (Not afraid to stand up for what is right – older people think it's arrogant) [SoN]*
- *"Meer arrogant, min respek vir volwassenes" (More arrogant, little respect for adults) [SoM]*

"I feel entitled to benefits not yet earned"

Statistically significantly higher percentages of SoAH students (86.7%) compared with either SoM [77.6%, p = 0.0076; CI 2.7 - 15.4%] or SoN [72.7%, p = 0.0073; CI 2.3-25.6%] students disagreed with this statement. Undergraduate students' disagreement with this statement is supported by responses to open questions, including the following:

- *Take initiative and responsibility for own lives [SoM]*
- *Knowing you have to work hard to get somewhere in life or get what you want, nothing's free or granted [SoAH]*
- *"Uitdaging om self, sonder ouers, te werk te gaan en keuses te maak" (Challenge to set to work and to make choices on their own, without parents) [SoN]*

However, many responses to the open questions revealed that they did indeed see Generation Y students having an attitude of entitlement without working for rewards, contrasting with the abovementioned quantitative findings, and evidenced by the following responses:

SoM:

- *Expect things to happen without working for them*
- *"Dink hul moet als kry / hê deur minste werk, lui" (Think they must get/have everything with the least work, lazy)*
- "*Glo kan kry sonder verdienste [maklik grootgeword]*" (*Believe they can receive without earning it [grew up /comfortably without effort]*)
- *Not prepared to work for what they want, e.g. teenage mothers expecting grants*
- *Interested in taking easy way out*

SoAH:

- *Expect to get better paid jobs with less qualifications*
- "*Lui en verwag dat alles in hul skoot moet val*" (*Lazy and expect that everything must fall in their lap*)
- *Expect everything to just be given to them, not work for it*

- *"Houding van 'die wêreld skuld my iets'; minder bereid om harder te werk om beter resultate (Attitude of 'the world owes me something'; less prepared to work harder for better results)*

SoN:

- *"Luier vir werk, glo die wêreld en al die mense skuld ons iets" (Lazier to work, believe the world and all the people owe us something)*

"I prefer acceptance from peers more than parents"

Regarding this statement, statistically significantly more SoN students (89.6%) disagreed with this statement than SoAH students [72.1%, p = 0.0159; CI = 2.5–4.4%]; the difference between SoN and SoM students (78.7%, p = 0.0775) was not statistically significant. From these results, undergraduate students apparently indicate that they are not dependent on approval by their peers, as is typically assumed.

However, many undergraduate students alluded to peer pressure and its challenges in their responses to open questions. SoN students mentioned peer pressure as a challenge to Generation Y students:

- *Peer pressure because they are the upcoming leaders*
- *Peer pressure, too much socializing, risky behaviour*
- *"Tiener groepsdruk" (Teenage peer pressure*)

SoN students additionally alluded to a desire for acceptance as follows: "*Dat wêreld ons moet aanvaar hoe ons is*" (*That the world must accept us as we are*).

SoAH students emphasised a great degree of pressure in their responses to open questions:

- *"Ervaar meer druk om 'in te pas' " (Experience more pressure 'to fit in')*
- *Being forced to conform when all we want to do is break out of the box*
- *Becoming successful in this lifetime due to peer pressure and bad things happening*
- *"Om 'in' te wees en nie 'reject' te word deur mede student nie" (To be 'in' and not to be rejected by fellow-students)*

- *Peer pressure to do what is not right*
- *Need to fit in and be part of society*
- *"Aanvaarding deur mede-studente" (Acceptance by fellow-students)*

In contrast, SoAH students also indicated a need to be accepted by older generations (such as their parents), reflected in the following statements:

- *Being accepted by older generations despite differences*
- "*Mense moet ons raaksien en waardeer*" (*People must notice and appreciate us*)
- "*Ouer generasie hulle sal verstaan en waardeer*" (*Older generation will understand and accept them*)
- *To change people's perception of us*
- *Prove to be trustworthy*

SoM students also emphasised the role of peer pressure, for example:

- "*Verskil te maak te midde van sosiale druk wat jou wil dwing om 'don't-care' houding in te neem*" (*Making a difference in the midst of social pressure that wants to force you to take on a 'don't-care' attitude)*
- *Need for acceptance by peers*
- "*Goedkeuring van ouers en veral vriende te kry*" (*Getting approval of parents and especially friends*)
- "*Nog steeds morele waardes hê en nie toegee aan groepsdruk nie*" (*Still have moral values and not succumb to peer pressure*)
- *Acceptance in a group*
- *Keeping up to social expectations*

SoM students furthermore indicated a broader view of the pressure they experienced:

- *Make own decisions on own beliefs*
- *Competition to improve oneself; pressure to succeed*
- "*Wil anders wees maar moet goue middeweg vind*" (*Want to be different but must find the best way*)

- "*Jouself te wees, nie omgee wat ander dink*" (*To be yourself and not care what others think*)
- *Acceptance by older generations*
- "*Om met beeld van die wêreld aan te pas*" (*To fit in with the image of the world*)

"I think I am entitled to everything I want"

This statement relates to the previously discussed statement, "I feel entitled to benefits not yet earned", with which most undergraduate students also disagreed (significantly higher percentages of SoAH students disagreed with the aforementioned statement as indicated above). The difference between SoAH (81.3%) and SoM (76.1 %) students who disagreed with the statement, "I think I am entitled to everything I want" was not statistically significant [p = 0.1433]. However, the difference between SoAH and SoN (64.2%) students [p = 0032; CI = 4.6–29.7%] and SoM and SoN students [p = 0.0431; CI 0.48–24.3%], was statistically significant. Many undergraduate students from all three schools' responses to open questions indicated that their perceptions are more inclined to agree with this statement. For example:

- *Think that the world owes them something* [SoM]
- *Want things to be simplified to suit their own needs* [SoM]
- *Think everything should be done for them* [SoAH]
- "*Dink alles moet vir hulle gedoen word*" (*Think everything must be done for them*) [SoAH]
- *"Bederf en gewoond daaraan om bakhand te staan as iets wil hê" (Spoilt and used to standing with hands open when they want something)* [SoAH]
- *"Rebelsheid en luiheid – wil als met 'n teelepel hê" (Rebelliousness and laziness – want everything spoon-fed to them)* [SoAH]
- *Want things to happen as they wish* [SoN]

"I want instant gratification meaning I am not willing to wait for delayed rewards"

This statement also relates to the statements referring to an attitude of entitlement, but significantly lower percentages of undergraduate students disagreed with this statement than with the previously discussed statements "I think I am entitled to everything I want" and "I feel entitled to benefits not yet earned." Statistically significantly higher

percentages of SoAH students (76.9%) disagreed with this statement, compared to SoM [67.6%, p = 0.0181; CI = 1.8-16.8%] or SoN [58.2%, p = 0.0026; CI = 5.7–31.7%] students. There was no statistically significant difference between SoM and SoN students, however. The listed responses to open questions indicate that undergraduate students do perceive an attitude of expecting instant gratification, in spite of their disagreement with the statement in the quantitative findings:

- *Quick rewards* [SoM]
- *Want everything to be quick* [SoM]
- "*Verwag dat dinge vinnig en onmiddellik sal gebeur*" (*Expect that things must happen fast and immediately*) [SoAH]
- "*Alles gaan oor vinnig en lekker, als moet vinnig en nou gebeur*" (*Everything is about fast and nice, everything has to happen quickly and now*) [SoAH]

"I have a casual approach that may seem to lack professionalism"

Only 55.6% of students in the SoM disagreed with this statement, indicating that SoM students may concur with the commonly held view of Generation Y students. SoM students abovementioned responses are confirmed by statements including:

- "*Minder fokus op klein goed soos deftigheid*" (*Less focus on small things like being elegant*)
- "*Meer informeel, onprofessioneel*" (*More informal, unprofessional*)

The percentage of SoM students who disagreed with this statement is significantly lower than SoAH [68.6%, p = 0.0021; CI = 4.9-21.1%] or SoN [69.7%, p = 0.0344; CI = 1.8-26.5%] students who indicated their disagreement. However, SoN and SoAH students did indicate experiencing challenges in this regard including:

- *Professionalism in work* [SoN]
- "*Professionaliteit ten toon te stel*" (*Exhibiting professionalism*) [SoAH]

Some contrasting perceptions emerged in undergraduate students' responses to the following statements:

"I am not easily impressed"

Most SoAH students disagreed with this statement (67.6%), while in contrast, about half of SoM [54.6%, $p < 0.0001$; CI = 13.9-30.4%] and SoN [50.8%, $p = 0.0064$; CI = 4.9–31.8%] students agreed with the statement. These differences were statistically significant. This finding is in apparent contrast to SoAH students who indicated a somewhat sceptical viewpoint:

- *Think more independently*
- *"Meer gemaklik om 'anders' te wees" (More comfortable with being 'different')*
- *"Aanvaar nie net alles nie, wil weet hoe en hoekom" (Do not just accept everything, want to know how and why)*
- *"Vra meer vrae oor feite en stellings" (Ask more questions about facts and statements)*
- *"Straatwys en uitgesproke" (Streetwise and outspoken)*

SoM students indicated an attitude of being "*less naïve, more unconservative, questioning, more exposed" ("meer blootgestel")* as well as being "*More attuned to how something is presented"* ("*Meer ingestel op hoe iets aangebied word*"). However, they also note that they are "*More affected by outside efforts, attitudes, threats, influences.*" SoN students mentioned that they *"Want to live in a world without rules that do not make sense,"* and have *"More information at their disposal to make informed decisions" ("Meer inligting tot ons beskikking om ingeligte besluite te neem").* This statement relates to the following statement regarding the influence of authority figures.

"I do not pay much attention to propaganda by older people in positions of authority"

Although at least half of SoM [56.7%, $p < 0.0001$; CI = 9.2-25%] and SoN [53.7%, $p = 0.0018$; CI = 6.80–33.3%] students disagreed with this statement, a statistically significantly higher percentage of SoAH students (73.8%) disagreed with this. These quantitative findings are similar to the findings in the abovementioned statement "I am not easily impressed", and support a view that authority does not overawe Generation Y students. Furthermore, SoAH students' responses to open questions indicate an assertive attitude towards authority including the following:

- "*Daag gesag uit as ons voel dis nodig waar voorheen net aanvaar was wat gesê word, word gedoen*" (*Challenge authority if we feel it is necessary, where previously it was just accepted what is said is done*)
- *Taking orders from someone without being given a reason or explanation*
- *Will challenge authority*

SoM students' responses to open questions also mentioned statements displaying an attitude of being less intimidated by authority:

- *Explanations why they should do certain things, don't just accept things the way they have always been done*
- *Less tolerant of patriarchal systems, less authority oriented*
- *"Meer rebels teenoor gesag wat onvanpas of onkapable is" (More rebellious towards authority that is inappropriate or incapable)*
- *Parents had manners but were less intelligent*

SoN students' responses to open questions in this regard included for example:

- *Don't just follow any rules without understanding why*
- "*Om self, sonder ouers, te werk te gaan en keuses te maak*" (*To work and make choices on their own, without parents*)

"I am a street-smart, brand-conscious consumer"

Just over half of SoN (53.7%) students disagreed with this statement, while just less than half of SoM (43.4%) and SoAH (49.1%) of students disagreed. However, these differences were not statistically significant. These ambiguous findings make it difficult to conclude undergraduate students' perception of Generation Y students' attitude in this regard. Responses to open questions provide greater insight into their views. For example, from the SoN, responses included Generation Y students are "*Meer arrogant, wêreldwys*" (*More arrogant, worldy-wise*). SoM students mentioned that Generation Y students are:

- *More conscious of the world*
- *More materialistic*

- *"Meer wêreldwys as menswys"* (*More worldly-wise than people-wise*)
- *They think life is all about money*

However, on the other hand SoM students responded:

- "*Dink hulle is 'streetwise' maar het nog nie gereis nie*" (*Think they are 'streetwise' but haven't travelled yet*)

From the SoAH, students' responses included:

- "*Meer bewus van 'prestige' bv. duur klere, ens.*" (*More aware of 'prestige' e.g. expensive clothes, etc.*)
- "*Brandnames belangriker*" (*Brand names more important*)
- "*Straatwys en uitgesproke, eiewys, verstaan nie hierargiese samelewing nie*" (*Streetwise and outspoken, opinionated, don't understand the hierarchical society*)
- "*Sit klem op materiële goed*" (Emphasise material things)

"I am influenced by the media (internet, TV)"

In contrast to about half of SoM [50.2%; p = 0.0006; CI = 6.5–23.1%] and SoN [53.7%, p = 0.0070; CI = 4.9-31.8%] students who disagreed with this statement, most SoAH (64.6%) students agreed with this statement. These differences were statistically significant. SoAH students' responses to open questions illustrate an opposite view, however, indicating a prominent role of the media in affecting their lives:

- "*Word te veel deur media gemodifiseer*" (*Are modified by the media too much*)
- "*Op jonger ouderdom blootgestel en meer ingelig oor 'trends'*" (*Exposed to and informed about 'trends' at a younger age*)

SoM students mentioned that they are "*Consumed by the media"*, and indicated the following challenges in this regard

- *Media's influence*
- *"Nie alles aanvaar in media nie" (Not to accept everything in media)*

- *"Nie verval in illusies deur media en regering geskep nie" (Not to relapse into illusions created by the media and government)*

SoN students did not directly refer to media influence with the exception of the following response to the open questions:

- "*Word vroeër groot want aan te veel goed blootgestel*" (*Grow up earlier because of exposure to too many things*).

"I am bored by routine"

Although just more than half of SoAH (57.1%) and SoN (53.7%) of students agreed with this statement, slightly fewer students in the SoM (47.1%) agreed. These differences were not statistically significant, however, and do not provide a clear view on undergraduate students' perceptions of the widely held notion that Generation Y students are easily bored. Responses to the open questions did not yield much further information, with the exception of the following statement indicating a perceived challenge, "*Nie verveeld raak met roetine nie" (not become bored with routine)* [SoM].

There were also some significant differences between SoAH students and the SoM and SoN students. SoAH students disagreed more with statements regarding the reported sense of entitlement and desire for instant gratification. Furthermore, they responded that they were more susceptible to influences by the media, as well as older people in positions of authority. These differences could partially be ascribed to the differences in mean age in the SoAH student sample which was 21.3 years (SD 1.93) compared to the mean age in the SoM (22.1; SD = 1.84) and SoN (22; SD = 2.34) respectively. The difference in mean age is so small, however, that the perceptions expressed by SoAH students should not be interpreted in the light of their slightly younger age, but rather as characteristic of these undergraduate students as a group. One should also bear in mind that the SoAH students are a diverse group, including Occupational Therapy, Physiotherapy, Dietetics and Optometry students.

The only significant difference between SoN students compared to the other two groups was regarding the issue of peer versus parental acceptance. Significantly, more SoN students disagreed that they valued acceptance of peers over parents. However, upon

scrutiny of the qualitative findings, these apparent attitudes were not consistently observed, and revealed that undergraduate students experienced great pressure to conform to the expectations of both peers and older generations.

Clearly, the qualitative findings regarding undergraduate students' perceptions of the attitudes displayed by Generation Y did not unambiguously support the quantitative findings, but rather revealed a variety of attitudes, either congruent or disparate with the quantitative findings.

The qualitative (text) data revealed that the attitudes most emphasised by all three undergraduate students groups was that they perceived Generation Y students to be more open-minded, liberal, informal, adaptable, tolerant and accepting of diversity than other generations. Although these attitudes probably characterise most members of younger generations in any historical period, it is nevertheless a significant issue and bears scrutiny. The following statements from undergraduate students' responses to open questions illustrate this:

SoM:

- *More tolerant and open-minded to diversity*
- *More open-minded and exposed to things others only dreamt of*
- *"Bevraagteken dinge meer" (Question things more)*
- *"Meer verdraagsaam en oop vir verandering" (More tolerant and open to change)*
- *More susceptible to change, diversity, racial integration*

SoAH:

- *Grown up to be open and not judge*
- *"Meer wêreld bewus, oop vir verandering, pas maklik aan" (More aware of the world, open to change, adapt more easily)*
- *More open-minded toward future, race, technology*
- *"Wil net lewe en nie omgee hoe hulle lyk of wat baas van hulle dink nie" (Just want to live and not care what they look like or what the boss thinks of them)*
- *More open-minded, anything goes*

SoN:

- *Openness about everything*
- *More openly emotional and social*
- *"Minder beperkinge in hul sienswyse" (Less constraints in their views)*

This perception may affect communication between generations, both in the teaching and learning environment (between academic staff and undergraduate students) as well as in the clinical environment (between undergraduate students and patients who are often older than they are). Most undergraduate students regarded this "open-mindedness" as a positive attitude, facilitating a more tolerant and therefore less constricting or conflict-ridden society, allowing for positive change, evidenced by these statements:

- "*Meer oopkop, minder hardkoppig, verstaan ander makliker*" (*More open-minded, less obstinate, understand others more easily*)
- *More open to change and new ideas*
- *More tolerant of others*

However, they also note the downside to such a tolerant, accepting society:

- *"Minder morele waardes, onverantwoordelike optrede" (Less moral values, irresponsible behaviour) [SoM]*
- "*Meer losbandig en uitgesproke*" (*More immoral and outspoken*)
- "*Meer afgestomp tov geweld, moord en sulke vreeslike goed*" (*More blunted to violence, murder and such terrible things*")
- *"Minder waardes en slegter maniere" (Less values and poorer manners) [SoAH]*
- *"Minder waardes, soek meer vryheid, bevraagteken alles" (Fewer values, look for more freedom, question everything)* [SoAH]
- "*Meer ongemanierd en ongedissiplineerd*" (*More rude and undisciplined*)
- *Lost morals and values, do things because they are 'cool', not good*
- *Low standards of life ('disgusting'; 'not human'); no values and principles*
- "*Etiese waardes verskil*" (*Ethical values differ*)
- *Decreased values and morals leading to chaos and hurt in society*

- *"Uitdaging om te verstaan hoe dinge deesdae gebeur [ongelyke rasbehandeling al is dit 'n reg]" (Challenge to understand how things happen nowadays [unequal race treatment even though it is a right) [SoN]*

In fact, many undergraduate students alluded to the fact that these attitudes have contributed to the decline in moral values as well as socio-political turmoil in society, and could not identify with the typical Generation Y attitude:

- "*Meer 'liberated'. Ek dink nie ek is so 'n tipiese Y-generasie student nie – ek is nogal konserwatief en nie baie tegnologies ingestel nie.*" (*More liberated. I don't think I am such a typical Y-generation student – I am rather conservative and not very technologically inclined*).
- *Vorm soms mispersepsie van die lewe, want waardes, norme en prioriteite het verander* (*Sometimes form misperceptions of life, because values, norms and priorities have changed*)

This also influenced their attitudes in terms of respect. From these responses it is apparent that undergraduate students recognise and are concerned about the lack of respect shown by their peers, especially towards older generations. This is an important issue not just in the teaching and learning environment, but especially in the health professions where the basic premise of healthcare delivery is that of respect and ethical actions. The following statements illustrate the issue of respect succinctly:

SoM:

- *Respect and morality are what gives you dignity*
- *"Gesag en respek sal altyd NB bly in enige sosiale kring en beroep" (Authority and respect will always stay important in any social circle and career)*
- *Culture, respect don't mean a lot*
- *Disrespectful in most instances*
- *"Minder morele waardes en respek vir gesag" (Less moral values and respect for authority.*

SoAH:

- *"Minder respek vir ander (nie net ouer mense nie) – maar nie almal is so nie" (Less respect for others [not just older people] – but not all are like that)*
- *Lack of respect for older individuals*
- *"Word met minder respek en gesag grootgemaak ' lelik as 'n student lelik praat of dink hy's beter as sy ouers of 'n dosent' " (Are raised with less respect and authority 'bad when a student speaks rudely or think he is better than his parents or a lecturer')*
- *"Verander sienings omdat dit 'cool' is, minder respek vir self en ander" (Change views because it is 'cool', less respect for self and others).*
- *"Ouer generasies toon meer respek, weet waar waardes en norme is, staan vas by wat hulle glo" (Older generations show more respect, know where values and norms are, steadfastly stand for what they believe)*

SoN:

- *"Uitdaging om respek te toon teenoor ouer generasie asook almal om hulle en hulself" (Challenge to show respect towards older generations as well as everyone around them and themselves)*
- *Don't have respect for themselves and elders, low morals*
- *"Ongeskik en dink nie wat hulle doen nie" (Rude and don't think what they are doing.)*

However, while undergraduate students indicate a lack of respect for elders, they are emphatic about their ability to be more respectful, tolerant and accepting of other cultures, races, life orientations and gender. For example:

- "*Meer respek vir ander kulture en teenoorgestelde geslag*" (*More respect for other cultures and opposite sex*)
- *Acceptance of different cultures and practices*

Unfortunately, this attitude of respect does not apparently extend to those from older generations, which could lead to intergenerational conflict.

The second set of statements in **Section B, Values and behaviours**, dealt with the goals and ideals that are described to be important to Generation Y students. For the purposes of quantitative data collection, students had to indicate on a Likert scale of 1 – 4 where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent, whether the statements were in line with their own views as members of Generation Y. Table 4.2 (responses to closed questions) includes 1 and 2 together as NO and 3 and 4 together as YES respectively, to indicate the extent of alignment with students' own views. Qualitative data was collected by means of students' written responses to open questions, and may be viewed in Appendix E1.

TABLE 4.2 EXTENT OF ALIGNMENT OF UNDERGRADUATE STUDENTS' VIEWS WITH STATEMENTS ABOUT THE GOALS AND IDEALS OF GENERATION Y STUDENTS AS DESCRIBED IN THE LITERATURE

	NO n (%)			**YES** n (%)		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
I aim to achieve work-life balance (n=615)	7 (2.2)	2 (0.9)	1 (1.5)	315 (97.8)	224 (99.1)	66 (98.5)
I am motivated to achieve success (n=615)	5 (1.5)	3 (1.3)	0	317 (98.5)	223 (98.7)	67 (100)
Work is about more than just money (n=611)	21 (7.2)	8 (2.6)	5 (7.6)	298 (92.8)	216 (96.4)	61 (92.4)
Success at work means nothing without success in your personal life (n=614)	23 (7.2)	12 (5.3)	11 (16.4)	298 (92.8)	214 (94.7)	56 (83.6)
It is important to have the right image including clothes, accessories, cars and toys (n=615)	171 (53.1)	130 (57.5)	33 (49.2)	151 (46.9)	96 (42.5)	34 (50.8)
You should have control over your own time (n=614)	8 (2.5)	4 (1.8)	1 (1.5)	313 (97.5)	222 (92.2)	66 (98.5)
It is important to live a moral life (n=614)	12 (4)	2 (0.9)	1 (1.5)	308 (96)	224 (99.1)	66 (98.5)
Family relationships are valuable (n=614)	6 (1.9)	1 (0.4)	0	315 (98.1)	225 (99.6)	67 (100)
It is very important to be accepted by your peers (n=614)	144 (44.9)	75 (33.2)	29 (43.3)	177 (55.1)	151 (66.8)	38 (56.7)
Money can't buy passion or commitment (n=615)	45 (14)	22 (9.7)	14 (20.9)	277 (86)	205 (90.3)	53 (79.1)
Work should have meaning (n=615)	5 (1.6)	2 (0.9)	1 (1.5)	317 (98.4)	224 (99.1)	66 (98.5)
I am socially conscious (n=612)	60 (18.7)	39 (17.3)	8 (12.1)	260 (81.3)	187 (82.7)	58 (87.9)
Work should provide enough money to enjoy life (n=614)	38 (11.8)	31 (13.7)	11 (16.4)	283 (88.2)	195 (86.3)	56 (83.6)
Your life matters because what you do as an individual can make the world a better place (n=613)	16 (5)	3 (1.3)	1 (1.5)	304 (95)	223 (98.7)	66 (98.5)

Quantitative data analysis revealed that the majority of undergraduate students perceived all except one of the statements in this division to be in line with their own views, as

indicated. For each of the statements reporting quantitative findings, qualitative data are included to corroborate these findings:

"Family relationships are valuable"

Undergraduate students' agreement with this statement was not substantiated by their responses to open questions. With the exception of this statement from a SoM student, "*Tyd met vriende en familie is belangrik*" (*Time with friends and family is important*), students in all three schools did not specifically emphasise the value of family relationships, and in fact indicated opposing attitudes. For example:

More socially aware, but ignorant about meaningful things like family relationships [SoM]
Bolder to follow dreams and not conform to social expectations from parents [SoM
Less appreciative of sentimental things, e.g. family, relationships [SoAH]
"Spandeer nie so baie tyd saam met familie en vriende nie" (Don't spend so much time with family and friends) [SoAH]

"I am motivated to achieve success"

Undergraduate students' responses to open questions underscore their ambition to achieve success:

- "*Om 'n sukses van ons lewe te maak*" (*To make a success of our lives*) [SoM]
- "*Sukses en geld is baie belangrik*" (*Success and money are very important*) [SoM]
- "*Uit te styg bo ander mense itv sukses*" (*Rising above other people in terms of success*) [SoAH]
- *Different in the way they think, see things, goals and ambitions* [SoN]

"Work should have meaning"

Although most students in all three schools agreed with this statement, their responses to open questions did not directly address this. The example noted here, namely, *Responsible for more than just own satisfaction* [SoM], however, reflects an ideal which is most likely shared amongst undergraduate students in the healthcare professions.

The fact that undergraduate students are not exposed to the work environment yet, may contribute to this omission. However, undergraduate students regularly mentioned their

goals and ideals in terms of morals and values, which can be interpreted as an awareness of work as something greater than the individual. The following stated challenges illustrate this eloquently:

- "*Hoë morele waardes toe te pas*" (*To apply high moral values*) [SoM]
- *Keeping up with the rat race and maintaining moral values* [SoM]

"I aim to achieve work-life balance"

This statement is directly related to the statement in the previous section regarding attitudes, namely "I think life is not just about work." The majority of undergraduate students also agreed with the latter statement, contributing to the reliability of the results. This is also supported by statements reflecting the objective of achieving balance:

- *Trying to deal with different aspects of life; balance of everything and everyone* [SoM]
- *Obtaining balance* [SoAH]
- "*Gebalanseerde mense te wees*" (*To be balanced people*) [SoN]

"You should have control over your own time"

Undergraduate students in all three schools mentioned that they found time management a challenge:

- *Managing finances and time* [SoM]
- *Time management, working hard to achieve something* [SoAH]
- *"Slegte tydsbestuur en oordeelsvermoë"* (*Poor time management and judgment*) [SoAH]
- *Time management* [SoN]

"It is important to live a moral life"

The issue of morality and the lack of moral guidance or standards in their current environment was strongly emphasised in undergraduate students from all three schools in the FoHS responses to open questions. On the one hand they consistently pointed out the lack of moral values and standards in their environment, and on the other hand, many

mentioned the challenges they face as members of Generation Y to maintain their moral standing in the midst of such pressure.

Examples of responses that indicate Generation Y students' perceptions of their environment related to moral issues:

- "*Morele en sosiale kwessies*" (*Moral and social issues*) [SoM]
- *Moral perversion, lawlessness, lust* [SoM]
- "*Verval van morele waardes*" (*Decline of moral values*) [SoM]
- *Morals and beliefs constantly challenged* [SoM]
- *More liberal, less morally inclined* [SoM]
- *Moral deterioration, loss of sense of religion / belonging* [SoM]
- *Loss of moral values when diversity is accepted* [SoM]
- "*Morele struikelblokke*" (*Moral obstacles*) [SoAH]
- "*Morele waardes min teenwoordig*" (*Not many moral values present*) [SoAH]
- "*Voel nie so sterk oor waardes en reëls nie*" (*Don't feel so strongly about values and rules*) [SoAH]
- "*Meer gevare vandag wat jou van die regte pad kan aflei*" (*More dangers today that can lead you off the right path*)

The following are examples of undergraduate students' perceived challenges as a consequence of the abovementioned environment:

- "*Pad te vind in uitdagende, veranderende wêreld sonder mentors - het nie grootgeword in tyd soos ons s'n nie*" (*Finding the way in a challenging, changing world without mentors – who did not grow up in a time like ours*) [SoM]
- "*Morele waardes behou ten spyte van slegte in wêreld*" (*Keeping moral values in spite of the bad in the world*) [SoM]
- *"Hoë waardes behou"* (*Maintaining high values*) [SoM]
- "*Moreel te lewe, bv. rook, seks voor huwelik, ens.*" (*Living morally, e.g. smoking, sex before marriage, etc.*) [SoM]
- *Maintaining positive morals* [SoAH]
- "*Nie van morele waardes en beginsels af te sien nie*" (*Not to discard moral values and principles*) [SoAH]

- "*Weet nie hoe om verantwoordelik op te tree nie*" (*Don't know how to act responsibly*) [SoAH]
- "*Moraliteit behou*" (*Maintaining moralilty*) [SoN]
- *Making sure you make right decisions so you don't have to go back to your elders crying* [SoN]

"Your life matters because what you do as an individual can make the world a better place"

Although more than 95% of undergraduate students in all three groups agreed with this statement, the percentage of SoM students (95%) who agreed was statistically significantly lower than the percentage of SoAH [98.7%; p 0.0211; CI 0.9– 6.5%] but not the SoN [98.5%; p = 0.2027] students. However, the confidence interval difference is less than 10%, and so this difference can be regarded as not significant in practice. The following statements provide supporting evidence:

- "*Om uit te styg, om verskil te maak in wêreld*" (*To stand out, to make a difference in the world*) [SoM]
- *Understand decisions made today will influence tomorrow* [SoM]
- "*Mense te laat verstaan dat jy regtig goed wil doen en 'n verskil maak*" (*To make people understand that you really want to do good and make a difference*) [SoAH]

Of interest are these statements by SoN students, indicating a marginally less responsible approach:

- "*Glo nie dat elke aksie 'n reaksie het nie*" (*Don't believe that every action has a reaction*)
- *Like to act on social things and only think about the consequence later*

"Work is about more than just money"

While SoAH or SoN students did not mention money, some ambiguity was displayed amongst students in the SoM regarding this statement:

- *Money and success is everything*
- *They think life is all about money*
- "*Geld is nie alles nie*" (*Money isn't everything*)

"Success at work means nothing without success in your personal life"

While most undergraduate students agreed with this statement, a statistically significantly lower percentage of SoN students (83.6%) compared to SoM [92.8%, p = 0.0148; CI = 0.1-18.6%] or SoAH [94.7%, p = 0.0030; CI = 1.8-20.5%] students indicated that this is in line with their views. SoN students indicated "*Gebalanseerde mense te wees*" (*Being balanced people*) and "*Om eendag 'n werk te kry en hul families te kan onderhou*" (*To find a job one day and support their families*) as goals, which support the abovementioned statement. Although SoAH students mentioned "*Maintaining a balanced life"* and "*To concentrate on more important things in life"*, they did not specifically allude to the conflict between personal and professional success. Statements from SoM students with reference to the abovementioned statement revealed differences. For example:

- "*Oningelig oor dinge wat werklik saakmaak*" (*Uninformed about things that really matter*) versus "*Making success of career and relationship"* and "*More driven to achieve bigger and better things without compromising personally"*.

"Work should provide enough money to enjoy life"

Slightly lower percentages of undergraduate students agreed with this statement than with the abovementioned **"Work is about more than just money"**. The following statement from qualitative responses provides some insight into undergraduate students goals in terms of finances:

- "*Meer geld nodig vir nuwe lewenswyses*" (*More money necessary for new lifestyles*).

"Money can't buy passion or commitment"

Most undergraduate students indicated that the statement was in line with their own views, although lower numbers of students in the SoN (79.1%) agreed with this than in the SoM (86%) or SoAH (90.3%). There was a statistically significant difference in the percentage of SoN versus the SoAH students regarding this statement [p = 0.0145; CI = 0.7-21.6%], but not between the SoN and SoM students. Undergraduate students' agreement with this statement relates to previous statements, including "**Work should provide enough money to enjoy life**" and "**Work is about more than just money**".

"I am socially conscious"

Undergraduate students' agreement with the abovementioned statement is supported by the following responses to open questions:

- "*Meer omgewing en mens-bewus*" (*More environment- and people-conscious*) [SoAH]
- *More open about emotional/social/cultural issues* [SoAH]
- "*Meer sosiaal bewus*" *(More socially conscious)*[SoAH]
- *More conscious of the world* [SoM]
- *More global outlook* [SoM]

However, there are some responses that refute their abovementioned indicated agreement with the statement "I am socially conscious", reflecting greater self-indulgence. These statements are examples of this conflict:

- *Antisocial behaviour* [SoN]
- "*Meer 'don't care'*" *(More 'don't care')* [SoAH]
- *Selfish (only look out for ourselves)* [SoM]

"It is very important to be accepted by your peers"

Lower percentages of undergraduate students indicated that this statement was in line with their own views. However, the percentage of SoAH students (66.8%) who agreed with this statement was statistically significantly higher than the SoM [55.1%; p = 0.0061; CI = 3.5–19.9%] but not SoN (56.7%) students. This statement relates to the statement "**I prefer acceptance from peers more than parents**" as discussed previously, and with which most undergraduate students but significantly more SoN students disagreed.

The commonly mentioned challenge of "peer pressure" consistently emerged from responses to open questions in all the student groups. These responses were given to questions regarding the challenges Generation Y students face, as well as perceived differences between Generation Y students and previous generations. From both quantitative and qualitative findings students' attitudes, goals and ideals reveal a complex mixture of great susceptibility to peer pressure as well as a desire to obtain both autonomy yet simultaneous approval from their elders.

While these values and behaviours could be ascribed to the "peer personality" typical of Generation Y, they could also reflect the expected developmental tasks at the age of early adulthood (Coomes & DeBard, 2004:5-16). As indicated by an academic staff member's response to open questions regarding the differences between Generation Y and older generations and the challenges they face: "*Ons moet onthou dat bg. grootliks te doen het met 'n fase van ontwikkeling (gekoppel aan ouderdom) wat nie slegs aan generasie toegeskryf kan word nie" (We must remember that the abovementioned is largely due to a phase of development (linked to age) that cannot be attributed to generation only).* Gaining greater understanding of the generational traits of students should be regarded as a valuable adjunct to existing theories and models guiding student development.

The exception is the statement **"It is important to have the right image including clothes, accessories, cars and toys."** Most SoM (53.1%) and SoAH (57.5%) students indicated that this was not in line with their own views, for example, "*Nie behep raak met oppervlakkige, vinniger, duurder, nuwer – deel wees van wat regtig saak maak*" (*Not to become obsessed with superficial, faster, more expensive, newer – to be part of what really matters*) [SoM]. In the SoN, 50.8% of students indicated that the latter statement was in line with their own views. However, these differences were not statistically significant.

As previously stated, significantly fewer SoN students agreed with the statement **"Money can't buy passion or commitment"**, which could point to a greater emphasis on money and material goods by SoN students.

For example, SoN students indicated "*Om so 'cool' moontlik te wees*" (*To be as cool as possible*) and "*Om 'cool' te wees, om die perfekte lyf te hê*" (*To be cool, to have the perfect body*), as ideals. However, also from the SoN, a student mentioned "*Om te besef dit gaan nie oor die uiterlike nie*" (*To realise it is not about appearance*), reflecting diverse opinions. SoAH students' responses also included for example, "*Meer selfbewus en op voorkoms en status gerig*" (*More self-conscious and directed towards appearance and status*).

Furthermore, the majority of undergraduate students indicated agreement with the statement mentioned previously **"Work should provide enough money to enjoy life"**, probably indicating that their enjoyment of life may be based on the material goods

(clothes, accessories, cars and toys) that are purchased to ensure a luxurious lifestyle. However, this is slightly contradictory to all three student groups' agreement with the statements **"Work is about more than just money"** or their disagreement with the statements **"I think I am entitled to everything I want"**, **"I want instant gratification meaning I am not willing to wait for delayed rewards"** or even **"I am self-centred"**.

The obvious challenges of coping in a fast-paced and changing world were evident in students' responses to open questions:

SoM:

- *Keeping up with the rat race and maintaining moral values*
- *Changed social environment re sexuality and spirituality*
- *More exposed to more challenging, diverse, "gray" circumstances*

SoAH:

- "*Om op hoogte te bly van al die veranderings*" (*To stay abreast of all the changes*)

SoN:

- *"Voete te vind in 'n besige wêreld" (Finding your feet in a busy world)*
- *How to survive in a modern society*
- *"Meer stress, minder tyd" (More stress, less time)*

Furthermore, undergraduate students also indicated a strong religious and moral slant in their attitudes that accordingly influence their values and behaviours:

SoM:

- *Finding themselves in a lost generation*
- *To live a moral and valuable life*
- "*Morele waardes en standaarde handhaaf in samelewing waar respek kwyn*" (*Maintaining moral values and standards in a society where respect is dwindling*)
- *Submission to God's will*
- "*Leef soos 'n kind van God*" (*Live as a child of God*)
- *Caught up in moral dilemmas: right vs. wrong; morally best vs. best for ourselves*

SoAH:

- *Keeping morals and ethical values as passed down from older generations*
- *"Fokus hou op God, dat Hy die belangrikste in die lewe moet bly*" (*Keeping focus on God, that He remains the most important in life*)
- "*Gegrond te bly in goeie morele waardes; op te staan vir geloof*" (*Remaining grounded in good moral values; standing up for faith*)

SoN:

- "*Om suksesvolle individue te wees in hulle lewe: beroep, huwelik, christelike leefwyse*" (*To be successful individuals in their lives: career, marriage, Christian lifestyle*)

However, undergraduate students at the UFS also consistently mentioned the impact of past historical events as well as the integration of diversity as factors that affect their values and behaviours. The unique socio-political environment undergraduate students are confronted with in the context of a South African higher education institution, emerged as a theme following data scrutiny. These issues will be discussed in greater detail with the results of **Section E, Environment and shaping events** (cf. p.241). For example, many undergraduate students alluded to the unique challenges faced in a "post-apartheid" South Africa:

SoM:

- *"Hantering van daaglikse konfrontasies oor die verlede" (Handling of daily confrontations about the past)*
- *Overcoming social and racial barriers encouraged by some parents*
- "*Foute van die verlede regstel*" (*Correcting the mistakes of the past*)
- "*Aanpassing by nuwe SA*" (*Adjustment to the new SA*)

SoAH:

- "*Rassediskriminasie, aanspreek van bewustheid daarom – nie net bevraagteken nie maar iets doen*" (*Racial discrimination, addressing of awareness around it – not just questioning it but doing something about it*)

- "*Gekonfronteer met 'voorheen benadeelde kwessie'*" (*Confronted with 'previously disadvantaged issue'*)
- "*Minder verwag van ons; rassisme en misdaad meer bekend, politiek ontwrig ons lewe*" (*Less expected of us; racism and crime are more common, politics disrupts our lives*)
- *"Meer interkulturele interaksie, daaglikse konfrontasie met diversiteit"* (*More intercultural interaction, daily confrontation with diversity*)

SoN:

- "*Glo dit is vorige generasies wat foute gemaak het – prober dit nou regmaak"* (*Believe it is previous generations who made mistakes – we are now trying to fix this*)
- "*Nog steeds verby die 'ras' kwessie te kom*" (*To still get past the 'race' issue*)

From these responses, it can be seen that students grapple with issues that are vastly different from societies elsewhere, for example, the USA, UK or Australia. These unique issues affect them as Generation Y cohort directly.

4.3.2 Academic staff members

Section B, Values and behaviours focuses on academic staff members' perceptions of the attitudes as well as goals and ideals important to Generation Y students. These were determined by means of closed questions in the form of statements about undergraduate Generation Y students (born 1981–2000), as well as open questions allowing for additional comments about given statements as well as questions determining the perceived differences between Generation Y students and older generations and the challenges these undergraduate students face.

For the first set of statements, staff members' perceptions about Generation Y students' attitudes were determined by asking them to indicate their agreement or disagreement with the given statements (responses to closed questions) on a scale of 1 – 4, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree and 4 = Strongly agree. Table 4.3 indicates the results for the statements reflecting commonly held perceptions or judgments about the attitudes of Generation Y students. In the table the scale 1 and 2 are indicated together to represent

disagreement, while 3 and 4 are indicated together to represent agreement with each statement.

Qualitative data were collected by asking academic staff members to record written responses to the open questions following each set of statements. The original source data (responses to open-ended questions) related to the key concepts of values and behaviour may be reviewed in Appendix E5.

TABLE 4.3 ACADEMIC STAFF MEMBERS' AGREEMENT/DISAGREEMENT WITH STATEMENTS REGARDING ATTITUDES OF GENERATION Y

STATEMENTS: Generation Y	**DISAGREE=MENTn (%)**	**AGREEMENTn (%)**
are optimistic about the future (n=69)	12 (17.4)	57 (82.6)
can be described as friendly and pleasant (n=68)	9 (13.2)	59 (86.8)
typically display positive, assertive behaviour (n=69)	10 (14.5)	59 (85.5)
have a casual approach that may appear to lack professionalism (n=69)	7 (10.1)	62 (89.9)
may seem arrogant (n=69)	28 (40.6)	41 (59.4)
are self-centred (n=69)	19 (27.5)	50 (72.5)
feel entitled to benefits not yet earned (n=69)	21 (30.4)	48 (69.6)
will change the world (n=69)	29 (42)	40 (58)
are ambitious (n=69)	24 (34.8)	45 (65.2)
appear confident (n=69)	6 (8.7)	63 (91.3)
will improve the future with innovative ideas (n=68)	26 (38.2)	42 (61.8)
have high expectations of success (n=68)	15 (22.1)	53 (77.9)
want instant gratification meaning they are not willing to wait for delayed rewards (n=69)	18 (26.1)	51 (73.9)
have high self-esteem (n=68)	13 (19.1)	55 (80.9)
are fun-seeking, easy-going individuals (n=68)	5 (7.4)	63 (92.6)
think they are entitled to everything they want (n=68)	19 (27.9)	49 (72.1)
are not easily impressed (n=68)	20 (29.4)	48 (70.6)
don't pay much attention to propaganda by older people in positions of authority (n=69)	20 (29)	49 (71)
are a street-smart, brand-conscious consumer (n- 69)	3 (4.4)	66 (95.6)
think life is not just about work (n=69)	6 (8.7)	63 (91.3)
are influenced by the media (internet, TV) (n=68)	2 (2.9)	66 (97.1)
prefer acceptance from peers more than parents (n=69)	7 (10.1)	62 (89.9)
are bored by routine (n=67)	1 (1.5)	66 (98.5)

From the statistical analysis of the quantitative data results, it is apparent that academic staff members agreed with all the statements that portrayed Generation Y students' attitudes in a positive light. Most of the academic staff members agreed that Generation Y students **"are fun-seeking, easy-going individuals"**, **"think life is not just about work"**, **"appear confident"**, **"display positive, assertive behaviour"**, **"are optimistic about the future"** and **"have high self-esteem"**.

Although the percentages of academic staff members who indicated agreement with these statements were lower than that of undergraduate students, the differences were not statistically significant. This is in line with undergraduate students' perceptions of themselves as discussed in 4.3.1 (cf. p.138-173).

Although academic staff members indicated agreement with the following statements, statistically significantly lower numbers of academic staff members agreed with these statements than undergraduate students (indicated by p-values < 0.05). Responses to open questions are included as qualitative data to support the quantitative findings:

Generation Y students

"can be described as friendly and pleasant" [p = 0.0073; CI = 0.5–16.9%]

- *"Meer ekstrovert" (More extrovert)*
- *"aangenaam, nie moeilik nie" (pleasant, not difficult)*
- *are excited about life*
- *"Meer gemaklik, kreatief en spontaan" (More easy-going, creative and spontaneous)*

"have high expectations of success" [p < 0.0001; CI = 7.8–27.8; Fishers' exact test]

- *They are success driven*
- *Their challenge is to cope in a world which has huge expectations created by us, the BBs.*

"are ambitious" [p < 0.0001; CI = 20.5-43.2; Fisher's exact test]

- *They are more assertive*
- *"Kom meer onafhanklik voor" (Appear more independent)*

"will improve the future with innovative ideas" [p < 0.0001; CI = 8.2-31%]

- *Well-formulated goals*

"will change the world" [p = 0.0433; CI = 0.3-24.1%]

- *Most travel easy and extensively and explore new areas with more confidence*
- *Want active participation in decisions*

Regarding the statement that **Generation Y students "are street-smart, brand-conscious consumers"**, statistically significantly higher numbers of academic staff members indicated agreement with this statement than undergraduate students [$p < 0.0001$; CI = 36.1-48.5%]. The following responses by academic staff members to open questions attest to this:

- *Are more street-wise and aware of crime*
- "*Baie meer wêreldwys en wêreldreisigers*" (*Much more aware of the world and are world travellers*)
- "*Word vryer groot, meer 'straat-bewus'*" (*Grow up more freely, more 'street-wise'*)

Although academic staff members' responses to the closed questions (quantitative data) portray that their perceptions of Generation Y students are similar to the positive perceptions that undergraduate students have of themselves, scrutiny of their responses to open questions (qualitative data) provided a more nuanced and layered view, which added to the depth and richness of the quantitative data. This is congruent with Phase I of this mixed-methods research design, namely concurrent triangulation.

Some responses from academic staff members yielded qualitative data contradictory to the quantitative data that indicated largely positive perceptions of Generation Y students, as is illustrated by the following statements:

- *Optimistic outlook on life, but prevalence of depression increased, indicating that certain individuals are susceptible, due to fragmentation of family unit*
- *They are selective and have little time to think about the meaning of life, simply accepting that there is more to do and to be exposed to and thus they often live their lives vicariously*
- *BUT there (sic) self esteem and self worth are VERY LOW INDEED*
- *Need to realise what is actually important in life*
- *"Om verantwoordelik te leef en nie jonk reeds uit te brand nie" (To live responsibly and not suffer from burnout at a young age)*

Academic staff members also indicated their agreement with statements representing Generation Y students in a less favourable light. The differences between undergraduate students who disagreed with these statements and academic staff members' responses indicating agreement with the following statements are statistically significant, indicated by p-values < 0.05. In addition, academic staff members' responses to open questions strongly corroborate the quantitative data reflecting their perceptions regarding the statements:

Generation Y

"prefer acceptance from peers more than parents" [$p < 0.0001$; CI = 59.1-74.8%]

- *"Om rustig te kan raak en nie met die massas saamgesleur te word in 'n 'rat race' nie (To become relaxed and not get taken along by the masses in a 'rat race')*
- *"Groepsdruk van eweknieë en ouers" (Pressure from peers and parents)*
- *"Hulle word ook baie vroeg aan groepsdruk blootgestel en vind dit soms moeilik om self besluit te neem en op te staan vir wat reg is" (They are exposed to peer pressure very early and sometimes find it difficult to make their own decisions and stand up for what is right)*

"are bored by routine" [$p < 0.0001$; CI = 36.88-46.63%]

- *Older generations are often content with a predictable routine and way of life. Our students are comfortable with variety and change*

"are influenced by the media" (internet, TV)" [$p < 0.0001$; CI = 36.6 - 47.8]

- *To handle, manage and overcome negative influences successfully and keep a positive outlook and sound moral conduct*
- *Ambivalent messages received from peers, media and authoritarian figures re basic moral and ethical values*
- *To make sense of the information overload*
- *Great diversity, media have positive and negative impacts regarding self-expectations; have become unrealistic due to "virtual" environment*

“have a casual approach that may appear to lack professionalism” [p < 0.0001; CI=43.7 - 59.8%]

- *“Minder gesteld op konformering bv. ‘goeie maniere’ en ‘professionele gedrag’ hoewel tog oop vir groepsdruk. (Less set on conforming, e.g. ‘good manners’ and ‘professional behaviour’ although still open for peer pressure)*
- *“Hou minder by reëls en het ‘n meer liberale lewensuitkyk” (Stick to rules less and have a more liberal outlook on life)*
- *The change from a casual environment to a more structured environment in which they must work*

“want instant gratification without waiting for delayed rewards” [p < 0.0001; CI = 32.9 - 54.9%]

- *“Minder geduldig tov beloning en verwag onmiddelike (sic) beloning” (Less patient regarding reward and expect immediate reward)*
- *They are success driven and want instant gratification.*
- *“Alles moet net maklik en vinnig geskied” (Everything should just happen fast and easily).*
- *want instant gratification, fast gratification*
- *“Onmiddelike (sic) vergoeding” (immediate reward)*

“are self-centred” [p < 0.0001; CI = 43.9 - 65.8%]

- *“Sien hulleself as verhewe bo sekere situasies - Kennis maak jou nie ‘volmaak’ nie* “(*See themselves as elevated above certain situations – Knowledge does not make you ‘perfect’*)
- *People from older generations (some) are often more humble and considerate of others - our students (some) tend to be more self-centred.*
- “*Meer selfgesentreerd*” *(More self-centred)*
- “*Op eie self ingestel ‘niemand’ kan hulle iets aandoen nie*” (*Focused on themselves; nobody can do anything to them*)

“think they are entitled to everything they want” [p < 0.0001; CI = 37.6 – 60%]

- *Feel entitled!*
- *Typical of a ‘princess' syndrome: expecting results with the minimum effort and to be served with knowledge.*
- *They are childish, no sense of responsibility for their own studies, think everything must be handed to them on a platter.*
- “*Verwag dat goed net in hul skoot moet val met min “effort” van hulle kant af; terugsit*” (*Expect that things should just fall into their laps with little effort from their side; sit back*)

“feel entitled to benefits they’ve not yet earned” [p < 0.0001; CI = 38.7 - 61.3%]

- *“Wil maksimum hê vir minimum inset” (Want maximum for minimal input)*
- *Not prepared to work/save for objects/gadgets*
- *“hulle goi*(sic) *makliker tou op en deursettingsvermoe (sic) ontbreek “(They give up more easily and lack perseverance)*
- “*Het nog nooit gesukkel in hul lewe nie en dus moet alles op ‘n skinkbord kom*” (*Have never struggled in their lives and therefore expect that everything should just come on a platter*)

“do not pay much attention to propaganda by older people in positions of authority” [p < 0.0001; CI = 22.3–45%]

- *Do not give seniors/or figures of authority due respect*
- *“Respekteer nie ander se waardes en opinies nie veral as dit ouer persone is.” (Do not respect the values or opinions of others, especially when it is older persons)*
- *“Is minder geintimideer deur gesag” (Are less intimidated by authority)*
- *Do not like authority*
- *Are not afraid to challenge authority without thinking*
- *They think they know better and challenge authority*

“are not easily impressed” [p = 0.0001; CI = 13-36.1%]

- “*Meer vrydenkend en kritiserend – dis goed!*” (*More free-thinking and critical – it’s good!*)

"seem arrogant" [p < 0.0001; CI = 19.9- 44.1%]

- "*Sal makliker hul menings lig*" (sic) (*Will give their opinions more readily*)

These less positive perceptions of Generation Y students contrast with the quantitative data from the undergraduate student questionnaire survey (Appendices A1-A2), indicating that Generation Y students' perceptions about their attitudes are more positive. However, qualitative data from undergraduate students' responses to open questions, provided insight that in spite of their positive perceptions evidenced in quantitative results, their responses to open questions actually indicated opposing views (cf. **Table 4.2**, p.162).

This confirms that undergraduate student' and academic staff members' perceptions about Generation Y are similar to the commonly described attitudes ascribed to Generation Y students (cf. **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education**, cf. p.19).

In addition, academic staff members' responses to open questions addressed similar issues evidenced in undergraduate students' responses to open questions. These included the mention of a lack of responsibility or respect, as well as greater open-mindedness and tolerance leading to a decline in morals. The following responses from open questions illustrate this:

Responsibility:

- *They fail to see their own responsibility for achieving success and typically play a blame game if not successful. In the process they fail to develop stamina*
- *Blame always other people if they fail, or the system, even racism, but they are never responsible themselves*
- *Lacks sence (sic) of responsibility and commitment*
- *Complains easily (even about small insignificant things)*
- *They do not always except (sic) their responsibility in order to achieve success.*
- *"Vir self verantwoordelikheid te vat – voel geregtig op als" (To take responsibility for themselves – feel entitled to everything)*
- *Onvergenoegde en ondankbare generasie (Dissatisfied and ungrateful generation)*
- *Taking responsibilities for their own actions/lives*

- *Cannot cope with what life throughs (sic) at them - they were not prepared at school level to cope and think for themselves*

Respect:

- *"Respekteer niks/niemand, soms nie eers hulleself nie" (Respect nothing/nobody, sometimes not even themselves).*
- *"Nie respek vir meerderes of gesag nie" (No respect for superiors or authority)*
- *Need to learn respect for rules*
- *Less respectful of others*

Open-mindedness, liberalism, tolerance, poor moral values:

- *"Oper gemoed en meer liberale denke" (More open-minded and more liberal thought processes)*
- *Less clear values*
- *"Minder inhibisies" (Less inhibitions)*
- *Some follow a disciplined, well behaved and moral life style while others have no self-discipline or moral values*

The second set of statements regarding values and behaviours deals with the goals and ideals that are important to Generation Y students. Academic staff members indicated on a scale of 1 – 4 where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent, whether the statements were in line with their own views about Generation Y students. Table 4.4 includes 1 and 2 together as NO and 3 and 4 together as YES to indicate the extent of alignment with staff members' views. Qualitative data are presented as quoted responses to open questions (Appendix E5).

TABLE 4.4 EXTENT OF ACADEMIC STAFF MEMBERS' AGREEMENT WITH STATEMENTS ABOUT THE GOALS AND IDEALS OF GENERATION Y STUDENTS

STATEMENT REGARDING GENERATION Y	NO n (%)	YES n (%)
They aim to achieve work-life balance (n=67)	17 (25.4)	50 (74.6)
They are motivated to achieve success (n=67)	9 (13.4)	58 (85.6)
Work is about more than money (n=67)	34 (50.8)	33 (49.2)
Success at work means nothing without success in your personal life (n= 66)	24 (36.4)	42 (63.6)
It is important to them to have the right image including clothes, accessories, cars and toys (n=68)	10 (14.7)	58 (85.3)
They want control over their own time (n=68)	11 (16.2)	57 (83.8)
It is important to live a moral life (n=68)	35 (51.5)	33 (48.5)
Family relationships are valuable (n=67)	22 (32.8)	45 (67.2)
Peer acceptance is very important (n=68)	4 (5.9)	64 (94.1)
Money can't buy passion or commitment (n=66)	23 (34.8)	43 (65.2)
Work should have meaning (n=66)	12 (18.2)	54 (81.8)
They are socially conscious (n=68)	16 (23.5)	52 (76.5)
Work should provide enough money to enjoy life (n=66)	2 (3)	64 (97)
One's life matters because what you do as an individual can make the world a better place (n=65)	19 (29.2)	46 (70.8)

Although academic staff members indicated agreement with most of the statements regarding the goals and ideals of Generation Y students, the percentage agreement was statistically significantly lower than that illustrated in quantitative data from undergraduate students' questionnaires, indicated by p-values < 0.05. For example, although a high percentage of academic staff members indicated agreement with the statement **"They are motivated to achieve success"**, the following responses indicate opposing perceptions:

- *Less self-disciplined*
- *"Sonder persoonlike trots en dryfkrag" (Without personal pride or motivation)*
- *They are more difficult to manage because of their attitudes and lack of discipline.*

The exception is the statement **"They are socially conscious"**, where the difference in academic staff members and undergraduate students' responses was not significant.

For the statements "**Work should provide enough money to enjoy life**" [p = 0.0178; CI = 5.1-14.9%] and "**It is important to them to have the right image, including clothes, accessories, cars and toys**" [p = p < 0.0001; CI = 30.3-48.9%], statistically significantly higher percentages of academic staff members indicated agreement than the percentage of undergraduate students who indicated agreement with these statements.

The former statement relates to the statements "**Money can't buy passion or commitment**" [$p < 0.0001$; CI = 9.9–33.5%] and "**Work is about more than just money**" [$p < 0.0001$; CI = 32.7-56.9%] (cf. Table 4.4, p.181). Academic staff members indicated a significantly lower percentage agreement with these statements. The high percentage of academic staff members who indicated agreement with the statement "**Work should provide enough money to enjoy life**" may therefore indicate a different interpretation of this statement. For example, one could argue that an individual's perceptions regarding what "enough money" or "enjoying life" means might be different.

Regarding the statement "**Peer acceptance is very important**" [$p < 0.0001$; CI = 27.7-41.3%], academic staff members' indicated agreement is cohesive with their agreement with the statement mentioned previously "**Generation Y prefer acceptance from peers more than parents**" (cf. Table 4.3, p. 174). These findings contrast with quantitative data but not qualitative data from the undergraduate students' questionnaire survey responses.

As in many other instances, although the quantitative findings from academic staff members and undergraduate students' questionnaire surveys differed significantly, qualitative data from undergraduate students' responses to open questions indicated similar perceptions to the views indicated by academic staff members' responses to both closed and open questions. It would therefore be wise not to interpret these data in isolation, but rather to look at the overall view that emerges from both quantitative and qualitative data.

One should bear in mind, however, that in Phase I of this mixed-methods research design the purpose of concurrent triangulation was to simultaneously collect quantitative and qualitative data (although the qualitative data carries more weight), analyse these separately and then use the results to enhance understanding.

Opposing views were evident when scrutinising qualitative data from academic staff members' responses to open questions, for example:

- *Play as NB as work/learning - balance lifestyle* versus *They have little balance and wider worldview*

- "*Minder materialisties en meer empatie vir ander en die omgewing*" (*Less materialistic and more empathy for others and the environment*) versus "*Materialisties geörienteerd*" (*Materialistically oriented*)

To provide for balanced, objective and representative findings, it is imperative that the researcher interprets quantitative and qualitative data with caution. One should realise that while mixed-methods research provides for a nuanced, comprehensive and multi-textured view on a research question (capitalising on the strengths while avoiding the weaknesses of the quantitative versus qualitative paradigms (cf. **Chapter 3 Research Design and Methodology**, p.67), its results may be tainted by subjectivity and a degree of incompatibility between these paradigms.

However, as pointed out by Morse (1991:120-122), making use of quantitative and qualitative methods in a single study ("simultaneous methodological triangulation" in this instance), allows for using findings in a complementary fashion to give rigour to the results and to develop theory and knowledge. The danger exists that researchers may use mixed-methods as a way of ensuring validity, by means of similar results found with different methods, when in reality true methodological triangulation has as its purpose not duplicating findings, but obtaining complementarity (Morse, 1991:120-122).

By indicating supporting and contrasting viewpoints, the researcher is providing for the abovementioned complementarity and not merely providing evidence for quantitative findings.

4.3.3 Summary of findings regarding Section B, Values and behaviours

In general, both quantitative and qualitative data from academic staff members' questionnaire surveys painted a less flattering picture than that which was revealed from the quantitative data in the undergraduate students' questionnaire surveys. Qualitative data from undergraduate students' questionnaire surveys provided confirmation of quantitative findings to some extent, but also contrasted and conflicted with these finding to reveal a view more similar to academic staff members' perceptions.

The findings (both confirmatory and contradictory) regarding the attitudes as well as goals and ideals that influence the values and behaviours of Generation Y students, yielded a more complete understanding of the perceptions of undergraduate students and academic staff members alike.

It appears therefore that undergraduate students' responses to statements confirm the commonly held perceptions or judgments about the attitudes displayed by Generation Y students. These findings reveal the optimism, positive and assertive behaviour, confidence, ambition, high self-esteem and self-belief, high expectations of success as well as a desire to enjoy a varied, fun-filled life where work is not the only focus.

Although they disagree with statements describing them as self-centred, arrogant, casual or unprofessional, significantly fewer SoM students, who were the largest group in the study population, disagreed with statements indicating these attitudes. This could be because final-year SoM students are already in their fifth year of study, which would make them arguably more mature than the younger undergraduate students in the sample.

While qualitative data confirmed and corroborated with quantitative data regarding most issues, some additional issues emerged from data scrutiny, providing a more comprehensive and layered view of the unique student group in the FoHS. Many undergraduate students emphasised the apparent lack of respect, probably related to their view of being more open-minded, tolerant, liberal, receptive and adaptable.

Not surprisingly, the political history and the aftermath of a newly democratic and highly diverse society greatly affect undergraduate students' attitudes, therefore influencing their values and behaviours. Overcoming the past or being faced with issues arising from the past are challenges commonly mentioned by especially SoM and SoAH students. The issues of racial diversity, maintaining moral integrity as well as living in a rapidly changing world and facing many perceived pressures, were highlighted in undergraduate students' as well as academic staff members' text responses to open questions in the questionnaires.

These issues will be discussed in greater depth in **Section E, Environment and shaping events** (cf. p. 242).

From these results, it appears that undergraduate students' perceptions on their goals and ideals as members of Generation Y concurs with their described desire for success, but not at the expense of work-life balance, personal fulfilment or doing work with meaning and purpose. They see money as an essential, enabling but not motivating force in their lives.

Academic staff members' perceptions contrasted significantly from undergraduate students' responses with regard to statements that described the Generation Y cohort as being arrogant, displaying a sense of entitlement and a desire for instant gratification, as well as being highly influenced by their peers and the media. However, academic staff members also revealed perceptions that concurred with undergraduate students' positive view of themselves, including their goals and ideals of living moral, balanced, non-materialistic, meaningful lives.

Qualitative data academic staff members and undergraduate students, however, did not consistently support quantitative findings, and provided for a broader understanding of the perceptions and judgments regarding Generation Y.

4.4 RESULTS OF QUESTIONNAIRE SURVEY SECTION C, COMMUNICATION STYLES, SKILLS AND NEEDS

The results described in this section reflect **Section C, Communication styles, skills and needs,** of the Questionnaire for Undergraduate Students and Questionnaire for Academic Staff respectively (Appendices A1–A4). The results of the undergraduate students' questionnaire survey are reported and discussed first (cf. **4.4.1 Undergraduate students**, p.185), followed by the results of the academic staff members' questionnaire survey (cf. **4.4.2 Academic staff members**, p.203). This is followed by a short summary of the results for **Section C, Communication styles, skills and needs** (cf. **4.4.3 Summary of findings regarding Section C, Communication styles, skills and needs**, p.213).

4.4.1 Undergraduate students

The section on communication styles, skills and needs consisted of three divisions, namely connectivity, social contact and feedback. The division connectivity determined students' agreement or disagreement with statements reflecting commonly held perceptions or

judgments about Generation Y and technology in communication. A 4-point Likert scale was used, where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree Somewhat and 4 = Strongly Agree.

Table 4.5 reflects undergraduate students' responses, with disagreement indicated as 1 and 2 and agreement 3 and 4 on the scale. Qualitative data were collected by asking undergraduate students to record written responses to the open questions following each set of statements. The original source data (responses to open-ended questions) related to the key concepts of **Section C, Communication styles, skills and needs**, may be viewed in Appendix E2.

TABLE 4.5 UNDERGRADUATE STUDENTS' AGREEMENT OR DISAGREEMENT WITH STATEMENTS REGARDING TECHNOLOGY IN COMMUNICATION AND THE NEED FOR CONSTANT CONNECTIVITY

STATEMENT	DISAGREEMENT n (%)			AGREEMENT n (%)		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
I use social networking (e.g. Face book) almost daily (n=614)	98 (30.4)	43 (19.1)	20 (29.9)	224 (69.6)	182 (80.9)	47 (70.1)
It is important to be constantly connected to the digital environment (n=614)	109 (33.8)	61 (27.1)	12 (17.9)	213 (66.1)	164 (72.9)	55 (82.1)
I am digitally literate (n=606)	64 (19.9)	59 (26.8)	12 (18.5)	257 (80.1)	161 (73.2)	53 (81.5)
The internet is more than technology, it is a way of life (n=613)	171 (53.3)	121 (53.8)	30 (44.8)	150 (46.7)	104 (46.2)	37 (55.2)
Constant connectivity, e.g. through browsing, downloading or instant messaging, are everyday practices (n=614)	133 (41.3)	99 (44)	30 (44.8)	189 (58.7)	126 (56)	37 (55.2)
I cannot imagine a world without technology, e.g. cell (mobile) phones, internet access or instant messaging (n=613)	64 (19.9)	41 (18.2)	9 (13.4)	257 (80.1)	184 (81.8)	58 (86.6)
I have no fear of technology (n=607)	42 (13.2)	43 (19.3)	8 (12.1)	276 (86.8)	180 (80.7)	58 (87.9)
Connecting to the internet is a better source of information than using a textbook (n=612)	174 (54.2)	93 (41.5)	22 (32.8)	147 (45.8)	131 (58.5)	45 (67.2)
I have access to the latest technology (n=607)	86 (27.1)	48 (21.5)	9 (13.4)	231 (72.9)	175 (78.5)	58 (86.6)
I am better at communicating with technology than with personal interaction (n=613)	270 (84.1)	205 (91.1)	52 (77.6)	51 (15.9)	20 (8.9)	15 (22.4)
I prefer the anonymous, open online environment(n=610)	229 (71.6)	170 (75.9)	40 (60.6)	91 (28.4)	54 (24.1)	26 (39.4)
All class materials should be available online (n=613)	75 (23.4)	70 (31.1)	13 (19.4)	246 (76.6)	155 (68.9)	54 (80.6)

The results describing undergraduate students' perceptions about Generation Y and technology in communication confirm that they are indeed the "digital natives" described in the literature (Prensky, 2001:Online). This is illustrated in the quantitative data from closed questions in the questionnaire survey, as indicated by the majority of undergraduate students' agreement with the following statements:

"I have no fear of technology"

- "*Meer oop vir verandering en ontwikkeling, nie bang vir tegnologie*" (*More open to change and development, not afraid of technology*) [SoM]
- "*Meer bewus van tegnologie, gebruik dit meer, meer gemaklik daarmee*" (*More aware of technology, use it more, more comfortable with it*) [SoM]
- "*Meer ingestel op tegnologie*" (*More focused on technology*) [SoM]
- "*Meer tegnologies gevorder*" (*More technologically advanced*) [SoM]
- *Technology is a person's new friend*[SoM]
- *Not scared of technology*[SoM]
- *"Werk en pas makliker aan by nuwe tegnologie"* (*Work and adapt more easily to new technology*) [SoAH]
- *"Meer bewus van en gemakliker met nuwe tegnologie (bv. SMS)"* (*More aware of and more comfortable with new technology, e.g. SMS*) [SoAH]
- *"Nie bang vir ontwikkelende tegnologie nie"* (*Not afraid of developing technology*) [SoN]

"I cannot imagine a world without technology, e.g. cell (mobile) phones, internet access or instant messaging"

- "*Verkies tegnologie bo persoonlike kontak*" (*Prefer technology above personal contact*) [SoM]
- "*Grootgeword met tegnologie, meer inligting, meer geleenthede*" (*Grew up with technology, more information, more opportunities*) [SoM]
- "*In staat om self te help met tegnologie; dis soos tweede natuur*" (*Capable of helping themselves with technology; it's like second nature*) [SoM]
- *Dependent on technology* [SoM]
- *"Vasgevang in digitale wêreld"* (*Caught up in digital world*) [SoM]

- "*Meer tegnologies, meer vertroud, ken nie lewe sonder dit nie*" (*More technological, more confident, can't live without it*) [SoAH]
- "*Kan nie lewe indink sonder tegnlogie ens nie – vir ouer gen 'n irritasie*" (*Can't imagine life without technology, etc. – an irritation to older generations*) [SoAH]
- *Rely more on technology for work and recreation* [SoAH]
- "*Weet meer van tegnologie af (grootgeword daarmee) – lees koerant op internet*" (*Know more about technology [grew up with it] – read newspaper on the Internet*) [SoN]

"I am digitally literate"

- *Cope well with technology* [SoM]
- *Access to technology, know well how to use it* [SoM]
- *More technology literate* [SoM]
- *More technologically advanced* [SoM]
- "*Meer tegnologies opgevoed (informeel)*" (*More technologically educated (informal*)) [SoM]
- "*Bly op datum met tegnologie*" (*Keep up to date with technology*) [SoAH]
- "*Meer 'updated' met tegnologie, weet hoe goed werk*" (*More updated with technology, know how things work*) [SoAH]
- "*Tegnologie 'slim' "* (*Technology 'wise'*) [SoAH]
- "*Ouer generasies is tegnologie 'gestermd', Gen Y glad nie*" (*Older generations are technologically disabled, Gen Y is not at all*) [SoN]

"I have access to the latest technology"

The percentage of SoN students (86.6%) who agreed with this statement was statistically significantly higher than the SoM [72.9%, p = 0.0182; CI = 04.2–23.2%] students, but not the SoAH students (78.5%). There was also no statistically significant difference between SoM and SoAH students' responses.

- *More used to a lot of things at an earlier age* [SoM]
- "*Toegang tot onbeperkte internet*" (*Access to unlimited Internet)* [SoM]
- *"Tegnologie vorder vinnig en Gen Y bly by*" (*Technology advances quickly and Gen Y keeps up*) [SoM]

- *Access to more technology and therefore another "world"* [SoAH]
- "*Verder gevorderde tegnologie tot beskikking*" (*More advanced technology at their disposal*) [SoAH]
- *More opportunities of learning and technology access* [SoN]
- *Access to technological devices that help with efforts to study* [SoN]
- *More access to technology which makes them think they are wiser than older gen* [SoN]
- *Access to and knowledge of most of the things, e.g. technology, education, etc.* [SoN]

The statistically significantly higher percentage of SoN students, who agreed with this statement, was not supported or refuted by the text responses as indicated above.

"It is important to be constantly connected to the digital environment"

Although most undergraduate students agreed with this statement, there was a statistically significant difference between the SoM (66.1%) and SoN (82.1%) students [p = 0.0103; CI = 5.4–26.5]. The differences between SoAH students and SoN and SoM students respectively, were not statistically significant.

"I use social networking (e.g. Face book) almost daily"

More students from the SoAH (80.9%) indicated agreement with this statement. This was statistically significantly higher than SoM [69.6%; p = 0.0029; CI = 4.1–18.5%] but not SoN (70.1%) students. This is supported by the following statements from SoAH students:

- *"Stel meer belang in kuberruimte verhoudings as werklike menslike verhoudings" (Are more interested in cyber space relationships than real human relationships)*
- *"Aanhoudende gebruik van Mxit en Face book" (Continuous use of Mxit and Face book)*

However, SoN and SoM students also indicated their agreement with the phenomenon of social networking in their text responses to open questions:

- *Obsession/addiction Face book/Mxit* [SoN]

- "*Gevaar om antisosiaal te word en slegs elektronies te kan kommunikeer*" (*Danger to become antisocial and only communicate electronically*) [SoN]
- "*Nie gewoond om nie in kontak te wees met ander persone nie, bv. elke dag gesels, mxit, sms*" (*Not used to not being in contact with another person, e.g. daily chat, mxit, sms*) [SoN]
- "*Lewe word onpersoonlik deur Mxit*" (*Life becomes impersonal due to Mxit*) [SoM]

Surprisingly, lower numbers of students agreed with the statement "**Constant connectivity, e.g. through browsing, downloading or instant messaging, is an everyday practice**" (cf. **Table 4.5**, p. 186). This is not consistent with the results mentioned above, and may indicate some misinterpretation of the latter statement.

It is compelling to note, though, that just more than half of students disagreed with the statement "**The Internet is more than technology, but a way of life**", in spite of their abovementioned agreement with the statement "**I cannot imagine a world without technology, e.g. cell (mobile) phones, internet access or instant messaging**" (cf. **Table 4.5**, p. 186).

Slightly more SoN students agreed with this statement, confirming the abovementioned indication the SoN students' preference for the online environment, although these differences were not statistically significant. Similarly, two thirds of SoN students indicated their agreement with the statement "**Connecting to the internet is a better source of information than using a textbook**". This is more than the percentage of SoAH students who indicated agreement with this statement, although not statistically significant. Most SoM students disagreed with this statement. These are statistically significant differences from SoAH [p = 0.0036; CI = 4.2–21.1%] and SoN [p = 0.0015; CI = 8.9–33.9%] students.

Although differences were also seen in undergraduate students' agreement with the statement "**All class materials should be available online**", these were not statistically significant. However, responses including the following indicate that while students enjoy the availability of online material, they are not necessarily prepared to work online:

- "*Hou nie van werkstukke op blackboard doen nie – wil liewer skriftelik ingee*" (*Don't like doing assignments on Blackboard – rather want to hand in written assignments*) [SoAH]

While all undergraduate students disagreed with the statement "**I prefer the anonymous, open online environment**", fewer SoN students disagreed with this statement, although the difference was not statistically significant.

Undergraduate students in all three schools indicated disagreement with the statement "**I am better at communicating with technology than with personal interaction**". Statistically significantly higher percentages of SoAH students (91.1%) than SoM [84.1%, p = 0.0167; CI = 1.5-12.5%] or SoN [77.6%, p = 0.0028; CI = 2.9–24.2%] disagreed with this statement. However, some of their responses to open questions refute these findings:

SoM:

- *"Sosiale vaardighede neem af agv tegnologie en minder tyd" (Social skills decrease due to technology and less time)*
- *Don't have people skills*
- *No personal contact to form deep interpersonal bonds*

SoAH:

- "*Tegnologie verminder sosiale interaksie met medemens (huisgebonde)*" (*Technology decreases social interaction with people [housebound]*)
- *Loss of social interaction*
- *"Kommunikeer makliker deur SMS as briewe of afsprake" (Communicate more easily by means of SMS than letters or appointments)*

SoN:

- *Do not socialise face-to-face*
- *Lack of privacy and personal involvement (friendship) due to every detail exposed by technology*

This is in contrast to statements including*:"Meer people skills" (More people skills), Easy to talk to* [SoM]; *More diverse, wider range of communications* [SoAH] and *Social* [SoN].

There were no statistically significant differences between SoM and SoN students. However, it was noticeable from the text responses from SoAH students, that they were particularly concerned about the need for maintaining effective interpersonal communication skills in spite of technology:

- *"Nie tegnologie bo een-tot-een verhoudings stel nie" (Not to place technology above one-on-one relationships)*
- *"Nie menslike aspek van kommunikasie, bv. simpatie af te skeep nie" (Not to neglect the human aspect of communication, e.g. sympathy)*
- *Making friends on a face-to-face basis; trust, privacy*

It appears that although SoAH students indicated a lower affinity for the online environment and felt strongly that they are more adept at personal interaction than communicating with technology, they are also the group who indicated the highest percentage of agreement with the statement regarding the daily use of social networking. SoM students indicated significantly lower preference for the use of social networking and the use of the internet in favour of textbooks, while SoN students, who significantly indicated the highest percentage access to the latest technology, also significantly attached a higher percentage importance to staying constantly connected to the digital environment.

In all three schools, however, undergraduate students indicated that although they cannot imagine a world without technology, are digitally literate and have no fear of technology, they do not prefer the anonymous, open online environment and are better at communicating with personal interaction than technology. These issues will be explored further in the next section. Statements such as the following illustrate that in spite of their ease, comfort, familiarity and superior skills with technology, undergraduate students' responses also indicated negative associations with ubiquitous technology availability and use:

SoM:

- *Technology is ruining our interpersonal lives*
- *Not as social with face to face interaction*
- *"Meer tegnologies, minder interaktief met mense" (More technological, less interactive with people)*
- *Why visit if you can text or even better video all?*
- *"Digitale era met verlies van persoonlike kontak" (Digital era with loss of personal contact)*

SoAH:

- *Too caught up in technological world – don't interact enough*
- *"Minder kommunikasie vaardighede" (Fewer communication skills)*
- *"Meer tegnologies en meer sosiaal maar meer onpersoonlik" (More technological and more social but more impersonal)*
- *Depersonalised communication due to electronic and not face-to-face*
- *Lack of communication skills (forget that people are individuals and look at them by their profile on face book)*

SoN:

- *Little face-to-face communication*
- *No one-one contact we could forget how to maintain relationships*

The following section deals with issues regarding social contact of Generation Y. Students indicated to what extent the list of statements were in line with their own views on a four-point Likert scale, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. In Table 4.6 their perceptions are indicated as NO for 1 and 2, and YES for 3 and 4 on the scale respectively.

TABLE 4.6 UNDERGRADUATE STUDENTS' EXTENT OF AGREEMENT WITH STATEMENTS REGARDING THEIR SOCIAL CONTACT

STATEMENT	NO n (%)			YES n (%)		
	SoM	SoAH	SoN	SoM	SoAH	SoN
It is difficult to communicate with older generations (n=613)	185 (57.6)	147 (65.3)	34 (50.8)	136 (42.4)	78 (35.7)	33 (49.2)
Friendships make life worthwhile (n=610)	12 (4.1)	4 (1.8)	3 (4.5)	307 (95.9)	219 (98.2)	64 (95.5)
I want to be surrounded by bright, creative, fun- loving people (n = 612)	12 (3.8)	1 (0.4)	2 (3)	308 (96.2)	224 (99.6)	65 (97)
I am a good communicator (n=611)	41 (12.8)	18 (8)	2 (3)	278 (87.2)	207 (92)	65 (97)
I am not afraid of challenging authority (n=612)	119 (37.2)	92 (40.9)	23 (34.3)	201 (62.8)	133 (59.1)	44 (65.7)
My leisure time is spent socialising (n=608)	66 (20.7)	27 (12.1)	15 (23.1)	253 (79.3)	197 (87.9)	50 (76.9)
I communicate well with people from diverse cultures (n=613)	66 (20.6)	27 (12)	14 (20.9)	255 (79.4)	198 (88)	53 (79.1)
I prefer text messaging to face-to-face contact (n=612)	268 (83.5)	206 (91.6)	47 (71.2)	53 (16.5)	19 (8.4)	19 (28.8)
I maintain close connectivity to my parents (n =600)	42 (13.5)	17 (7.7)	3 (4.6)	270 (86.5)	205 (92.3)	63 (95.4)
Social networking makes it possible to have multiple friendship relationships (n =612)	93 (29)	55 (24.4)	15 (22.7)	228 (71)	170 (75.6)	51 (77.3)
I can maintain close, personal relationships (n= 607)	28 (8.8)	4 (1.8)	0	289 (91.2)	220 (98.2)	66 (100)
Older generations don't understand how to communicate with us (n=613)	181 (56.4)	137 (60.9)	34 (50.8)	140 (43.6)	88 (39.1)	33 (49.2)
I prefer casual forms of communication (n=613)	63 (19.6)	33 (14.7)	9 (13.4)	258 (80.4)	192 (85.3)	58 (86.6)
Online relationships are often superficial (n=612)	28 (8.8)	13 (5.8)	9 (13.4)	292 (91.2)	212 (94.2)	58 (86.6)

Most undergraduate students in all three schools indicated their agreement with the statements indicating the social contact of Generation Y as seen in the literature. These include:

"I want to be surrounded by bright, creative, fun-loving people"

Although most undergraduate students agreed with this statement, there were statistically significant differences between SoM (96.2%) and SoAH (99.6%) students [p = 0.0128; CI = 1.1–5.6%]. However, the confidence interval is < 10% and therefore, although statistically significant, this difference could be regarded as irrelevant in practice. There were no statistically significant differences between SoM and SoN students, and SoAH and SoN students, however. No specific mention was made of this desire from open question responses.

"Friendships make life worthwhile"

This is supported by statements, including:

- *Thrive on relationships and friendships* [SoAH]
- *More social – lots of friends, globally* [SoAH]

"I can maintain close personal relationships"

Although most undergraduate students agreed with this statement, the percentage of SoM students (91.2%) was statistically significantly lower than SoAH [98.2%, p = 0.0006; CI = 3.5–10.6%] and SoN [100%, p = 0.0121; CI = 5.7–12%] students. However, due to the CI < 10%, although statistically significant, these differences could be regarded as irrelevant in practice.

"I am a good communicator"

The percentage difference between SoM (87.2%) and SoN (97%) students was statistically significant [p = 0.0196; CI = 4.4-15.4%]. There were no significant differences between SoM and SoAH students and SoAH and SoN students respectively.

Statements from SoM students for example, "*Goeie menseverhoudings*" (*Good relationships with people*), and "*Easy to talk to"* reveal their perspective in this regard. SoN students did not allude to having good communication skills in their responses to open questions.

"I maintain close connectivity to my parents"

The percentage difference between SoM (86.5%) and SoAH (92.3%) students was statistically significant [p = 0.0350; CI = 0.7–11%]. However, the percentage difference between SoAH and SoN students or SoM and SoN students was not significant. Besides indicating difficulty in communicating with older generations, students did not mention their connectivity with parents directly in their responses to open questions. For example, SoM students indicated "*Kommunikasie met ander/ouers wat dink hulle is reg*" (*Communication with others/parents who think they are right)* and "*Beter verhoudings met ouer generasies*" (*Better relationships with older generations*) as challenges that they face. Similarly SoAH students mentioned the challenges of *Relating to previous generation* and "*Ouer mense oor die weg te kom*" (*Get along with older people*).

"I prefer casual forms of communication"

This is supported by the following statements:

- "*Meer sosiaal, meer informele kommunikasie*" (*More social, more informal communication*) [SoAH]
- "*Baie meer informeel, baie sosiaal ingestel*" (*Much more informal, more socially inclined*) [SoAH]

"I communicate well with people from diverse cultures"

Statistically significantly higher percentages of SoAH (88%) than SoM (79.4%) students agreed with this statement [p = 0.0088; CI = 2.4–14.7%], although the difference between SoAH and SoN (79.1%) students was not statistically significant. It is therefore noticeable that SoM students mentioned the challenges "*In vrede met ander kulture te leef*" (*Living in peace with other cultures*) and "*Interaksie met diverse kulture*" (*Interaction with diverse cultures*) as challenges, although one response included *Easier to form intercultural relationships*.

"My leisure time is spent socialising"

The percentage difference between SoAH students (87.9%) who agreed with this statement was statistically significantly higher than SoM [79.3%, p = 0.0085; CI = 2.5–14.8%] or SoN [76.9%, p = 0.0264; CI = 0.1-22.1%] students. The difference between SoM and SoN students' percentage agreement was not statistically significant. However, in their responses to open questions, these differences were not evident. SoM students, for example mentioned "*Sosiaal, meer 'clubbing'*"(*Social, more clubbing*), *More socially active* and *Very interactive, more social* revealing a similar focus on social activities.

Indicative of their technology-rich environment, most undergraduate students agreed with the statement "**Social networking makes it possible to have multiple friendship relationships**", although they also agreed that "**Online relationships are often superficial**". In contrast to widely held perceptions, they indicated that they disagreed with the statement "**I prefer text messaging to face-to-face contact**". However, regarding the latter statement, significant differences existed between the three student groups. The difference between SoM (83.5%) and SoAH [91.6%, p = 0.0061; CI = 2.6-

13.5%] and SoN [71.2%, p = 0.0196; CI = 0.6–23.9%] students was statistically significant, as well as between SoAH and SoN students [p < 0.0001; CI = 8.8–31.9%].

This confirms the results in the previous section, where significantly higher percentage SoAH students indicated disagreement with the statement "**I am better at communicating with technology than with personal interaction**". Therefore, it can be deduced that this group of undergraduate students prefer personal interaction in lieu of the anonymity and distance of technology. It is vital that those following careers in Health Sciences are adept at communication, and therefore these results are encouraging.

Regarding communication with older generations, there was some ambiguity among undergraduate students in all three schools. Students in all three schools disagreed with the statements "**It is difficult to communicate with older generations "and "Older generations don't understand how to communicate with us**". No statistically significant differences existed in their responses.

However, analysis of undergraduate students' responses to the open questions many indicated opposing perceptions. For example, regarding the differences between Generation Y students and older generations, students mentioned:

- *Believe older generations don't understand* [SoM]
- *"Ouer mense nie bereid om ander sieninge in te sien of verstaan nie" (Older generations are not prepared to see or understand other points of view)*[*SoM*]
- *"Ouer gen te laat verstaan dat tye verander en ons nie dieselfde as hul optree in sekere situasies nie" (Make older generations understand that times change and that we don't act the same as they do in certain situations)* [SoAH].

In addition, regarding the challenges that Generation Y students face, *Communication with older generations* was commonly mentioned, as well as for example, *Patience with others who didn't grow up in a digital world* [SoAH]or *"Met ouer generasies te kommunikeer sonder arrogant voorkom" (Communicating with older generations without appearing arrogant)* [SoM].

Very few SoN students mentioned the issue of intergenerational conflict or communication in their responses to open questions. It should, however, be borne in mind that this was also the smallest group of students in the study population, and therefore there were fewer responses from this group.

The final division in the section on communication styles, skills and needs refers to the feedback needs of Generation Y students. Students indicated to what extent the statements were in line with their own views, using a four-point Likert scale, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. In Table 4.7 their perceptions are indicated as NO for 1 and 2, and YES for 3 and 4 together respectively.

TABLE 4.7 EXTENT OF ALIGNMENT WITH UNDERGRADUATE STUDENTS' VIEWS OF STATEMENTS REGARDING GENERATION Y STUDENTS' FEEDBACK NEEDS

STATEMENT	**NO n (%)**			**YES n (%)**		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
Lecturers should give each student individual feedback on a regular basis (n=612)	111 (34.6)	54 (24)	24 (35.4)	210 (65.4)	171 (76)	42 (63.6)
I need guided supervision, preferably by an older mentor (n=612)	135 (42.1)	98 (43.6)	32 (48.5)	186 (57.9)	127 (56.4)	34 (51.5)
I prefer positive feedback because negative feedback is destructive (n=612)	146 (45.5)	107 (47.6)	26 (39.4)	175 (54.5)	118 (52.4)	40 (60.6)
I function best in a structured, organised environment (n=612)	21 (6.5)	15 (6.7)	5 (7.6)	300 (93.5)	210 (93.3)	61 (92.4)
Authoritarian figures have limited influence on me (n=609)	171 (53.4)	130 (58.3)	26 (39.4)	149 (46.6)	93 (41.7)	40 (60.6)
I prefer empathetic role models (n=606)	93 (29.3)	63 (28.1)	18 (27.7)	224 (70.7)	161 (71.9)	47 (72.3)
I want immediate, personal access to lecturers whenever it suits me (n=612)	157 (48.9)	135 (60.4)	33 (50)	164 (51.1)	89 (39.6)	33 (50)
Frequent rewards and incentives motivate me (n=607)	116 (39.6)	67 (29.9)	18 (27.3)	201 (63.4)	157 (70.1)	48 (72.7)
I only learn work that I think is worthwhile to improve my marks (n=610)	159 (49.7)	139 (62.1)	34 (51.5)	161 (50.3)	85 (37.9)	32 (48.5)
Structured supervision is frustrating (n=612)	233 (72.6)	171 (76)	44 (66.7)	88 (27.4)	54 (24)	22 (33.3)
I prefer to work independently (n=610)	79 (24.7)	46 (20.4)	16 (24.6)	241 (75.3)	179 (79.6)	49 (75.4)
If a lecturer gives me negative feedback, they have to explain or justify it (n=609)	42 (13.1)	23 (10.3)	16 (24.6)	278 (86.9)	201 (89.7)	49 (75.4)

Undergraduate students agreed that the following statements were in line with their own views:

"I function best in a structured, organised environment"

The majority of undergraduate students also indicated disagreement with the statement "**Structured supervision is frustrating**", confirming their preference for an orderly environment. There were no significant differences between the student groups regarding these statements. Responses to open questions confirm these findings:

- "*Gebrek aan selfbeheersing en selfdissipline* (*Lack of self-control and self-discipline*) [SoM]
- "*Meer informeel en ongestruktureerd*" (*More informal and unstructured*) [SoAH]
- "*Minder struktuur, slordig*" (*Less structure, untidy*) [SoM]

"I prefer to work independently"

Although few students mentioned a desire for independence in their open responses, some statements did refer to their perception of possessing greater independence at a young age for example, *"More independent, learn to do things on their own earlier", "Think more indepentantly" (sic).*

"Frequent rewards and incentives motivate me"

Regarding this statement, more SoN students agreed, while the smallest number of SoM students agreed. These differences were not statistically significant, however. This seems to contrast with students' disagreement with the statements "**I want instant gratification meaning I am not willing to wait for delayed rewards**" (cf. p. 152), but is supported by their responses to open questions as reported on p. 135 as well as responses including:

- *Expect everything to come to them* [SoM]
- *Threat of being given everything on a plate ito(sic) notes (summaries being given)* [SoAH].

"I need guided supervision, preferably by an older mentor"

The lower number of undergraduate students agreeing with this statement seems to be congruent with their desire to work independently, albeit rewards- or incentive-based, but not with their requirements of a structured, organised environment. In fact, from the responses to open questions, students clearly express this need:

- *"Pad te vind in uitdagende, veranderende wêreld sonder mentors (het nie grootgeword in tyd soos ons s'n (sic) nie)" (Find the way in challenging, changing world without mentors [they did not grow up in a time like we did]).*

"I prefer empathetic role models"

The higher level of agreement with statement than with the previous statement regarding mentorship might indicate a bias against older persons in mentorship positions. However, there appears to be some contradiction in the responses to the statement "**Authoritarian figures have limited influence on me**".

Most students in the SoM (53.4%) and SoAH (58.3%) disagreed with this statement, while most SoN (60.6%) students agreed with this statement. The differences between SoN students and SoM [p = 0.0377; CI = 1.1–27%] and SoAH [p = 0.0068; CI = 5.5–32.4%] students respectively were statistically significant. There were no statistically significant differences between the SoM and SoAH students, however.

This finding may be compelling considering the clinical environment, where nursing practitioners often have to follow prescribed procedures or instructions. An unwillingness to submit to authority figures may lead to resentment or conflict in the workplace.

Students' uncivil behaviour in the nursing education setting has been discussed as a trend that detrimentally affects interaction between academic staff and students, as well as the future work setting. In their responses to open questions academic staff members alluded to this in the following example: *"Kan hulleself glad nie op 'n 'ordentlike' manier handhaaf tussen ouer persone nie – word gesien EN gehoor – maar nie noodwendig op 'n mooi manier nie" (Cannot act in a proper way between older persons – are seen AND heard – but not necessarily in a good way).*Therefore the recognition and prevention of incivility has been put forward as an important issue in the teaching learning environment (Suplee, Lachman, Siebert & Anselmi, 2008:68).

Some text responses to questions indicate that undergraduate students regard older generations as narrow-minded and rigid, leading to perceived challenges in overcoming these, illustrated by the following statements:

- "*Vooropgestelde idees v ouer generasies (bv. rassisme) te bowe kom*" (*Overcoming preconceived ideas of older generations, e.g. racism*) [SoM]
- "*Dosente is nie 'open-minded' nie; wil hê alles moet gebeur soos hulle daaraan gewoond is, ons maak al die aanpassings*" (*Lecturers are not open-minded; they want to have everything happen according to what they are used to. We make all the adjustments*) [SoM]
- "*Om oor die weg te kom met ouer, selfgesentreerde, 'no people skills' persone*" (*To get along with older, self-centred, no people skills persons*) [SoAH]
- "*Om vir iemand te werk/klas te hê by iemand wat stokoud is*" (*To work for/have class with someone who is very old*).

Although a certain degree of resentment or indifference toward authority could be regarded as a the norm for younger generations' views on older generations, it is a factor that should be considered in the Health Sciences Education environment, where students not only interact with older generations in the teaching and learning environment, but also in the clinical environment on a daily basis. For example, members of the older generation may include patients or other health care workers. Attitudes of disrespect contribute to conflict in these contexts, and therefore undergraduate students' commonly stated responses that they perceive Generation Y to be less respectful must be taken note of and addressed.

Illustrative examples include:

- *Less respectful* [SoAH]
- "*Minder respek vir ouer mense*" (*Less respect for older people*) [SoAH, SoN]
- "*Ander ouer mense te konsidereer en oop te wees vir hulle ouer, meer formele siening*" (*To consider other older people and to be open for their older, more formal point of view*)[SoAH]
- "*Min respek vir gesagposisies*" (*Little respect for positions of authority*) [SoM]
- *Maintaining regard for older, wiser persons* [SoM]

"I prefer positive feedback because negative feedback is destructive"

Although 60.6% of SoN students agreed with this statement, the differences between SoN students and SoM and SoAH students' responses were not statistically significant. The

fact that just over half of undergraduate students indicated agreement, may point to these undergraduate students' ability to realise the importance of realistic feedback. Undergraduate students' responses to open questions did not include direct references to their need for feedback.

"If a lecturer gives me negative feedback, they have to explain or justify it"

In the SoAH, 89.7% of students agreed with this statement, while statistically significantly fewer SoN students [75.4%; p = 0.0029; CI = 3.2-25.6%] agreed. The difference between SoAH and SoM students [86.9%, p = 0.0182; CI = 0.4-22.6%] was also statistically significant. This is congruent with responses to the previous statement, perhaps indicating undergraduate students' desire to receive constructive feedback. It could also point to greater assertive behaviour from undergraduate students, congruent with the responses in **Section B, Values and Behaviours: Attitudes,** "**I typically display positive, assertive behaviour**".

"Lecturers should give each student individual feedback on a regular basis"

Once again, the highest number of undergraduate students who found this to be in line with their own views was from the SoAH (76%). The differences between the latter students and students from the SoM [65.4%, p = 0.0081; CI = 3–18.2%] and SoN [63.6%, p = 0.0462; CI = 0.5-25.2%] were statistically significant, although not between the SoM and SoN students. In contrast, 60.4% of SoAH students disagreed with the statement "**I want immediate, personal access to lecturers whenever it suits me**", while statistically significant differences were seen compared to the responses of SoM [51.1%; p = 0.0078; CI = 3.1-19.9%] students, but not SoN (50%) students who indicated agreement with this statement.

"I only learn work that I think is worthwhile to improve my marks"

This statement yielded disparate responses. SoM students agreed with this statement (50.3%), but SoAH students [62.1%, p = 0.0043; CI = 4-20.8%] disagreed with this statement. This difference was statistically significant. This may be illustrated by the following responses from SoM students, "*Don't wanna work hard"* (sic) and "*Interested in taking easy way out.*"

The difference between SoAH and SoN students' responses was not statistically significant, however. Although 51.5% of SoN students agreed with this statement, there were no statistically significant differences between SoN, and SoM or SoAH students' responses to this statement.

While SoM and SoN students did indicate agreement with this statement, perhaps alluding to their wrestling with vast amounts of learning material, it is a matter of concern, as undergraduate students seldom possess the knowledge or maturity required to discern essential content. The low numbers of undergraduate students indicating agreement may point to some ambiguity in their responses though. SoAH students' apparent greater compliance to abide with the status quo seen previously (cf. Table 4.1, p.139), is underlined by this response.

4.4.2 Academic staff members

As mentioned previously (cf. **4.1 Introduction**, p. 117), **Section C, Communication styles, skills and needs** included three divisions, namely connectivity, social contact and feedback. The division connectivity determined academic staff members' agreement or disagreement with statements reflecting commonly held perceptions or judgments about Generation Y and technology in communication. A four-point Likert scale was used, where 1 – Strongly Disagree, 2 = Disagree, 3 = Agree Somewhat and 4 = Strongly Agree. Table 4.8 reflects staff members' responses, with disagreement indicated as 1 and 2, and agreement as 3 and 4 together.

Qualitative data were collected by asking academic staff members to record written responses to the open questions following each set of statements, as well as recording their responses to questions asking what they perceive the differences between Generation Y students and older generations are, and which challenges Generation Y students face. The original source data (responses to open-ended questions) related to the key concepts of **Section C, Communication styles, skills and needs** may be reviewed in Appendix E5.

TABLE 4.8 ACADEMIC STAFF MEMBERS' AGREEMENT OR DISAGREEMENT WITH STATEMENTS REGARDING TECHNOLOGY IN COMMUNICATION AND GENERATION Y STUDENTS' NEED FOR CONSTANT CONNECTIVITY

STATEMENT	DISAGREEMENT n (%)	AGREEMENT n (%)
Social networking (e.g. Face book) is used almost daily (n=68)	1 (1.5)	67 (98.5)
It is important to be constantly connected to the digital environment (n=68)	2 (2.9)	66 (97.1)
They are digitally literate (n=68)	2 (2.9)	66 (97.1)
The internet is more than technology, it is a way of life (n=66)	4 (6.1)	62 (93.9)
Constant connectivity, e.g. through browsing, downloading or instant messaging, are everyday practices (n=68)	3 (4.4)	65 (95.6)
They cannot imagine a world without technology, e.g. cell (mobile) phones, internet access or instant messaging (n=68)	2 (2.9)	66 (97.1)
They have no fear of technology (n=68)	8 (11.8)	60 (88.2)
They think connecting to the internet is a better source of information than using a textbook (n=68)	9 (13.2)	59 (86.8)
They have access to the latest technology (n=68)	8 (11.8)	60 (88.2)
They are better at communicating with technology than with personal interaction (n=68)	12 (17.6)	56 (82.4)
They prefer the anonymous, open online environment (n= 67)	12 (17.9)	56 (82.1)
They prefer that all class materials should be available online (n=64)	18 (28.1)	46 (71.9)

Academic staff members agreed with all except one of the statements regarding Generation Y students and their use of technology. These responses were similar to those seen from results of the undergraduate students' questionnaire survey (cf. **4.4.1 Undergraduate students**, p.186-203). Although undergraduate students also indicated agreement with these statements in the section regarding Generation Y students' need for constant connectivity, statistically significantly higher percentages of academic staff members agreed with these statements, with the exception of the statement, "**They have no fear of technology**", where the difference in responses was not statistically significant.

Academic staff members' perceived agreement with statements indicating that Generation Y students are immersed in a technologically rich environment may be supported by the following text responses to open questions:

- *Grew up with technologies that were not available to older generations and experienced development thereof (makes it easier to understand and handle). Thus much more adept at using them.*

- *"Hulle kommunikasie netwerke is ook uitstekend en vereis van dosente om op hierdie manier met hulle te kommunikeer "(Their communication networks are also excellent and require of lecturers to communicate with them in this way)*
- *"Vir Generasie Y is tegnologie so deel van hulle lewe, dat hulle nie daarsonder kan funksioneer nie. Hulle is baie meer wêreldwys en is ook nie bang vir tegnologie nie" (For Generation Y, technology is such a large part of their lives that they cannot function without it. They are much more worldly-wise and are also not afraid of technology)*

There are some exceptions, however, that indicate contrasting perceptions between academic staff members and undergraduate students. Responses to closed questions revealed that statistically significant differences were seen between academic staff members' indicated agreement and undergraduate students' indicated disagreement with the statements "**They are better at communicating with technology than with personal interaction**" [$p < 0.0001$; CI 7.8-58.9%], "**They prefer the anonymous, open online environment**" [$p < 0.0001$; CI = 44.2-63.9%] and "**They think connecting to the internet is a better source of information than using a textbook**" [$p < 0.0001$; CI = 25–43%]. One exception is the latter statement with which SoN students indicated agreement (cf. **Table 4.2**, p. 162). The following responses to open questions serve as corroborating qualitative data:

- *Base their communication skills on electronic means, often using cell-phone abbreviations*
- *Texting practices have a major negative impact on communications skills – particularly formal written communication such as reports & exam*
- "*Kan nie sin insien van ordentlike kommunikasie, verkies e-pos/SMS*" (*Cannot see the point of decent communication, prefer e-mail / SMS)*
- "*Verhoudings meer oppervlakkig agv tegnologie*" *(Relationships more superficial due to technology)*
- *Finding meaningful ways of connecting and communication in personal, day-to-day, relationships which are not mediated by technology*

The impact of technology on communication and relationships is eloquently illustrated by the following text response:

But in other ways, each generation creates its own challenges. I think the defining difference would be the disregard for social institutions--membership to organisations and structured or organised communities is seen as restrictive, and they prefer to create their own open, flexible communities, which also require a lesser degree of commitment--they can join without too much effort (just a click of a button on a social network) and they can leave without too serious consequences (just another click).

A statistically significantly higher percentage of academic staff members than undergraduate students indicated agreement with the statement "**The internet is more than technology, it is a way of life**" [$p < 0.0001$; CI = 39.5-52.5%]. Although SoN students indicated agreement with this statement, SoM and SoAH students indicated disagreement (cf. **Table 4.5**, p. 186). The following response by an academic staff member, although cynical, supports the abovementioned quantitative findings:

They suffer from technology with no hope of understanding and so they simply have become mindless users in many cases, learning enough to cope with a decent work to make money. This varies from country to country.

Similarly, although slightly lower numbers of academic staff members agreed with the statement, "**They prefer that all class materials should be available online**" [$p < 0.0001$; CI = 28.8-41.8%]. This is still significantly higher than the percentage of undergraduate students who indicated agreement with this statement (cf. **Table 4.5**, p. 186). From their responses to open questions, it is apparent that academic staff members are concerned that undergraduate students do not possess the skills to use technology effectively in the teaching and learning environment, however. For example:

- *"Vaardig met tegnologie maar weet nie hoe om optimaal te gebruik in leeromgewing nie" (Skilled with technology but don't know how to use it optimally in the learning environment)*

- *"Kan SMS en face book, maar nie rekenaar gebruik vir leer nie; 'copy & paste' van internet sonder om te verstaan of insig" (Can SMS and Face book, but cannot use the computer for learning, 'copy & paste' from internet without understanding or insight)*

The following section deals with issues regarding social contact of Generation Y. Academic staff members indicated to what extent the list of statements were in line with their own views about Generation Y students on a four-point Likert scale, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. In Table 4.9 their perceptions are indicated as NO for 1 and 2, and YES for 3 and 4 together.

TABLE 4.9 EXTENT OF ACADEMIC STAFF MEMBERS' AGREEMENT WITH STATEMENTS REGARDING SOCIAL CONTACT OF GENERATION Y STUDENTS

	NO n (%)	**YES n (%)**
Generation Y		
find it difficult to communicate with older generations (n=68)	20 (29.4)	48 (70.6)
think friendships make life worthwhile (n=67)	7 (10.5)	60 (89.5)
want to be surrounded by bright, creative, fun-loving people (n=68)	8 (11.8)	60 (88.2)
are good communicators (verbal/non-verbal) (n=68)	39 (57.4)	29 (42.6)
are not afraid of challenging authority (n=68)	7 (10.3)	61 (89.7)
spend leisure time socialising (n=68)	1 (1.5)	67 (98.5)
communicate well with people from diverse cultures (n=66)	15 (22.7)	51 (77.3)
prefer text messaging to face-to-face contact (n= 66)	17 (25.8)	49 (74.2)
maintain close connectivity to parents (n= 67)	17 (25.4)	50 (74.6)
have multiple friendship relationships due to social networking (n=67)	7 (10.5)	60 (89.5)
can maintain close, personal relationships (n= 66)	22 (33.3)	44 (66.7)
think that older generations misunderstand them (n= 69)	11 (16.2)	57 (83.8)
prefer casual forms of communication (n= 67)	4 (6)	63 (94)
have superficial online relationships (n = 63)	13(20.6)	50 (79.4)

Academic staff members indicated agreement with all the statements regarding Generation Y students' social contact. The only exception was the statement "**Generation Y are good communicators (verbal/non-verbal)**". More than half of academic staff members disagreed with this statement, (supported by responses to open questions, for example, "*Poor communicators", "Extremely poor speaking skills; "far more casual", "Kommunikasie beperk" (Communication limited*). In contrast, 90% of undergraduate students agreed with the abovementioned statement, indicating that they perceive that as Generation Y students, they are good communicators. This difference is statistically significant [$p < 0.0001$; CI = 35.4-59.4%].

There were also statistically significantly opposing perceptions between academic staff members' (indicating agreement) and undergraduate students' (indicating disagreement) responses to the statements Generation Y students "**find it difficult to communicate with older generations**" [$p < 0.0001$; CI = 18.7-41.8%], "**think that older generations misunderstand them**" [$p < 0.0001$; CI = 31.7-50.8%] and "**prefer text messaging to face-to-face contact**"[$p < 0.0001$; CI = 48.5-70.3%]. The following statements from the responses to open questions support these findings:

- *"Ouer generasie het aanpassingsprobleme met nuwe generasie studente"*(*Older generation has problems with adapting with new generation students*)
- *Many students struggle to communicate effectively on a deep and meaningful level. This will affect their relationships on all levels. Older generations value personal one-on-one communication more than our students who are happy to use technology to communicate.*
- *Technological relationships create room for insincere or non-committal relationships, and insincerity and lack of commitment do not bode well for interpersonal 'flesh and bone' relationships. Having said that, all generations have been plagued by insincerity and a lack of commitment, but perhaps now it has just been made easier to choose those options*
- *The social and emotional skills seem to be on the decrease*

Furthermore, undergraduate students' text responses to open questions did not support the quantitative findings that they disagreed with the latter statements. In fact, the qualitative data revealed similar perceptions to those held by academic staff members. (cf. **4.4.1 Undergraduate students**, p.185-203).

Both academic staff members and undergraduate students indicated agreement with the statement "**Generation Y students communicate well with people from diverse cultures**" [$p = 0.0005$; CI = 12.1-20.5%]. Although the difference in their responses was statistically significant, the confidence interval was less than 10%, which probably makes the difference irrelevant in practice. This is supported by text responses providing qualitative data, for example, *"Aanvaar kultuurverskille/groepe makliker" (Accept culture*

differences/groups more easily). These shared positive perceptions may be a useful tool to minimise intercultural conflict and ensure harmony within a diverse student body.

Statistically significantly higher percentages of the academic staff members than undergraduate students agreed with the statements Generation Y students "**prefer casual forms of communication**" [p = 0.0181; CI = 4.8-17.6%] and "**are not afraid of challenging authority**" [p < 0.0001; CI = 19.8-36.1%], while significantly lower percentages of academic staff members than undergraduate agreed with the statements "**they want to be surrounded by bright, creative, fun-loving people**" [p < 0.0001; CI = 1.6-17.1%]. This knowledge may contribute to providing direction in the planning of teaching and learning activities, by incorporating casual communication and emphasising creativity, enthusiasm and elements of fun in the approach to undergraduate students, therefore minimising the need for attempts at challenging authority.

Undergraduate students and academic staff members also shared agreement with the statements Generation Y students, "**maintain close connectivity to parents**" [p = 0.0033; CI = 4.3-25.7%], "**can maintain close, personal relationships**" [p < 0.0001; CI = 16.6-39.6%], "**think friendships make life worthwhile**" [p = 0.0044; CI = 0.3-4.6%; Fisher's exact test] and "**have superficial online relationships**" [p < 0.0012; CI 2.2-22.7%]. Statistically significantly higher percentages of undergraduate students agreed with these statements than academic staff members.

On the other hand, statistically significantly higher percentages of academic staff members agreed with the statements Generation Y students "**spend leisure time socialising**" [p = 0.0005; CI = 12.1-20.5%] and "**have multiple friendship relationships due to social networking**" [p = 0.0037; CI = 8.1-24.3%] than undergraduate students. They "*Strive for greater social contact (face-to-face and electronic media)"*, as stated in the responses to open questions by academic staff members, and experience challenges "*Om in diepte sosiale verhoudings te kan bou en behou" (To build and maintain in-depth social relationships*). The shared perceptions by academic staff members and undergraduate students regarding social contact are hardly surprising, as the desire for social interaction and friendships is appropriate at undergraduate students' developmental stage (Coombes & DeBard, 2004:5-16).

The final division in **Section C, Communication styles, skills and needs**, refers to the feedback needs of Generation Y students. Academic staff members indicated to what extent the statements were in line with their own views about Generation Y students, using a four-point Likert scale, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. In Table 4.10 their perceptions are indicated as NO for 1 and 2, and YES for 3 and 4 together.

TABLE 4.10 EXTENT OF ACADEMIC STAFF MEMBERS' AGREEMENT WITH STATEMENTS REGARDING GENERATION Y UNDERGRADUATE STUDENTS' FEEDBACK NEEDS

STATEMENT	**NO n (%)**	**YES n (%)**
Generation Y		
want lecturers to give each student individual feedback on a regular basis (n=68)	24 (35.3)	44 (64.7)
need guided supervision, preferably by an older mentor (n= 68)	13 (19.1)	55 (80.9)
prefer positive feedback because negative feedback is seen as destructive (n = 68)	8 (11.8)	60 (88.2)
function best in a structured, organised environment (n=68)	12 (17.6)	56 (82.4)
aren't influenced by authoritarian figures (n= 68)	26 (38.2)	42 (61.8)
prefer empathetic role models (n = 67)	3 (4.5)	64 (95.5)
want immediate, personal access to lecturers whenever it suits them (n = 68)	9 (13.2)	59 (86.8)
are motivated by frequent rewards and incentives (n = 67)	8 (11.9)	59 (88.1)
only learn work that they think is worthwhile to improve marks (n = 68)	7 (10.3)	61 (89.7)
find structure and supervision frustrating (n = 67)	24 (35.8)	43 (64.2)
prefer to work independently (n = 66)	26 (39.4)	40 (60.6)
expect a lecturer to explain or justify negative feedback (n= 67)	5 (7.5)	62 (92.5)

Academic staff members agreed with all the statements regarding Generation Y students' feedback needs, as seen in Table 4.10. Their indicated agreement with the statement "**Generation Y students want immediate personal access to lecturers whenever it suits them**" [$p < 0.0001$; CI = 31.1– 49%] is supported by text responses such as *"Ken nie die woord/beginsel van 'n AFSPRAAK nie"[Don't know the word/principle of making an appointment]*and contrasts significantly with undergraduate students' responses.

The difference in the percentages of academic staff members' and undergraduate students' indicated agreement with the statement **Generation Y students "want lecturers to give each student individual feedback on a regular basis"** [$p < 0.0012$; CI = 2.2 - 22.7%] was statistically significant. Both academic staff members and undergraduate students also agreed with the statement **Generation Y students "expect a lecturer to explain or justify**

negative feedback", but this difference was not statistically significant. Statistically significantly higher percentages of academic staff members than undergraduate students agreed with the statement Generation Y students "**prefer positive feedback because negative feedback is seen as destructive**" [$p < 0.0001$; CI = 25.2-42.4%]. From these responses it seems apparent that undergraduate students desire frequent, individualised, objective and constructive feedback. These elements should therefore be considered in the planning of feedback activities. Academic staff members agreed with the statement "**Generation Y students only learn work that they think is worthwhile to improve marks**" [$p < 0.0001$; CI = 35.9-52.4%], but statistically significantly lower percentages of students agreed with this statement. The following responses to open questions confirm these findings:

- *Still just want to pass exams*
- *Not interested in knowing more than the absolute essential they need to know to pass the exams*

In contrast to undergraduate students who indicated disagreement with the statement "**Structured supervision is frustrating**", academic staff members indicated agreement with the statement "**Generation Y students find structure and supervision frustrating**". This difference was statistically significant [$p < 0.0001$; CI = 25.4-49.4%]. In addition, although academic staff members indicated agreement with the statement **Generation Y students "prefer to work independently**" [$p = 0.0036$; CI = 4-28.5%], this was statistically significantly lower than undergraduate students' percentage agreement with this statement.

Both academic staff members and undergraduate students indicated agreement with the statements **Generation Y students "need guided supervision, preferably by an older mentor**" [$p = 0.0001$; CI = 14.1–34.3%] and "**are motivated by frequent rewards and incentive**s" [$p = 0.0001$; CI = 14.1-34.3%]. Statistically significantly higher percentages of academic staff members than undergraduate students indicated agreement with these statements. This was also seen in responses to the statement **Generation Y students "function best in a structured, organised environment**" [$p = 0.0014$; CI = 1.7-20.2%]. Statistically significantly higher percentages of undergraduate students than academic staff

members indicated agreement with this statement. Note how this response from an academic staff member reflects the abovementioned findings:

"*Hoewel Gen Y baie 'laisez faire' kan oorkom, frustreer swak organisering, min detail en min struktuur hulle geweldig, en veroorsaak dit tog angs" (Although Gen Y can appear very laidback, poor organisation, lack of detail and little structure frustrates them immensely, and it does cause anxiety.*

These responses are congruent with the literature that indicate Generation Y's need for structure and supervision, a factor that should be considered when designing teaching and learning activities that require autonomous work or that rely on undergraduate students' ability to independently organise their activities (cf. **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education**, p. 19).

Academic staff members' responses to open questions support these findings, indicated by the following perceived challenges to Generation Y students:

- *"Self verantwoordleikheid te neem vir studie en bereiking van uitkomste" (To take responsibility themselves for study and the achievement of outcomes)*
- *Self-motivation to study on their own time*
- *"Meer struktuur nodig" (Need more structure)*
- *"Om norme en struktuur te aanvaar sodat funksionering georganiseerd kan geskied" (To accept norms and structures so that functioning can occur in an organised way)*

Furthermore, the role of the lecturer as an empathetic role model and mentor providing guidance is emphasised by both academic staff members' and undergraduate students' agreement with the statements **Generation Y students "need guided supervision, preferably by an older mentor**" [$p = 0.0001$; CI = 14.1-34.3%] and "**prefer empathetic role models**" [$p < 0.0001$; CI = 18.1-30.4%]. For both of these statements, statistically higher percentages of academic staff members than undergraduate students indicated agreement. This may be illustrated by the response "*They depend on the input of the teacher to keep them interested and motivate them to study".* One can conclude from this

section regarding feedback needs that the aspect of lecturer as role model and mentor should not be overlooked or negated.

4.4.3 Summary of findings regarding Section C, Communication styles, skills and needs

Statistical analysis of the results of closed questions revealed that all three the student groups indicate a preference for structure, organised environment and supervisory guidance by an empathetic, older mentor or role-model. This was supported by findings from the academic staff members' questionnaire survey. Furthermore, both undergraduate students and academic staff highlighted the pervasive presence of technology and its sequelae in Generation Y students' lives.

While undergraduate students' responses to closed questions revealed that technology does not curtail their communication ability or relationships, and that they desire close and meaningful relationships, academic staff members indicated that Generation Y's communication abilities are limited by technology, leading to multiple but shallow relationships. From responses to open questions both undergraduate students and academic staff members mentioned the poor communication between generations – a factor that must be considered in the planning of the teaching and learning environment.

Undergraduate students' indicated preference to work independently may refer to a preference for individual effort as opposed to working in group, rather than a preference against supervision. Although not as emphatic, especially SoM and SoN students indicated that they wanted individualised, frequent and rapid, preferably positive, feedback. SoAH students were apparently less demanding and less inclined to align their studying to assessments. Significantly, SoN students indicated that authoritarian figures had limited influence on them. Academic staff members indicated that they perceived that undergraduate students have great need for supervision, guidance and feedback. The significance of role models and mentors was emphasised in both qualitative and quantitative data from academic staff members' as well as undergraduate students' survey questionnaires.

4.5 RESULTS OF QUESTIONNAIRE SURVEY SECTION D, LEARNING STYLES AND NEEDS

The results described in the following section reflect **Section D, Learning styles and needs,** of the Questionnaire for Undergraduate Students and Questionnaire for Academic Staff respectively (Appendices A1–A4). The results of the undergraduate students' questionnaire survey are reported and discussed first, followed by the results of the academic staff members' questionnaire survey. This is followed by a short summary of the results for **Section D, Learning styles and needs**.

4.5.1 Undergraduate students

This section deals with aspects of the teaching and learning environment applicable to Generation Y. The first division focuses on the learning behaviours and activities of Generation Y students. Undergraduate students indicated their agreement or disagreement with the statements using a four-point Likert scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Agree and 4 = Strongly Agree. In Table 4.11, their perceptions are indicated as disagreement for 1 and 2, and agreement for 3 and 4 together. Qualitative data were collected by asking undergraduate students to record written responses to the open questions following each set of statements. The original source data (responses to open questions) related to the key concepts of D, Learning styles and needs, may be reviewed in Appendix E3.

TABLE 4.11 GENERATION Y UNDERGRADUATE STUDENTS' AGREEMENT OR DISAGREEMENT WITH STATEMENTS REGARDING THEIR LEARNING STYLES [Table continues on the following page]

STATEMENT	DISAGREEMENT n (%)			AGREEMENT n (%)		
	SoM	SoAH	SoN	SoM	SoAH	SoN
"Doing" is better than "knowing" (n=610)	54 (16.9)	31 (13.8)	21 (31.8)	266 (83.1)	193 (86.2)	45 (68.2)
I prefer group work (n=607)	217 (67.6)	159 (70.7)	39 (61.9)	104 (32.4)	66 (29.3)	24 (38.1)
Experience is a better learning platform than lectures (n=611)	27 (8.4)	20 (8.9)	11 (16.7)	294 (91.6)	204 (91.1)	55 (83.3)
I am an active learner (n=612)	49 (15.2)	16 (7.2)	9 (13.4)	273 (84.8)	207 (92.8)	58 (86.6)
Being "smart" is "cool" (n=613)	75 (23.4)	50 (22.2)	19 (28.4)	246 (76.6)	175 (77.8)	48 (71.6)

STATEMENT	DISAGREEMENT n (%)			AGREEMENT n (%)		
	SoM	SoAH	SoN	SoM	SoAH	SoN
Visuals are better than text (n=612)	56 (17.5)	20 (8.9)	9 (13.6)	265 (82.5)	205 (91.1)	57 (86.4)
Learning is a social activity (n=610)	213 (66.6)	168 (75)	29 (43.9)	107 (33.4)	56 (25)	37 (56.1)
I have good critical thinking skills (n=605)	176 (55.5)	124 (55.4)	22 (34.4)	141 (44.5)	100 (44.6)	42 (65.6)
I can multi-task (n=611)	87 (27)	43 (19.4)	8 (11.9)	235 (73)	179 (80.6)	59 (88.1)
My thought processes are fast and random, yet logical (n=611)	68 (21.2)	42 (18.7)	13 (20)	253 (78.8)	183 (81.3)	52 (80)
I struggle with deep learning (n=603)	192 (60.4)	124 (56.4)	40 (61.5)	126 (39.6)	96 (43.6)	25 (38.5)
I take responsibility for my own learning (n=614)	12 (3.7)	7 (3.1)	2 (3)	310 (96.3)	218 (96.9)	65 (97)
Learning is about discovery and exploration (n=614)	31 (9.6)	22 (9.8)	4 (5.8)	291 (90.4)	203 (90.2)	63 (94)
It is important to incorporate my own experiences in my learning (n=613)	38 (11.8)	19 (8.4)	5 (7.6)	284 (88.2)	206 (91.6)	61 (92.4)
It is difficult to manage large volumes of written information (n=614)	83 (25.8)	47 (20.9)	16 (23.9)	239 (74.2)	178 (79.1)	51 (76.1)
Learning content should be intellectually challenging (n=612)	58 (18.1)	23 (10.2)	8 (12.1)	263 (81.9)	202 (89.8)	58 (87.9)
I work well in a team environment (n=594)	117 (37.9)	68 (30.9)	18 (27.7)	192 (62.1)	152 (68.1)	47 (72.3)
I learn only what is necessary to pass assessments (n=613)	179 (55.6)	146 (64.9)	37 (56.1)	143 (44.4)	79 (35.1)	29 (43.9)

The majority of undergraduate students indicated agreement with the following statements:

"I am an active learner"

The difference between SoM (84.8%) and SoAH (92.8%) students' agreement with this statement was statistically significant [p = 0.0044; CI = 2.9–13.2%]. The difference between SoAH and SoN students' and between SoM and SoN students' responses was not statistically significant. However, some of their responses to open questions seem to indicate that they experience some difficulty in this regard, for example:

- *Think less and get spoon-fed more* [SoM]
- *Thinking out of the box because they are spoon-fed at school level* [SoM]

"Being 'smart' is 'cool'"

Scant qualitative data were available supporting this statement, and statements like "*Value education less*" or *"Meer ingestel op akademie as werk, byvoordele" (More focused on*

academia than work, perks) indicate contradictory perceptions regarding the value placed on academic pursuits.

"My thought processes are fast and random, yet logical"

- *Learn more info at once* [SoM]

"I take responsibility for my own learning"

Although high percentages of students indicated agreement with this statement, responses to open questions revealed some ambiguity, for example, the following challenge mentioned by SoAH, "*Problem solving and responsible thinking"*, and SoM students, "*More open to learn"*.

"Learning is about discovery and exploration"

- *Know more and are explorers* [SoM]
- *More open to new ways of learning* [SoAH]

"It is important to incorporate my own experiences in my learning"

Undergraduate students' responses to open questions, for example, "*Access to more opportunities to learn; learning environment brings us closer to what we are studying"* [SoM] or "*Meer inligting, maar minder lewenskennis om dit prakties te gebruik" (More information but less life experience to use it practically)* [SoM] reveal that this group of undergraduate students consider experience to be valuable in the learning environment.

"It is difficult to manage large volumes of written information"

- *Excessive workload* [SoM]

"Learning content should be intellectually challenging"

The difference between SoAH (89.8%) and SoM (81.9%) students' responses to this statement was statistically significant [p = 0.0111; CI = 2.1–13.6%], but not between SoAH and SoN (87.9%) or SoM and SoN students respectively. This response is congruent with the statement "**I only learn what is worthwhile to improve my marks**" in the previous section, where SoAH students indicated a statistically significant higher percentage disagreement with this statement, emphasising a desire for acquiring

knowledge and not merely passing assessments. This also matches the responses to the statement "**I learn only what is necessary to pass assessments**", where more SoAH students than SoM or SoN students disagreed with this statement, although these differences were not statistically significant. However, the quantitative data are apparently not supported by qualitative data from text responses, as indicated from examples quoted from text responses by SoAH students (cf. "**I can multi-task**", p. 217).

"'Doing' is better than 'knowing'"

The differences between SoN students (68.2%) and SoM [83.1%; p = 0.0052; CI = 3-26.9%] as well as SoAH [86.2%; p = 0.0008; CI = 30.1–5.9%] were statistically significant. For example, this response from an SoAH student points to a desire for experiential learning, "*Wil nie net inligting hê, wil weet hoe iets werk, meer 'hands on'"(Don't just want information, want to know how something works, more hands on).*

"Experience is a better learning platform than lectures"

Similar to the above response, fewer SoN students agreed with this statement than SoM or SoAH students, although the differences were not statistically significant. These data support the responses to the abovementioned statement "**'Doing' is better than 'knowing'**".

"Visuals are better than text"

In the SoAH, 91.1% of students agreed, while in the SoM 82.5% of students agreed with this statement. This difference was statistically significant [p = 0.0045; CI = 3–14.1%]. The differences between SoAH and SoN students, and SoM and SON students respectively, were not statistically significant. The following response from the SoAH serves as corroborative data for these findings, namely "*Visually stimulated"*.

"I can multi-task"

Statistically significantly more SoAH (80.6%) students than SoM (73%) students agreed with this statement [p = 0.0398; CI = 0.5–14.8%]. There were also statistically significantly more SoN (88.1%) students than SoM students who agreed with this statement [p = 0.0090; CI = 5.9–24.2%].

SoM students' responses to open questions revealed that they experienced the following challenges, which may explain the lower percentages of SoM students who agreed with the statement "**I can multi-task**":

- *Balancing daily activities, balancing social and academic activities, balancing student and social life*
- *"Balans tussen werk/swot, verhoudings (genuine), persoonlike groei, sukses" (Balance between work/study, genuine relationships, personal growth, success)*
- *"Tydsbestuur" (Time management)*

SoN students' responses included the following challenges:

- *"Om actually te sit en swot" (To actually sit and study)*
- *"Balans te handhaaf, want wil heeltyd tyd spandeer op internet as om te leer" (Maintaining balance, because want to spend time on the internet constantly instead of studying).*

SoAH students also alluded to the challenge of prioritising their academic and social lives, and from their responses it appeared that they experienced great challenge in finding the time to study:

- *More pleasurable to socialise than study or read*
- *"Om nie te sosialiseer nie en aan die leer te kom" (Not to socialise and start studying)*
- *"Tyd vir rekreasie (gebalanseerde lewe)" (Time for recreation, [balanced life])*

"I work well in a team environment"

A smaller number of undergraduate students chose to respond to this statement. This could possibly be due to misinterpretation of the statement. An alternative interpretation of the poor response is that undergraduate students do not really enjoy teamwork, although they are forced to do it, and characteristically have a positive view of their abilities (hence the agreement with the statement). There were no significant differences between the student groups in their percentage agreement with this statement. In addition, undergraduate

students in all three schools' responses to open questions did not include references to working in teams.

On the other hand, undergraduate students indicated disagreement with the following statements:

"I prefer group work"

This contrasts with undergraduate students' agreement with the latter statement "**I work well in a team environment**", and may make the interpretation of the poor response to the abovementioned statement plausible. No statistically significant differences existed between undergraduate students' responses, however.

"I struggle with deep learning"

The following responses to open questions indicate that undergraduate students may feel underprepared or poorly equipped to deal with academic expectations:

- *More is expected of us due to more information available – not enough time* [SoAH]
- *"Word akademies mee geëksperimenteer, kan nie spel nie" (Are academically experimented with, cannot spell)* [SoM]

"Learning is a social activity"

Although most students in the SoM (66.7%) and SoAH (75%) disagreed with this statement, 56.1% of SoN students agreed with this statement. The differences between SoM and SoN students responses [$p = 0.0005$; CI = 9.6–35.7%], as well as between SoAH and SoN students' responses [$p < 0.0001$; CI = 17.8–44.3%] were statistically significant. Similarly, the difference between SoM and SoAH students' responses was also statistically significant [$p = 0.0345$; CI = 0.8-16.1%]. One may conclude that SoAH students particularly do not view learning as a social activity, while SoM students share a similar, albeit significantly less pronounced view, while SoN students are more ambiguous regarding this statement. Undergraduate students' agreement with the previously mentioned statement "**I prefer to work independently**" concurs with their responses to the statement "**Learning is a social activity**".

"I have good critical thinking skills"

Although students in the SoM (55.5%) and SoAH (55.4%) disagreed, and 65.6% of SoN students agreed with this statement, there were no statistically significant differences in their responses. This seems to contradict students' previously mentioned disagreement with the statement "**I struggle with deep learning**". However, it is congruent with their agreement with the statements "**I can multi-task**" as well as "**My thought processes are fast and random, yet logical**". These contradictions are apparent from students' varying responses to the open questions. For example, in the SoN, on the one hand one student indicated that they are "*More educated and can easily fit in a different environment"*, while others mentioned they are *"Nie goed opgelei" (Not well educated)* and that they experience "*Tertiary levels of education"* as a challenge.

Generally, SoM students indicated a positive view of their academic skills, as indicated by statements for example:

- *More knowledgeable*
- *More literate*
- *More educated and understanding*

Undergraduate students also rated to what extent they perceived the importance of statements about learning styles, using a four-point Likert scale of 1 – 4, where 1 = Not at all Important and 4 = Very Important. In Table 4.12 , their perceptions of the importance of the statements regarding learning styles is indicated as NOT IMPORTANT for 1 and 2, and IMPORTANT for 3 and 4 on the scale.

TABLE 4.12 UNDERGRADUATE STUDENTS' PERCEPTIONS OF THE IMPORTANCE OF STATEMENTS REGARDING LEARNING STYLES

[Table continues on the following page]

STATEMENT	NOT IMPORTANT n (%)			IMPORTANT n (%)		
	SoM	SoAH	SoN	SoM	SoAH	SoN
"Doing" is better than "knowing" (n=607)	56 (17.6)	31 (13.8)	19 (29.7)	263 (82.4)	193 (86.2)	45 (70.3)
I prefer group work (n=599)	147 (46.7)	97 (43.1)	26 (44.1)	168 (53.3)	128 (56.9)	33 (55.9)
Experience is a better learning platform than lectures (n=605)	25 (7.9)	15 (6.7)	7 (10.9)	293 (92.1)	208 (93.3)	57 (89.1)

STATEMENT	NOT IMPORTANT n (%)			IMPORTANT n (%)		
	SoM	SoAH	SoN	SoM	SoAH	SoN
I am an active learner (n=604)	21 (6.6)	7 (3.1)	3 (4.8)	297 (93.4)	216 (96.9)	60 (95.2)
Being "smart" is "cool" (n=606)	112 (35.1)	79 (35.1)	22 (35.5)	207 (64.9)	146 (64.9)	40 (64.5)
Visuals are better than text (n=608)	44 (13.8)	29 (12.9)	12 (18.8)	275 (86.2)	196 (87.1)	52 (81.2)
Learning is a social activity (n=605)	176 (55.5)	124 (55.4)	22 (34.4)	141 (44.5)	100 (44.6)	42 (65.6)
I have good critical thinking skills (n=608)	18 (5.6)	13 (5.8)	6 (9.5)	302 (94.4)	212 (94.2)	57 (90.5)
I can multi-task (n=605)	59 (18.4)	34 (15.3)	4 (6.3)	261 (81.6)	188 (84.7)	59 (93.7)
My thought processes are fast and random, yet logical (n=607)	62 (19.4)	31 (13.8)	7 (11.1)	257 (80.5)	194 (86.2)	56 (88.9)
I struggle with deep learning (n=597)	92 (29.2)	62 (28.2)	20 (32.3)	223 (70.8)	158 (71.8)	42 (67.7)
I take responsibility for my own learning (n=608)	3 (0.9)	4 (1.8)	0	317 (99.1)	221 (98.2)	63 (100)
Learning is about discovery and exploration (n=608)	31 (9.7)	29 (12.9)	5 (7.9)	289 (90.3)	196 (87.1)	58 (92.1)
It is important to incorporate my own experiences in my learning (n=609)	45 (14.1)	36 (16)	5 (7.8)	275 (85.9)	189 (84)	59 (92.2)
It is difficult to manage large volumes of written information (n=607)	51 (15.9)	35 (15.6)	13 (20.6)	269 (84.1)	189 (84.4)	50 (79.4)
Learning content should be intellectually challenging (n=609)	54 (16.9)	39 (17.3)	10 (15.6)	266 (83.1)	186 (82.7)	54 (84.4)
I work well in a team environment (n=593)	77 (25.1)	50 (22.7)	16 (24.2)	230 (74.9)	170 (77.3)	50 (75.8)
I learn only what is necessary to pass assessments (n=607)	188 (58.9)	142 (63.4)	36 (56.2)	131 (41.1)	82 (36.6)	28 (43.8)

Undergraduate students indicated that all the statements listed regarding learning styles were important, with two exceptions. Regarding, the statement "**Learning is a social activity**", only SoN students (65.6%) indicated this to be important, a statistically significantly lower percentage of SoM students [55.5%; p = 0.0020; CI = 8.3–34%], indicated that this was not important. Similarly, SoAH (55.4%) students indicated that this was not important, but this was not statistically significantly different from either SoN or SoM students.

Undergraduate students from all three schools indicated that the statement "**I learn only what is necessary to pass assessments**" was not important. Furthermore, although undergraduate students indicated disagreement with the statements "**I prefer group work**", "**I struggle with deep learning**", "**I learn only what is necessary to pass assessments**" and "**I have good critical thinking skills**", they did indicate these as important. Regarding the statement "**I can multi-task**", 93.6% of SoN students indicated

this as important, while fewer SoM (81.6%) and SoAH (84.7%) of students indicated it as important. Although these differences are not statistically significant, they do correspond with the trend seen regarding undergraduate students' indicated agreement with the statement "**I can multi-task**" (SoN 88.1%, SoAH 80.6%, and SoM 73%) (cf. p. 217). A statistically significantly lower percentage of SoN (70.3%) students indicated the statement "**'Doing' is better than 'knowing'**"was important compared to SoM [82.4%, p = 0.0256; CI = 0.2-24.1%] and SoAH [86.2%, p = 0.0032; CI = 3.8-27.9%] students.

The following section describes the learning environment preferred by Generation Y students. Students indicated to what extent the listed statements were in line with their own views, on a four-point Likert scale, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. In Table 4.13 students' perceptions of the extent of their agreement with statements regarding their learning styles is indicated, with 1 and 2 representing NO (not in line with their own views) and 3 and 4 representing YES (in line with their own views).

TABLE 4.13 UNDERGRADUATE STUDENTS' PERCEPTIONS OF THE EXTENT OF ALIGNMENT WITH THEIR OWN VIEWS OF STATEMENTS REGARDING LEARNING NEEDS

[Table continues on the following page]

STATEMENT	**NO n (%)**			**YES n (%)**		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
Real-life simulations are valuable to learn new skills (n=609)	14 (4.4)	3 (1.3)	3 (4.6)	305 (95.6)	222 (98.7)	62 (95.4)
Traditional lectures are outdated (n=606)	184 (58.4)	138 (61.1)	43 (66.1)	131 (41.6)	88 (38.9)	22 (33.9)
The learning environment should change constantly (n=609)	160 (50)	123 (54.7)	25 (39.1)	160 (50)	102 (45.3)	39 (60.9)
Technology is essential (n=597)	31 (9.9)	24 (10.9)	5 (8.1)	283 (90.1)	197 (89.1)	57 (91.9)
Students should collaborate on subject content decisions (n=611)	130 (40.6)	84 (37.2)	14 (21.5)	190 (59.4)	142 (62.8)	51 (78.5)
Interactive experiential activities are more valuable than lectures (n=613)	74 (23.1)	56 (24.8)	17 (25.4)	246 (76.9)	170 (75.2)	50 (74.6)
Visuals are better than text to explain subject content (n=612)	49 (15.3)	25 (11.1)	12 (18.2)	271 (84.7)	201 (88.9)	54 (81.8)
Learning depends on the lecturer's effort (n=611)	124 (38.9)	76 (33.6)	22 (33.3)	195 (61.1)	150 (66.4)	44 (66.7)
Face-to-face contact with the lecturer is essential to understand the subject (n=612)	92 (28.8)	41 (18.1)	9 (13.6)	228 (71.2)	185 (81.9)	57 (86.4)
Actively participating in a group is a key element of learning (n=610)	139 (43.7)	69 (30.5)	13 (19.7)	179 (56.3)	157 (69.5)	53 (80.3)

STATEMENT	NO n (%)			YES n (%)		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
Lectures should be varied in style (n=609)	93 (29.1)	58 (25.9)	9 (13.8)	227 (70.9)	166 (74.1)	56 (86.2)
Classes should be informal (n=606)	150 (47.2)	72 (32.6)	13 (19.4)	168 (52.8)	149 (67.4)	54 (80.6)
Learning content should be interesting (n=612)	7 (2.2)	2 (0.9)	4 (6.1)	313 (97.8)	2124 (99.1)	62 (93.9)
I need motivational leadership (n=593)	92 (30)	61 (27.3)	16 (25.4)	215 (70)	162 (72.7)	47 (74.6)
E-learning is better than face-to-face contact (n=612)	267 (83.4)	214 (94.7)	55 (83.3)	53 (16.6)	12 (5.3)	11 (16.7)
Learning should be tailored with options to suit each individual (n=611)	129 (40.3)	91 (40.3)	21 (32.3)	191 (59.7)	135 (59.7)	44 (67.7)

Undergraduate students indicated agreement with most of the statements regarding their learning needs:

"Learning content should be interesting"

Although more than 93% of all three student groups indicated that this statement was in line with their own views, there was a statistically significant difference between the SoAH (99.1%) and SoN (93.9%) students regarding this statement [p = 0.0091; CI =0.7 -11.1%]. The following statement supports this response, namely, *"Get bored easily, difficult to entertain and get their attention"* [SoAH].

"Technology is essential"

Notably, a smaller number of undergraduate students responded to this statement. This is somewhat surprising, considering their previously indicated agreement with statements like "**It is important to be constantly connected to the digital environment**"; "**I cannot imagine a world without technology**", "**I have no fear of technology**" and "**All class materials should be available online**". Furthermore, in the open questions, undergraduate students repeatedly refer to their superior abilities with technology:

- *"Beter tegnologiese vaardighede" (Better technological skills)* [SoM]
- *More technologically literate* [SoM]
- *"Baie gemakliker met mense en tegnologie" (Much more comfortable with people and technology)* [SoAH]

- *"Gebruik meer en meer kennis oor tegnologie as ouer generasies" (Use more and have more knowledge about technology than older generations)* [SoAH]
- *More technology advanced* [SoN]
- *"Entailed"(sic) in using technology; older generations don't prefer to use technology* [SoN]

They also alluded to the impact technology has on their learning environment:

- *Use the 'net' vs. books to get information* [SoM]
- *"Meer toegang tot groter verskeidenheid van inligting, meer geleenthede" (More access to larger variety of information, more opportunities)* [SoM]

It could therefore be anticipated that undergraduate students would indicate overwhelming agreement with the statement "**Technology is essential**", as is supported by the statement *"Verwag meer itv tegnologie gebruik deur dosente" (Expect more in terms of technology use by lecturers)* [SoAH].However, the following statements indicate that although they desire the use of technology in their learning environment, they realise its limitations and challenges:

- *More ignorant due to focus on technology vs. core knowledge* [SoM]
- *More pressure to know information due to unlimited number of resources* [SoM]
- *"Tegnologie meer deel van ons lewe, te afhanklik van tegnologie"(Technology more part of our lives, too dependent on technology)*[SoM]

In addition, undergraduate students indicated disagreement with the statement "**E-learning is better than face-to-face contact**", with statistically significantly higher percentages of SoAH students (94.7%) indicating that this statement was significantly less in line with their views, when compared to SoM [83.4%, $p < 0.0001$; CI = 6.2-16.3%] and SoN [83.3%, $p = 0.0026$; CI = 1.9–20.8%] students. These findings are consistent with those regarding technology and the need for constant connectivity, as seen in Section C, Communication styles, skills and needs (cf. p.185-214).

"Visuals are better than text to explain subject content"

This is consistent with responses in the previous section, where undergraduate students indicated agreement with the statement "**Visuals are better than text**" and "**It is difficult to manage large volumes of written information**" (cf. **Table 4.13**, p.222).

"Face-to-face contact with the lecturer is essential to understand the subject"

The differences between SoM students' (71.2%) responses to this statement compared to SoAH [81.9%; p = 0.0045; CI = 3.6–17.7%] and SoN [86.4%; p = 0.0110; CI = 5.5–24.7%] students were statistically significant. Congruent with their agreement with the statements, "**Learning depends on the lecturer's effort**", "**I need motivational leadership**" and their disagreement with the statement "**Traditional lectures are outdated**" (cf. Table 4.13, p.222) undergraduate students indicated that they required contact with their lecturers to understand subject content. The following response serves as confirmation: *"Need guidance in how to incorporate things together"* [SoM].

The fact that statistically significantly fewer SoM students agreed with this statement may point to either greater autonomy in terms of taking responsibility for their learning on the one hand (although no significant differences between the groups were observed regarding the statement "**I take responsibility for my own learning**"), or dissatisfaction with the teaching and learning environment on the other hand. This could be due to the fact that SoM students' classes are larger than SoAH or SoN students respectively, leading to the limitations associated with larger classes.

In the SoAH and SoN, class groups are generally smaller (less than 40 undergraduate students per group which are then further divided into Afrikaans and English classes (cf. **Table 3.3**, p. 94). This provides for a much more personalised and therefore attention-rich and satisfying teaching and learning environment.

"Lectures should be varied in style"

Statistically significantly higher percentages of SoN students (86.9%) agreed with this statement in comparison to SoAH [74.1%, p = 0.0427; CI = 1.9–22.2%] and SoM [70.9%, p = 0.113; CI = 5.5–25%] students who indicated agreement with this statement. This is in line with their agreement with the statement "**Learning content should be interesting**", but rather contradictory to the ambiguous responses to the statement "**The learning**

environment should change constantly". Although SoN (60.9%) and SoM (50%) students indicated agreement with the latter statement (cf. Table 4.13, p. 222), SoAH (54.7%) indicated disagreement with this statement. There were no statistically significant differences to their responses to the latter statement, however. These findings could possibly suggest different interpretations of the statement, illustrated as follows: "*Vinnig verveeld" (Bored quickly)* [SoAH].

"I need motivational leadership"

This is in alignment with undergraduate students' perceptions in **Section C, Communication styles, skills and needs**, where they indicated agreement with the statements "**I need guided supervision, preferably by an older mentor**" and "**I prefer empathetic role models**" (cf. p.200).

"Actively participating in a group is a key element of learning"

A statistically significantly lower percentage of SoM students (56.3%) indicated agreement with this statement when compared to SoAH (69.5%; p = 0.0018; CI = 5.1–21.3%) and SoN [80.3%; p = 0.0003; CI = 13–35.1%] students who also indicated agreement with this statement. As previously mentioned (cf. p.219), students indicated agreement with the statement "**I work well in a team environment**", but they indicated disagreement with the statement "**I prefer group work**". This is in spite of their indicated agreement with statements that pointed to the importance of group work. It would appear, therefore, that although undergraduate students recognise the significance of group work in the teaching and learning environment, they do not enjoy this aspect. This is in contrast to the commonly held views that Generation Y students prefer working in teams (Clausing *et al*., 2003:373, Johnson & Romanello, 2005:212, Oblinger, 2003:Online).

"Learning depends on the lecturer's effort"

Undergraduate students' agreement with this statement seems contradictory to their agreement with statements "**I take responsibility for my own learning**", "**Learning content should be intellectually challenging**" (cf. Table 4.11, p.215) or "**I prefer to work independently**" (cf. Table 4.7, p. 198). However, it does support their agreement with the statements "**I need guided supervision, preferably by an older mentor**", "**I prefer empathetic role models**" (cf. p. 200), as well as "**Face-to-face contact with the lecturer is essential to understand the subject**" (cf. p. 225).

“Students should collaborate on subject content decisions”

The highest percentage of SoN students (78.5%) agreed with this statement. There was a statistically significant difference between the SoN and SoM students [59.4%, p = 0.0011; CI = 10.8–31.7%] and SoAH students [62.8%, p 0 0.0188; CI = 3.8–27.4%] regarding this statement, although all undergraduate students agreed that this was in line with their own views.

While there were no statistically significant differences between student groups regarding the statement “**I have good critical thinking skills**”, it is notable that SoN students were the only group who agreed with the latter statement, compared to SoM or SoAH students who indicated disagreement. Their perceived superior critical thinking skills may be a reason why significantly more SoN students indicated that they wanted a role in deciding on subject content.

“Classes should be informal”

Similar to the above, most SoN (80.6%) students indicated their agreement with this statement, while fewer SoAH (67.45%) and SoM (52.8%) students agreed. The differences between SoM compared to SoAH [p = 0.0007; CI 6.3–22.9%] and SoN [p < 0.0001; CI 16.8–38.7) students, as well as between SoAH and SoN [p = 0.0383; CI = 1.9 – 24.5%] students were statistically significant. These responses align with undergraduate students’ agreement with previous statements like “**I prefer casual forms of communication**” (cf. Table 4.2, p.162). However, it is contradictory to undergraduate students’ indicated disagreement with the statement “**Traditional lectures are outdated**” (cf. Table 4.13, p.222).

“Learning should be tailored with options to suit each individual”.

The findings regarding this statement are congruent with undergraduate students’ indicated agreement with the statement “**Students should collaborate on subject content decisions**” (cf. Table 4.13, p. 222).

Undergraduate students’ responses to open questions did not include references to the statements “**Real-life simulations are valuable to learn new skills**” or “**Interactive experiential activities are more valuable than lectures**” despite their indicated agreement with these statements in the questionnaire survey. Notably, undergraduate

students indicated disagreement with the statement "**Traditional lectures are outdated**". This perception is in spite of their agreement with statements for example "**Classes should be informal**", "**Lectures should be varied in style**", "**Technology is essential**", "**Learning should be tailored with options to suit each individual** "and "**Visuals are better than text to explain subject content**" (cf. **Table 4.12**, p. 221). This may point to why they agree with statements such as "**Learning depends on the lecturer's effort** "and "**Face-to-face contact with the lecturer is essential to understand the subject**" or even "**I need motivational leadership**". Furthermore, although there were differences in the three schools in the percentages of undergraduate students who agreed with the statement "**The learning environment should change constantly**", these were not significant.

Table 4.14 represents undergraduate students' perceptions of the importance of the abovementioned statements regarding learning needs, on a four-point Likert scale, where 1 = Not at all important and 4 = Very important. 1 and 2 are grouped together as NOT IMPORTANT, while 3 and 4 are grouped together as IMPORTANT.

TABLE 4.14 UNDERGRADUATE STUDENTS' PERCEPTIONS OF THE IMPORTANCE OF STATEMENTS REGARDING LEARNING NEEDS

[Table continues on the following page]

STATEMENT	**NOT IMPORTANT n (%)**			**IMPORTANT n (%)**		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
Real-life simulations are valuable to learn new skills (n=608)	13 (4.1)	2 (0.9)	1 (1.5)	305 (95.9)	223 (99.1)	64 (98.5)
Traditional lectures are outdated (n=601)	126 (40)	94 (41.6)	27 (44.3)	189 (60)	132 (58.4)	34 (55.7)
The learning environment should change constantly (n=608)	134 (42)	109 (48.4)	19 (29.7)	185 (58)	116 (51.6)	45 (70.3)
Technology is essential (n=596)	34 (10.8)	29 (13.1)	5 (8.2)	280 (89.2)	192 (86.9)	56 (91.8)
Students should collaborate on subject content decisions (n=607)	118 (37.1)	77 (34.1)	10 (15.9)	200 (62.9)	149 (65.9)	53 (84.1)
Interactive experiential activities are more valuable than lectures (n=606)	59 (18.6)	47 (20.8)	13 (20.6)	258 (81.4)	179 (79.2)	50 (79.4)
Visuals are better than text to explain subject content (n=609)	40 (12.5)	24 (10.6)	12 (18.7)	279 (87.5)	202 (89.4)	52 (81.3)
Learning depends on the lecturer's effort (n=608)	94 (29.6)	55 (24.3)	17 (26.6)	224 (70.4)	171 (75.7)	47 (73.4)
Face-to-face contact with the lecturer is essential to understand the subject (n=609)	80 (25.1)	37 (16.4)	7 (10.9)	239 (74.9)	189 (83.6)	57 (89.1)
Actively participating in a group is a key element of learning (n=608)	117 (36.8)	61 (27)	12 (18.7)	201 (63.2)	165 (73)	52 (81.3)
Lectures should be varied in style (n=606)	92 (28.9)	64 (28.7)	11 (16.9)	226 (71.1)	159 (71.3)	54 (83.1)

STATEMENT	NOT IMPORTANT n (%)			IMPORTANT n (%)		
	SoM	SoAH	SoN	SoM	SoAH	SoN
Classes should be informal (n=600)	133 (42.1)	83 (37.6)	14 (22.2)	183 (57.9)	138 (62.4)	49 (77.8)
Learning content should be interesting (n=610)	12 (3.8)	6 (2.6)	1 (1.5)	307 (96.2)	220 (97.4)	64 (98.5)
I need motivational leadership (n=591)	62 (20.3)	47 (21.1)	8 (12.7)	243 (79.7)	176 (78.9)	55 (87.3)
E-learning is better than face-to-face contact (n=609)	208 (65.2)	176 (77.9)	42 (65.6)	111 (34.8)	50 (22.1)	22 (34.4)
Learning should be tailored with options to suit each individual (n= 610)	118 (37)	90 (39.8)	23 (35.4)	201 (63)	136 (60.2)	42 (64.6)

Undergraduate students in all three schools indicated that they perceived all the statements regarding learning needs of Generation Y students to be important, with the exception of all three groups indicating that the statement "**E-learning is better than face-to-face contact**" is not important. Statistically significantly more SoAH students (77.9%) indicated that this statement was not important for their learning environment, compared with SoM [65.2%; 0.0014; CI = 5.2-20.2%] and SoN [65.6%, p = 0.0452; CI = 0.6–25.1%] students. This is consistent with responses in the **Section C, Communication styles, skills and needs** (cf. **4.4 Results of Questionnaire Survey Section C, Communication Styles, Skills and Needs**, p. 185).

Regarding the statement "**The learning environment should change constantly**", statistically significantly more SoN (70.3%) than SoAH (51.6%) students indicated that this was important [p = 0.0077; CI = 5.8–31.7%]. The differences between SoN and SoM (58%) students, or SoM and SoAH students were not statistically significant, however.

Regarding the statement "**Students should collaborate on subject content decisions**", statistically significantly more SoN students (84.1%) than SoM [62.9%; p = 0.0011; CI = 10.8–31.7%] or SoAH [65.9%, p = 0.0054; CI = 7.3–29.1%] students indicated that they perceived this to be important (cf. p. 226). This was also the case for the statement "**Classes should be informal**", where 77.8% of SoN students perceived this as important for their learning environment, while statistically significantly lower percentages of both SoM [57.9%, p = 0.0031; CI = 8.3–31.5%] and SoAH [62.4%, p = 0.0236; CI = 3.2–27.4%] students perceived this statement as important. For both of these statements, the differences in responses between SoM and SoAH students were not statistically significant.

It appears therefore, that SoN students have a preference for an informal, changing learning environment over which they have collaborative influence.

A statistically significantly lower percentage of SoM students (74.9%) agreed that the statement "**Face-to-face contact with the lecturer is essential to understand subject content**" was important for their learning needs than SoAH [83.6%, p = 00147; CI = 1.9–15.5%] or SoN [89.1%, p = 0.0110; CI = 5.5–24.8%] students. Similarly, regarding the statement "**Actively participating in a group is a key element of learning**", statistically significantly lower percentages of SoM students (63.2%) than either SoAH [73%, p = 0.0163; CI = 2–17.7%] or SoN students [81.3%, p = 0.0054; CI = 7.1–29%] agreed that this was important. The differences between SoAH and SoN students' responses were not statistically significant. These responses may be in reaction to the existing learning environment in the SoM, where larger classes than either the SoAH or SoN affect the interaction between lecturers and undergraduate students, and where an emphasis is placed on regular, structured group activities in classroom environment.

4.5.2 Academic staff members

This section deals with academic staff members' perceptions of aspects of the teaching and learning environment applicable to Generation Y. The first division focuses on the learning behaviours and activities of Generation Y students. Academic staff members indicated their agreement or disagreement with the statements about undergraduate students' learning styles on a four-point Likert scale, where 1 = Strongly disagree, 2 = Disagree, 3 = Agree and 4 = Strongly agree. In Table 4.15 their perceptions are indicated as disagreement for 1 and 2, and agreement for 3 and 4 together.

Qualitative data were collected by asking academic staff members to record written responses to the open questions following each set of statements. The original source data (responses to open-ended questions) related to the key concepts of Learning styles and needs may be reviewed in Appendix E5.

TABLE 4.15 ACADEMIC STAFF MEMBERS' AGREEMENT OR DISAGREEMENT WITH STATEMENTS REGARDING GENERATION Y UNDERGRADUATE STUDENTS' LEARNING STYLES

STATEMENT	DISAGREEMENT n (%)	AGREEMENT n (%)
"Doing" is better than "knowing" (n = 66)	19 (28.8)	47 (71.2)
Students prefer group work (n = 66)	31 (47)	35 (53)
Experience is a better learning platform than lectures (n = 65)	25 (38.5)	40 (61.5)
Generation Y are active learners (n = 66)	35 (53)	31 (47)
Being "smart" is "cool" (n = 66)	20 (30.3)	46 (69.7)
Visuals are better than text (n = 66)	3 (4.5)	63 (95.5)
Learning is a social activity (n = 66)	28 (42.4)	48 (57.6)
Students have good critical thinking skills (n = 66)	48 (72.7)	18 (27.3)
Generation Y can multi-task (n = 66)	33 (50)	33 (50)
Their thought processes are fast and random, yet logical (n = 66)	36 (54.5)	30 (45.5)
Deep learning is problematic (n = 66)	7 (10.6)	59 (89.4)
Few take responsibility for their own learning (n = 67)	34 (50.7)	33 (49.3)
Their learning is about discovery and exploration (n = 65)	32 (49.2)	33 (50.8)
It is important to incorporate their own experiences in learning (n = 65)	19 (29.2)	46 (70.8)
Difficulty is experienced in managing large volumes of written information (n = 66)	4 (6.1)	62 (93.9)
Learning content should be intellectually challenging (n = 66)	28 (42.4)	38 (57.6)
A team environment is optimal (n = 65)	22 (33.8)	43 (66.2)
Students learn only what is necessary to pass assessments (n = 65)	6 (9.2)	59 (90.8)

Academic staff members indicated their agreement with most of the statements regarding Generation Y students' learning styles, as seen in Table 4.15. Although both undergraduate students and academic staff members mostly indicated agreement, the percentage of academic staff members who indicated agreement with the statements "**Visuals are better than text**" and "**Difficulty is experienced in managing large volumes of written informatio**n" [p = 0.0319; CI = 015.1-3.6%] was statistically significantly higher than undergraduate students. This is supported by responses including:

- *"Visueel – oues luister" (Visual – older people listen)*
- *Want it fast and visualised*
- *"Hulle word visueel baie meer gestimuleer as die ouer generasie" (They are much more stimulated visually than the older generation)*

Furthermore, academic staff members indicated the following challenges regarding coping with information:

- *To develop optimal critical thinking and learning skills, to handle large volumes of work successfully, to develop suitable writing skills (at least Afrikaans and English) and be able to express themselves clearly in verbal and written format.*
- *"Om die groot hoeveelheid inligting beskikbaar sinvol kan (sic) waarneem en daaruit te leer" (To be able to view the large volume of information sensibly and learn from it)*
- *Choosing what is important or valid in all the info they receive*

On the other hand, a statistically significantly higher percentage of undergraduate students indicated agreement with the following statements than academic staff members who also indicated agreement with these statements, including, "**Their learning is about discovery and exploration**" [$p < 0.0001$; CI = 27.6-52.3%], "**Generation Y can multi-task**" [$p < 0.0001$; CI = 14.9-39.9%], "**'Doing' is better than 'knowing'**" [$p = 0.0233$; CI = 0.1-22.7%], "**It is important to incorporate their own experiences in learning**" [$p < 0.0001$; CI = 7.8-30.4%], "**Experience is a better learning platform than lectures**" [$p < 0.0001$; CI = 16.9–41%] and "**Learning content should be intellectually challenging**" [$p < 0.0001$; CI = 15.6-40.1%]. Academic staff members' responses to open questions including *"Sukkel om te multi-task" (Struggle to multi-task), "Struggle with written work – prefer practical classes* "and *"They struggle with criticle (sic) thinking and can't put theory into practice"* support these findings.

There were no statistically significant differences between academic staff members' and undergraduate students' indicated agreement with the following statements:

"Being smart is 'cool'"

This statement is phrased in colloquial language (cf. 3.3.2, p. 86). The fact that both undergraduate students and academic staff members indicated agreement without significant differences in their responses to this, may point to a shared understanding of the language and apparent attitudes of this cohort of undergraduate students.

"A team environment is optimal"

The shared agreement by both undergraduate students and academic staff members with this statement is indicative of a mutual understanding that is vital in the Health Sciences environment, where a multi-disciplinary team approach is ideal in a holistic approach to the management and care of patients. However, although academic staff members

indicated agreement with the statements "**Learning is a social activity**" and "**Students prefer group work**" as well, undergraduate students did not indicate agreement with these statements.

Academic staff members' indicated agreement with the following statements, however, contrasts with undergraduate students, who indicated disagreement with these statements. The differences in academic staff members and undergraduate students' responses were statistically significant:

"Students learn only what is necessary to pass assessments" [$p < 0.0001$; CI =50.4–58.1%]. This response is congruent with the findings from **Section C, Communication styles, skills and needs** (cf. p. 185), and is supported by responses including:

- *It is all about quantity not quality*
- *Want full marks – even if they lack insight.*

"Deep learning is problematic" [$p < 0.0001$; CI = 40-56.8%]
The following response indicates academic staff members' concern with undergraduate students' academic skills:

- *Feel the majority seem to perform poorly in written examinations – written language skills exceptionally poor, battle to answer questions that are not posed directly and require application and creativity*
- *"Om die oormassa informasie sinvol te bestudeer en tot konseptuele verstaan te kom" (To study the large mass of information sensibly and to come to conceptual understanding)*

On the other hand, while staff members indicated disagreement with the following statements, undergraduate students indicated agreement with these statements. These differences were also statistically significant:

"Generation Y are active learners" [$p < 0.0001$; CI = 28.6-53.3%]. Academic staff members mentioned that they perceive undergraduate students as follows:

- *"Onvermoë om ure in te sit" (Inability to put in hours)*
- *"Nie aktiewe leergierigheid nie" (No active desire to learn)*

"Students have good critical thinking skills" [$p < 0.0001$; CI = 47.1-69.3%].
Interestingly, only SoN students (65.6%) agreed with this statement, and academic staff members' responses to open questions, for example, *"Sukkel om te leer!" (Struggle to learn!)* and *"Y-studente het nog nie geleer om te 'leer' nie" (Y-students have not yet learnt to study)* confirm these findings, as well as their agreement with the statement "**Deep learning is problematic**" (cf. p.233) and "**Difficulty is experienced in managing large volumes of written information**" [$p = 0.001$; CI = 11.1-24.4%].

"Few take responsibility for their own learning" [$p < 0.0001$; CI = 35.3-59.4%].
Although only half of the academic staff members disagreed with this statement, which may point to some ambiguity among lecturers, 96.6% of all undergraduate students agreed with this statement, indicating that they clearly do not share this ambiguity. However, the text responses *"Self verantwoordelikheid te neem vir studie en bereiking van uitkomste" (To take responsibility themselves for learning and the achievement of learning outcomes)* and *"Unwilling to take responsibility for learning and their academic success"* reveal that academic staff members perceive a lack of responsibility, in contrast to undergraduate students' perception of themselves.

The phrasing of the question to academic staff members may have contributed to the somewhat ambiguous response. If an academic staff member indicated disagreement, it could merely indicate that they perceive "many" vs. "few" undergraduate students to take responsibility for their own learning, or that they perceive that undergraduate students do take responsibility for their own learning. Phrasing of the statement as "**Generation Y students take responsibility for their own learning**", could have elicited a clearer response.

Academic staff members also indicated their perception of the importance of the statements about students' learning styles, on a four-point Likert scale, where 1 = Not at all

important and 4 = Very important. In Table 4.16, their perceptions of the importance of the statements regarding learning styles is indicated as NOT IMPORTANT for 1 and 2, and IMPORTANT for 3 and 4 together.

TABLE 4.16 ACADEMIC STAFF MEMBERS' PERCEPTIONS OF IMPORTANCE OF STATEMENTS REGARDING STUDENT'S LEARNING STYLES

STATEMENT	NOT IMPOR= TANT n (%)	IMPORTANT n (%)
"Doing" is better than "knowing" (n = 65)	13 (20)	52 (80)
Students prefer group work (n = 65)	25 (38.5)	40 (61.5)
Experience is a better learning platform than lectures (n = 64)	12 (18.8)	52 (81.2)
Generation Y are active learners (n = 64)	16 (25)	48 (75)
Being "smart" is "cool" (n = 64)	32 (50)	32 (50)
Visuals are better than text (n = 64)	9 (14.1)	55 (85.9)
Learning is a social activity (n = 64)	26 (40.6)	38 (59.4)
Students have good critical thinking skills (n = 64)	11 (17.2)	53 (82.8)
Generation Y can multi-task (n = 64)	17 (26.6)	47 (73.4)
Their thought processes are fast and random, yet logical (n = 63)	13 (20.6)	50 (79.4)
Deep learning is problematic (n = 63)	8 (12.7)	55 (87.3)
Few take responsibility for their own learning (n = 64)	8 (12.5)	56 (87.5)
Their learning is about discovery and exploration (n = 63)	8 (12.7)	55 (87.3)
It is important to incorporate their own experiences in learning (n = 64)	14 (21.9)	50 (78.1)
Difficulty is experienced in managing large volumes of written information (n = 65)	7 (10.8)	58 (89.2)
Learning content should be intellectually challenging (n = 64)	10 (15.6)	54 (84.4)
A team environment is optimal (n = 62)	20 (32.3)	42 (67.7)
Students learn only what is necessary to pass assessments (n = 60)	26 (43.3)	34 (56.7)

Academic staff members indicated that they perceived all the statements regarding undergraduate students' learning styles to be important, with the exception of the statement "**Being 'smart' is 'cool'**", which only 50% of academic staff members indicated to be important. This is similar to the responses by undergraduate students, who also indicated that all of the statements were important, with the exception of the statement "**Learning is a social activity**". It seems, therefore, that although both undergraduate students and academic staff members have different perceptions about the learning styles of Generation Y students as discussed above, they regard these behaviours as important components of the learning environment.

There were statistically significantly higher percentages of undergraduate students than academic staff members who indicated that the following statements were important,

namely, "**Generation Y are active learners**" [p < 0.0001; CI = 9.1–30.6%], "**Being 'smart' is 'cool'**" [p = 0.0190; CI = 2-27.7%], "**Experience is a better learning platform than lectures**" [p = 0.0032; CI = 1.2-20.8%], "**Generation Y can multi-task**" [p = 0.0331; CI = 0.7-21.7%], "**I take responsibility for my own learning**" [p < 0.0001; CI = 3.2-19.5%] and "**Students have good critical thinking skills**" [p = 0.001; CI 1.7-20.5%].

On the other hand, statistically significantly higher percentages of academic staff members than undergraduate students indicated that the statement "**Deep learning is problematic**" [p = 0.0055; CI = 7.5-25.4%] was important. Regarding the statement "**Students learn only what is necessary to pass assessments**" [p = 0.0109; CI = 3.8-30.1%] academic staff members indicated that this was important, while most undergraduate students did not indicate this as important. This difference in perception was also statistically significant, and supports the findings regarding both academic staff members' and undergraduate students' views on students' learning behaviours. It would therefore be necessary to address these aspects, with cognisance of the differences in perceptions between undergraduate students and academic staff members in order to enhance undergraduate students' learning experience.

The following section describes the preferred learning environment of Generation Y students. Staff members indicated to what extent the listed statements were in line with their own views about Generation Y students' learning needs, on a four-point Likert scale, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. Table 4.17 indicates the extent of staff members' perceived agreement with statements regarding student's learning needs, with 1 and 2 together as NO (not in line with their own views) and 3 and 4 together as YES (in line with their own views).

TABLE 4.17 EXTENT OF ALIGNMENT OF ACADEMIC STAFF MEMBERS' VIEWS WITH STATEMENTS REGARDING GENERATION Y UNDERGRADUATE STUDENTS' LEARNING NEEDS

[Table continues on the following page]

STATEMENT	NO n (%)	YES n (%)
Real-life simulations are valuable to learn new skills (n=64)	3 (4.7)	61 (95.3)
Traditional lectures are outdated (n = 64)	29 (45.3)	35 (54.7)
The learning environment should change constantly (n = 64)	26 (40.6)	38 (59.4)
Technology is essential (n = 64)	4 (6.2)	60 (93.8)
Students should collaborate on subject content decisions (n = 64)	39 (60.9)	25 (39.1)

STATEMENT	NO n (%)	YES n (%)
Interactive experiential activities are more valuable than lectures (n = 64)	18 (28.1)	46 (71.9)
Visuals are better than text to explain subject content (n = 64)	10 (15.6)	54 (84.4)
Learning depends on the lecturer's effort (n = 64)	16 (25)	48 (75)
Face-to-face contact with the lecturer is essential to understand the subject (n = 63)	9 (14.3)	54 (85.7)
Actively participating in a group is a key element of learning (n = 63)	18 (28.6)	45 (71.4)
Lectures should be varied in style (n = 64)	8 (12.5)	56 (87.5)
Classes should be informal (n = 63)	27 (42.9)	36 (57.1)
Learning content should be interesting (n = 64)	7 (10.9)	57 (89.1)
Students need motivational leadership (n = 63)	6 (9.5)	57 (90.5)
E-learning is better than face-to-face contact (n = 63)	52 (82.5)	11 (17.5)
Learning should be tailored with options to suit each individual (n = 62)	22 (35.5)	40 (64.5)

Academic staff members agreed that most of the statements regarding Generation Y students' learning needs were in line with their own views. A statistically significantly higher percentage of academic staff members than undergraduate students agreed with the statements "**Students need motivational leadership**" [p = 0.0012; CI = 10.9-27.1%] and "**Lectures should be varied in style**" [p = 0.0154; CI = 5-22.6%], while a statistically significantly higher percentage of undergraduate students than academic staff members agreed with the statements "**Learning content should be interesting**" [p < 0.0001; CI = 1.1-16.5%]. There were no statistically significant differences in the percentages of academic staff members or undergraduate students' responses to the other statements in Table 4.17.

Academic staff members' responses to open questions emphasised the importance of the lecturer as motivational role model:

- *"Studente in arbeidsterapie leer definitief graag by dosent self; wil graag uit dosent se eie ervaring leer; motiverende leierskap baie belangrik" (Students in occupational therapy definitely like learning from the lecturers themselves; they are keen to learn from the lecturers' own experience; motivational leadership is very important)*
- *Role models and mentors regarding learning very important, consistency and transparency of conduct and involvement by lecturers to promote professionalism and enthusiasm regarding particular field*

Their responses also indicated an understanding of students' need for a stimulating, diverse learning environment:

- *"Wat leer aanbetref verkies student tegnologie en informele benaderings in die klas, hoewel dit moeilik sal wees om heeltemal weg van formele lesings en direkte kontak met dosente te kan beweeg" (Concerning learning, students prefer technology and informal approaches in class, although it will be difficult to move away completely from formal lectures and direct contact with lecturers)*
- *Most prefer visual aids, e-learning and a changing, exciting and challenging learning environment*
- *"Hou van multi-media aanbiedings; verwag kwaliteit vermaak in klaskamerverband ipv kwaliteit onderrig" (Enjoy multi-media presentations; expect quality entertainment in class instead of quality teaching)*
- *Difficult to excite, easily bored*

It is noteworthy that in contrast to academic staff members who agreed with the statement "**Traditional lectures are outdated**", most undergraduate students disagreed with this statement [p = 0.0211; CI = 2.1-27.7%] (cf. **Table 4.13**, p. 222). This difference was statistically significant.

It is important to take these opposing perceptions into consideration when contemplating changes to the teaching and learning environment, in order to avoid acting on perceptions rather than fact. Furthermore, responses including *"Leer om te leer soos in die goeie ou dae; deesdae is daar baie verwarrende goed en mens moet mooi sif om NB goed te kry" (Learn to study like in the good old days, nowadays there are many confusing things and one has to sift carefully to find the important things)* [SoM] point to undergraduate students' need for guidance, as well as their ability to recognise the value of traditional methods.

Academic staff members disagreed with the statements "**Students should collaborate on subject content decisions**" and "**E-learning is better than face-to-face contact**". Undergraduate students' responses also revealed that they disagreed with the latter statement and their agreement with the statement "**Face-to-face contact with the lecturer is essential to understand subject content**" supports these findings. However, in contrast to academic staff members, undergraduate students indicated agreement with the statement

"**Students should collaborate on subject content decisions**". This difference was statistically significant [p = 0.0002; CI = 11.1-36.2%].

While not surprising and congruent with the widely held view that Generation Y students desire an individualised educational experience (Mohr *et al*., 2011:194), as indicated above (cf. p. 228), there was some variation in undergraduate students' perceptions of this statement in the three schools in the FoHS. Additional information regarding this statement would clarify participants' understanding of the statement as well as the extent and nature of such collaboration. This aspect should be examined more extensively when planning educational approaches for the Generation Y student cohort.

Table 4.18 represents staff members' perceptions of the importance of the statements regarding Generation Y students' learning needs, on a four-point Likert scale, where 1 = Not at all important and 4 = Very important. Points 1 and 2 are grouped together as NOT IMPORTANT, while 3 and 4 are grouped together as IMPORTANT.

TABLE 4.18 ACADEMIC STAFF MEMBERS' PERCEPTIONS OF THE IMPORTANCE OF STATEMENTS REGARDING GENERATION Y UNDERGRADUATE STUDENTS' LEARNING NEEDS

	NOT IMPOR= TANT n (%)	**IMPORTANT n (%)**
Real-life simulations are valuable to learn new skills (n=64)	5 (7.8)	59 (92.2)
Traditional lectures are outdated (n = 64)	28 (43.7)	36 (56.3)
The learning environment should change constantly (n = 64)	25 (39.1)	39 (60.9)
Technology is essential (n = 63)	5 (7.9)	58 (92.1)
Students should collaborate on subject content decisions (n = 62)	32 (51.6)	30 (48.4)
Interactive experiential activities are more valuable than lectures (n = 63)	18 (28.6)	45 (71.4)
Visuals are better than text to explain subject content (n = 63)	9 (14.3)	54 (85.7)
Learning depends on the lecturer's effort (n = 62)	21 (33.9)	41 (66.1)
Face-to-face contact with the lecturer is essential to understand the subject (n = 63)	8 (12.7)	55 (87.3)
Actively participating in a group is a key element of learning (n = 63)	14 (22.2)	49 (77.8)
Lectures should be varied in style (n = 63)	14 (22.2)	49 (77.8)
Classes should be informal (n = 62)	24 (38.7)	38 (61.3)
Learning content should be interesting (n = 63)	5 (7.9)	58 (92.1)
Students need motivational leadership (n = 62)	7 (11.3)	55 (88.7)
E-learning is better than face-to-face contact (n = 62)	38 (61.3)	24 (38.7)
Learning should be tailored with options to suit each individual (n = 62)	24 (38.7)	38 (61.3)

Consistent with the abovementioned responses, and similar to undergraduate students' responses, academic staff members indicated that they perceived all of the statements regarding Generation Y students' learning needs to be important. Statistically significantly lower percentages of academic staff members than undergraduate students agreed about the importance of the statements "**Real-life simulations are valuable to learn new skills**" [p = 0.0235; CI = 1.5-11.9%] and "**Learning content should be interesting**" [p = 0.0494; CI = 2-11.6%; Fisher's exact test].

However, for both academic staff members and undergraduate students these responses were more than 92%, which makes it rather facetious to argue that this difference has any practical significance. Furthermore, the following response from an academic staff member reflects a high degree of understanding of the learning needs of Generation Y students:

"Simulasie en virtuele pasiënte is 'n ander noodsaaklike manier om aan student se tegnologiese behoeftes te voldoen en op 'n veilige manier oefening in noodsituasies, chirurgie en ondersoekmetodes bloot te stel. Onmiddelike (sic) terugvoer kan ook met simulasie gegee word wat goed inpas by die behoeftes van generasie Y" (Simulation and virtual patients are another essential way to meet students' technology needs and to expose them to practice in emergency situations, surgery and examination methods. Immediate feedback can also be given during simulation which fits well with the requirements of generation Y).

The statement "**Students should collaborate on subject content decisions**" is the only exception, where there was a statistically significant difference in academic staff members' disagreement compared to undergraduate students' agreement with this statement [p = 0.0051; CI = 4.8-30.8%]. The issue of collaboration on decisions regarding subject content is one that would require further exploration, as alluded to before.

4.5.3 Summary of findings regarding Section D, Learning styles and needs

From these responses, it is clear that undergraduate students have a positive view of their abilities as responsible, autonomous, active learners, and that they place a high premium on experiential and explorative learning. They display some ambiguity regarding group work,

and their struggle to manage large volumes of written information (hence their preference for visuals above text) leads to assessment-driven learning to some extent.

From these results, it emerges that undergraduate students' learning needs include interactive experiential activity, technology, individualised learning environments that are informal, not stagnant, interesting and varied, but not without effort expended by the lecturer, who provides motivational leadership. This is supportive of findings in the literature (Lower, 2008:80, Johnson & Romanello, 2005:214; Mangold, 2007:22; Mohr *et al*., 2011:196; Notorianni *et al*., 2009:262). The role of traditional lectures is highlighted, and e-learning is clearly not favoured above face-to-face contact. In addition, undergraduate students indicated a desire to collaborate on subject content decisions (contrasting sharply with academic staff members' perceptions), and they agreed that group participation is an essential component to learning.

Although academic staff members and undergraduate students' perceptions regarding the learning styles and needs of Generation Y students appear similar, in general undergraduate students' perceptions emphasise the experiential "hands-on" nature of their learning style, while academic staff members are inclined to focus on undergraduate students' need for visual stimulation.

Academic staff members also expressed concern about undergraduate students' academic skills, for example deep learning and critical thinking. Regarding learning needs, both undergraduate students and academic staff members recognised the need for and importance of including technology in a varied learning environment, but not at the expense of personal contact with the lecturer who is a motivational role model.

4.6 RESULTS OF QUESTIONNAIRE SURVEY SECTION E, ENVIRONMENT AND SHAPING EVENTS

The results described in this section reflect **Section E, Environment and shaping events,** of the Questionnaire for Undergraduate Students and Questionnaire for Academic Staff respectively (Appendices A1–A4). The results from the undergraduate students' questionnaire survey are reported and discussed first, followed by the results of the

academic staff members' questionnaire survey. This is followed by a brief summary of the results for **Section E, Environment and shaping events**.

4.6.1 Undergraduate students

This section describes the factors said to influence the environment and therefore the attitudes and actions of Generation Y. Table 4.19 indicates to what extent undergraduate students' perceive statements to be in line with their own views, on a four-point Likert 1 – 4, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. In the table, 1 and 2 are grouped together as NO to indicate that the statements are not in line with undergraduate students' views, while 3 and 4 are grouped together as YES to indicate that the statements are in line with undergraduate students' views. Qualitative data were collected by asking undergraduate students to record written responses to the open questions following each set of statements. The original source data (responses to open questions) related to the key concepts of environment and shaping events may be reviewed in Appendix E4.

TABLE 4.19 UNDERGRADUATE STUDENTS' PERCEPTIONS ABOUT THE ALIGNMENT OF STATEMENTS REGARDING ENVIRONMENT AND SHAPING EVENTS WITH THEIR OWN VIEWS

[Table continues on the following page]

	NO n (%)			**YES n (%)**		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
Generation Y is the most educated generation ever (n=614)	135 (42.1)	118 (52.2)	23 (34.3)	186 (57.9)	108 (47.8)	44 (65.7)
I grew up in a digital world with unlimited access to technology(n=613)	131 (40.8)	76 (33.6)	28 (42.4)	190 (59.2)	150 (66.4)	38 (57.6)
I am a global citizen because I can reach across boundaries through technology (n=611)	90 (28.1)	72 (32)	21 (31.8)	230 (71.9)	153 (68)	45 (68.2)
Because of the ethnically diverse environment, people are more tolerant of differences than before (n=612)	78 (24.4)	50 (22.2)	18 (26.9)	242 (75.6)	175 (77.8)	49 (73.1)
There is a decreased sense of community in society (n=611)	94 (29.5)	74 (32.7)	18 (27.3)	225 (70.5)	152 (67.3)	48 (72.7)
We are more socially aware than our parents (n=612)	87 (27.3)	41 (18.1)	12 (17.9)	232 (72.7)	185 (81.9)	55 (82.1)
Diversity (e.g. cultural or ethnic) leads to increased conflict (n=613)	126 (39.4)	81 (35.8)	27 (40.3)	194 (60.6)	145 (64.2)	40 (59.7)
We are more emotionally open than older people (n=608)	97 (30.5)	69 (30.9)	16 (23.9)	221 (69.5)	154 (69.1)	51 (76.1)
The world is more respectful of diversity than previously (n=611)	64 (20.1)	31 (13.7)	18 (26.9)	254 (79.9)	195 (86.3)	49 (73.1)

	NO n (%)			YES n (%)		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
After 9/11 terrorism has become a global threat (n=610)	129 (40.7)	64 (28.3)	19 (28.4)	188 (59.3)	162 (71.7)	48 (71.6)
Environmental issues like ethical consumption are important (n=609)	46 (14.4)	25 (11.1)	9 (13.8)	273 (85.6)	200 (88.9)	56 (86.2)
I am involved in voluntary community service (n=612)	177 (55.5)	97 (42.9)	34 (50.8)	142 (44.5)	129 (57.1)	33 (49.2)
The world is overloaded with entertainment media (n=610)	18 (5.7)	13 (5.7)	3 (4.5)	300 (94.3)	213 (94.3)	63 (95.5)
I grew up in a structured, organised environment (n=611)	45 (14.1)	14 (6.2)	8 (11.9)	273 (85.8)	212 (93.8)	59 (88.1)
I am used to following rules (n=610)	33 (10.4)	6 (2.7)	2 (3)	285 (89.6)	219 (97.3)	65 (97)
During my school years, I participated in extensive activities which meant I had little free time (n=611)	76 (23.9)	32 (14.2)	19 (28.4)	242 (76.1)	194 (85.8)	48 (71.6)
My parents were highly involved, managing every detail of my life at school (n=610)	198 (62.3)	130 (57.8)	34 (50.8)	120 (37.7)	95 (42.2)	33 (49.2)
Nowadays, it is accepted that just taking part already makes you a winner (n=612)	138 (43.3)	63 (27.9)	18 (26.9)	181 (56.7)	163 (72.1)	49 (73.1)

Undergraduate students revealed the impact of technology on their environment, indicated by their agreement that the following statements are in line with their own views, namely "**I grew up in a digital world with unlimited access to technology**", "**I am a global citizen because I can reach across boundaries through technology**" and "**The world is overloaded with entertainment media**". This is reflected in the highly prevalent comments related to technology in their responses to open questions (cf. **4.4 Results of Questionnaire Survey Section C, Communication Styles, Skills and Needs**, p. 185, cf. Appendix E2).

There were no statistically significant differences between undergraduate students in the three schools regarding these statements, indicating that in spite of differences in cultural, ethnic or socio-economic backgrounds, these students share exposure to technology and its sequelae. This contrasts with findings from other studies indicating a "digital divide" based on race or socio-economic status (Brown & Czerniewicz, 2010:357).

However, there are some inconsistencies in the quantitative data, especially regarding social issues. Most undergraduate students agreed with the statements "**Because of the ethnically diverse environment, people are more tolerant of differences than before**" and "**The world is more respectful of diversity than previously**". Statistically significantly more SoAH (86.3%) than SoM [79.9%, p = 0.0523; CI = 0.1–12.7%] or SoN

[79.9%, p = 0.0113; CI = 1.6-24.7%] students agreed with the latter statement. The differences between SoM and SoN students were not statistically significant. This is interesting to note, as the sample of SoAH students was the least diverse in terms of gender or ethnicity of the three groups. Undergraduate students' agreement with these statements would indicate an environment that is conducive to tolerance and mutual respect. Responses such as "*Know more about cultures and beliefs – more focused on Westernised life"* [SoM] reflect these perceptions.

However, undergraduate students contradicted these responses by indicating their agreement with the following statements, namely "**Diversity (e.g. cultural or ethnic) leads to increased conflict**" and "**There is a decreased sense of community in society**". This ambiguity is further highlighted by their responses to the open questions. Qualitative data revealed that students perceived the following as challenges:

SoM:

- *Racism, demorality (sic) in society, have to redefine whole society and make changes to survive the future*
- *"Sosiale verdraagsaamheid" (Social tolerance)*
- *"Diversiteit word afgedwing" (Diversity is forced on us)*
- *Consequences of apartheid and BEE (mistakes of older generations)*
- *"Regstellende aksie" (Affirmative action)*
- *"Ons moet besef dinge wat in die verlede gebeur het beïnvloed ons nie meer nie; media maak dit moeilik deur 'rasse-en-kultuurvuur' aan te blaas" (We must realise that things that happened in the past do not influence us anymore; media make it difficult by fuelling the 'race and culture fire')*

SoAH:

- *Having to make space for people previously disadvantaged even though they attended school with us since Grade 1*
- *"Rassisme en misdaad oorkom; gelyke voorkeur te geniet nie op grond van vel" (Overcoming racism and crime; to enjoy equal opportunities and not on the base of one's skin)*

- *"Los te maak van die verlede [politici laat dit nie toe nie] (To disengage from the past [politicians do not allow this])*
- *Unequality (sic)*

Surprisingly, SoN students did not allude to culture, ethnicity or diversity in their responses to open questions.

In addition, undergraduate students' responses indicated agreement with the statements "**Environmental issues like ethical consumption are important**", "**We are more emotionally open than older people**" and "**We are more socially aware than our parents**". There was a statistically significant smaller percentage of SoM students (72.7%) who agreed with the latter statement, than SoAH [81.9%, p = 0.0132; CI = 2.1–16.1%] students, but not between SoM and SoN students (82.1%) or between SoAH and SoN students.

Undergraduate students from all three schools' responses to open questions confirmed this:

SoM:

- *"Meer oop vir ander kulture en godsdiens (open-minded)" (More open to other cultures and religion [open-minded])*
- *More open to different opinions and lifestyles*
- *More open-minded, liberal thinking, more accepting of different people (e.g. date outside of our race)*
- *More aware of surroundings, emotions*
- *"Meer oop vir nuwe idees en integrasie van rasse" (More open to new ideas and integration of races)*
- *"Meer aanpasbaar by omgewing, meer verdraagsaam" (More adaptable to environment, more tolerant)*
- *More diversity in behaviour, values, ideas*
- *"Meer bewus van omgewing en omsien daarna" (More aware of environment and looking after it)* BUT *More wasteful of resources without considering consequences*

SoAH:

- *"Meer oop, meer beïnvloedbaar, aanvaar ander makliker" (More open, more malleable, accept others more readily)*
- *"Gee mekaar meer kans om eie opinie uit te druk; weet almal is nie perfek nie" (Give each other more opportunity to express own opinions, know everyone isn't perfect)*
- *Share more feelings*
- *Deal with emotions and issues more*
- *More open and less afraid of change*
- *More "in touch" with global happenings*

SoN:

- *"Oop kop en meer liberaal" (Open-minded and more liberal)*
- *More openly emotional and social*
- *Willing to accept others more readily*

In contrast, most undergraduate students indicated that the statement "**I am involved in voluntary community service**" was not in line with their views. Statistically significantly more SoM (55.5%) than SoAH [42.9%, p = 0.0038; CI = 4.1–21%] students indicated that they disagreed with this statement, although the differences between SoM and SoN (50.8%) students and SoAH and SoN students were not statistically significant. The abovementioned qualitative and quantitative data reveal that undergraduate students perceive that they possess greater emotional openness and social awareness than older generations, although this does not seem to translate into action such as voluntary community service.

Not all undergraduate students agreed with the statement "**Generation Y is the most educated generation ever**". Statistically significantly fewer SoAH students (47.8%) than SoM [57.9%, p = 0.0190; CI = 1.7 -18.6%] or SoN [65.7%, p = 0.0101; CI = 4.8–31%) students indicated agreement with this statement. The difference between SoM and SoN students was not statistically significant. They did, however, all agree with the following statements regarding their background:

"I grew up in a structured organised environment"

The difference between SoM (85.8%) and SoAH (93.8%) students' agreement with this statement was statistically significant [p = 0.0033; CI = 3–12.9%], but due to the confidence interval less than 10%, this difference is most likely not relevant in practice. The differences between SoM and SoN (88.1%) students, and SoN and SoAH students were not statistically significant, however.

"I am used to following rules"

Similarly, although statistically significantly fewer SoM students (89.6%) than SoAH (97.3%) students agreed with this statement [p = 0.0006, p = 3.8–11.7%], the confidence interval of less than 10% may prove this difference to be insignificant in practice. There were also no statistically significant differences between SoM and SoN (97%) students, or SoAH and SoN students regarding this statement either.

Undergraduate students' agreement with perceptions that they are accustomed to highly organised, planned environments and activities may point to the reason for their preference for a structured learning environment, as alluded to in **Section D, Learning styles and needs** (cf. p. 214).

Other statements referring to their background include the following:

"During my school years, I participated in extensive activities which meant I had little free time"

Although 85.8% of SoAH students indicated agreement, only 76.1% of SoM [p = 0.0050; CI = 3.2–16.3%] and 71.6% of SoN [p = 0.0071; CI = 2.5-25.9%] students indicated agreement with this statement. These differences were statistically significant, but the difference between SoM and SoN students was not statistically significant. Related to this, undergraduate students in all three groups also indicated disagreement with the statement "**My parents were highly involved, managing every detail of my life at school**". In fact, students mentioned examples of the lack of parental involvement or care. The impact of disrupted family life and divorce is poignantly illustrated in responses such as:

- *Poor support base*
- *Belonging, divorces, loneliness*

- *Don't know true identity and where they came from*

"Nowadays, it is accepted that just taking part already makes you a winner"

The differences between SoM (56.7%) students' responses indicating agreement with this statement and both SoAH [72.1%, p = 0.0002; CI = 7.4–23.4%] and SoN [73.1%, p = 0.0129; CI = 4.5–28.3%] students were statistically significant. The difference between SoAH and SoN responses were not statistically significant, however.

"After 9/11 terrorism has become a global threat"

Similar to the responses to the abovementioned statement, statistically significantly fewer SoM (59.3%) students than SoAH [71.7%, p = 0.0030; CI = 4.4–20.4%] and SoN [71.6%, p = 0.0594; CI =0.3–24.4%] students indicated agreement with this statement, while the difference between SoAH and SoN students was not statistically significant.

Qualitative data revealed multiple references to the unique socio-political environment that shaped the background and consequently specific challenges faced by undergraduate students at the FoHS. In addition, from undergraduate students' text responses to open questions the following commonly perceived challenges emerged:

- Crime and violence
- HIV/AIDS
- Peer pressure, especially with reference to alcohol and drug abuse or addiction, smoking, sexual promiscuity, teenage pregnancy, pornography, suicide
- Disrupted family life, for example divorce
- Unemployment
- Poverty
- Unfair treatment, based on race, and affirmative action
- Keeping up in a fast-paced, changing world, especially with regard to technology

Undergraduate students in all three schools in the FoHS alluded to these issues. The fact that undergraduate students mentioned these issues spontaneously despite there being no mention of them in the statements included in the closed questions of the questionnaire, reflects the significance and impact thereof in undergraduate students' lives. It also points

to the unique nature of Generation Y in the South African context, differing from reported characteristics of Generation Y in the USA, UK and Australia, for example (cf. **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education**, **2.5.1.2** ***Demography*** p. 32). Health Sciences Education aims to train students who are equipped to deal with the challenges of their environment (McMillan, 2007:e209-e210), and in the unique South African context, this would include addressing issues such as those pointed out by undergraduate students when planning the teaching and learning environment.

Table 4.20 refers to undergraduate students' access to technology. Undergraduate students answered either YES or NO to questions that determined the availability of examples of devices and technology in their own environment.

TABLE 4.20 UNDERGRADUATE STUDENTS' RESPONSES REGARDING QUESTIONS ON THEIR ACCESS TO TECHNOLOGY

STATEMENT	**YES n (%)**			**NO n (%)**		
	SoM	**SoAH**	**SoN**	**SoM**	**SoAH**	**SoN**
Do you have your own cell (mobile) phone? (n=612)	319 (100)	226 (100)	67 (100)	0	0	0
Do you have your own computer? (n=612)	277 (86.8)	198 (87.6)	49 (73.1)	42 (13.2)	28 (12.4)	18 (26.9)
Do you have access to a computer where you live? (n=612)	313 (98.1)	222 (98.2)	61 (91)	6 (1.9)	4 (1.8)	6 (9)
Do you have access to the internet where you live? (n=611)	240 (75.2)	188 (83.2)	53 (80)	79 (25.8)	38 (16.8)	13 (19.7)
Do you have access to a television where you live? (n=611)	272 (85.5)	206 (91.1)	62 (92.5)	46 (14.8)	20 (8.9)	5 (7.5)
Do you think the internet is a trustworthy source of information? (n=605)	208 (66.4)	178 (78.8)	50 (75.8)	105 (33.6)	48 (21.2)	16 (24.2)

All undergraduate students in the three schools in the FoHS indicated that they had their own cell (mobile) phone, while 85.6% of students had their own computer. In the SoN, fewer undergraduate students indicated that they had their own computer. In addition, 97.4% of all undergraduate students indicated that they had access to a computer where they lived, while 78.7% and 88.4% respectively indicated that they had access to the Internet or television where they lived.

Most undergraduate students also indicated that they thought that the Internet was a trustworthy source of information, although fewer students in the SoM held this view.

These findings contrast with the opinion expressed by an academic staff member regarding the perceived "digital divide" (Brown & Czerniewicz, 2010:357) referring to differences in undergraduate students' access to technology:

Here the social backgrounds of the students and their access to technology differ a huge amount. The contrast is PALPABLE from the white Afrikaans class to the English black class (with a few exeptions (sic) of course) and *HUGE variety in the backgrounds of our students. Some of the black students have never owned a computer and hence the internet and technology other than mobile phones are really new to them.*

Table 4.21 reveals undergraduate students' responses to questions determining how regularly they make use of technology and available applications. A five-point Likert scale was used where 1 = NOT AT ALL, and 5 = DAILY.

TABLE 4.21 UNDERGRADUATE STUDENTS' RESPONSES TO HOW OFTEN THEY USE VARIOUS FORMS OF TECHNOLOGY

Technology	**Scale:**				
	1 (Not at all)	**2**	**3**	**4**	**5 (Daily)**
Instant messaging (n=612)					
SoM	10 (3.1)	20 (6.3)	30 (9.4)	46 (14.4)	213 (66.8)
SoAH	5 (2.2)	5 (2.2)	10 (4.4)	27 (11.9)	179 (79.2)
SoN	3 (4.5)	3 (4.5)	10 (14.9)	10 (14.9)	41 (61.2)
Music downloads (n=609)					
SoM	99 (31)	98 (30.7)	76 (23.8)	31 (9.7)	15 (4.7)
SoAH	66(29.5)	76 (33.9)	54 (24.1)	20 (8.9)	8 (3.6)
SoN	18 (27.3)	17 (25.8)	19 (28.8)	9(13.6)	3 (4.5)
Podcast (n=605)					
SoM	243 (76.4)	50 (15.7)	21 (6.6)	3 (0.9)	1 (0.3)
SoAH	176 (79.6)	36(16.3)	5 (2.3)	4 (1.8)	0
SoN	54 (81.8)	6 (9.1)	5 (7.6)	0	1 (1.5)
Wikis (n = 605)					
SoM	209 (65.9)	45 (14.2)	30 (9.5)	14 (4.4)	19 (6)
SoAH	171 (77)	23 (10.4)	19 (8.6)	6 (2.7)	3 (1.3)
SoN	49 (74.2)	9 (13.6)	7 (10.6)	0	1 (1.5)
Flickr (n = 605)					
SoM	272 (85.8)	28 (8.8)	12 (3.8)	3 (0.9)	2 (0.6)
SoAH	194 (87.4)	23 (10.4)	3 (1.3)	0	2 (0.9)
SoN	57 (86.4)	6 (9.1)	3 (4.5)	0	0
YouTube (n = 609)					
SoM	140 (43.9)	76 (23.8)	62 (19.4)	30 (9.4)	11 (3.4)
SoAH	91 (40.6)	61 (27.2)	51 (22.8)	17 (7.6)	4 (1.8)
SoN	29 (43.9)	11 (16.7)	16 (24.2)	5 (7.6)	5 (7.6)
Face book (n = 611)					
SoM	50 (15.7)	23 (7.2)	45 (14.1)	55 (17.2)	146 (45.8)
SoAH	21 (9.3)	10 (4.4)	20 (8.9)	62 (27.6)	112 (49.8)
SoN	11 (16.4)	2 (3)	9 (11.9)	22 (32.8)	24 (35.8)
Twitter (n = 606)					
SoM	281 (88.4)	15 (4.72)	13 (4.1)	6 (1.9)	3 (0.9)
SoAH	187 (84.2)	19 8.6)	6 (2.7)	5 (2.2)	5 (2.2)
SoN	49 (74.2)	3 (4.5)	7 (10.6)	5 (7.6)	2 (3)
Blogging (n = 604)					
SoM	271 (85.8)	24 (7.6)	12 (3.8)	8 (2.5)	1 (0.3)
SoAH	197 (87.4)	19 (8.5)	5 (2.2)	3 (1.3)	1 (0.4)
SoN	50 (76.9)	6 (9.2)	3 (4.6)	2 (3.1)	4 (6.1)
Presentation software (e.g. PowerPoint) (n = 607)					
SoM	53 (16.7)	65 (20.5)	95 (30)	56 (17.7)	48 (15.1)
SoAH	14 (6.2)	31 (13.8)	86 (38.4)	71 (31.7)	22 (9.8)
SoN	7 (10.6)	12 (18.2)	19 (27.3)	14 (21.2)	15 (22.7)
Second life (n = 604)					
SoM	287 (90.5)	16 (5)	10 (3.1)	2 (0.6)	2 (0.6)
SoAH	203 (91.9)	13 (5.9)	2 (0.9)	2 (0.9)	1 (0.4)
SoN	51 (77.3)	4 (6.1)	9 (12.1)	0	3 (4.5)
E-learning (n = 610)					
SoM	65 (20.4)	75 (23.5)	90 (28.2)	60 (18.8)	29 (9.1)
SoAH	60 (26.8)	37 (16.5)	51 (22.8)	48 (21.4)	28 (12.5)
SoN	12 (17.9)	9 (13.4)	14 (20.9)	20 (29.8)	12 (17.9)
Other (specify) (n = 344)					
SoM	110 (64.7)	7 (4.1)	10 (5.9)	13 (7.6)	30 (17.6)
SoAH	87 (65.4)	1 (0.7)	4 (3)	15 (11.3)	26 (19.5)
SoN	28 (68.3)	0	0	4 (9.8)	9 (21.9)

A large percentage of undergraduate students indicated that they used instant messaging on a daily basis (70.8), while 46.2% used Face book on a daily basis. The daily use of presentation software (e.g. PowerPoint) and e-learning was less than 15%. In fact, 22.5% of all the undergraduate students indicated that they did not use e-learning at all.

This contrasts with their responses in the section on learning styles and needs (cf. p.214-240), where most undergraduate students indicated agreement with the statement "**All class materials should be available online**". It does, however, support their disagreement with the statement "**E-learning is better than face-to-face contact**".

Besides the examples of instant messaging, Face book, presentation software and e-learning, 65.7% of undergraduate students indicated that they did not use any other technology regularly at all. Most undergraduate students in all three schools indicated that they did not use the following technology at all, namely Podcasts (78.2%), Wikis (70.9%), *Flickr* (86.5%), Twitter (85.3%), Blogging (85.8%) or *SecondLife* (89.6%). Similarly, 30.1% and 42.7% of students indicated that they did not use music downloads or YouTube at all. Of the 18.9% of undergraduate students who indicated that they use "other" technology on a daily basis, these technologies were specified to be *Mxit* (a form of instant messaging) or making use of the Internet.

It appears that although the widespread availability of technology, the pervasive nature of technology and its impact on their lives as well as their perceived superior handling of technology was often alluded to in responses to the open questions, undergraduate students include these applications at their disposal to a much smaller degree in their daily lives than is commonly believed or expected. Moreover, the forms of technology and applications that undergraduate students indicated using on a regular basis are those probably used by most people, even across generations, because they are part of the working environment, and specifically the teaching and learning environment. For example, lecturers would probably make use of PowerPoint presentation software and e-learning on a regular, if not daily basis. While their world may be flooded with technology and the possibilities it offers, Generation Y students in the Faculty of Health Sciences, UFS, do not seem to use it as extensively as anticipated.

4.6.2 Academic staff members

This section deals with the factors thought to influence the environment and therefore the attitudes and actions of Generation Y. Table 4.22 indicates to what extent staff members perceive statements about Generation Y students' environment and shaping events to be in line with their own views, on a four-point Likert scale, where 1 = Not at all, 2 = To a lesser extent, 3 = To some extent and 4 = To a great extent. In the table, 1 and 2 are grouped together as NO to indicate that the statements are not in line with staff members' views, while 3 and 4 are grouped together as YES to indicate that the statements are in line with staff members' views.Qualitative data were collected by asking academic staff members to record written responses to the open questions following each set of statements. The original source data (responses to open questions) related to the key concepts of environment and shaping events may be reviewed in Appendix E5.

TABLE 4.22 ACADEMIC STAFF MEMBERS' PERCEPTIONS ABOUT THE ALIGNMENT WITH THEIR VIEWS OF STATEMENTS REGARDING GENERATION Y'S ENVIRONMENT AND SHAPING EVENTS

Generation Y students	**NO n (%)**	**YES n (%)**
are the most educated generation ever (n=64)	45 (70.3)	19 (29.7)
grew up in a digital world with unlimited access to technology (n = 64)	9 (14.1)	55 (85.9)
are global citizens because technology reaches across boundaries (n = 64)	11 (17.2)	53 (82.8)
are more tolerant of differences because of their ethnically diverse environment (n = 64)	12 (18.8)	52 (81.2)
experience a decreased sense of community in society (n = 63)	15 (23.8)	48 (76.2)
are more socially aware than their parents (n = 63)	20 (31.7)	43 (68.3)
experience increased conflict due to diversity (e.g. cultural or ethnic) (n = 63)	21 (33.3)	42 (66.7)
are more emotionally open than older people (n = 64)	22 (34.4)	42 (65.6)
live in a world more respectful of diversity than previously (n = 64)	15 (23.4)	49 (76.6)
experience terrorism as a global threat after 9/11 (n = 63)	27 (42.9)	46 (57.1)
are sensitive to environmental issues like ethical consumption (n = 63)	25 (39.7)	38 (60.3)
are involved in voluntary community service (n = 64)	32 (50)	32 (50)
are overloaded with entertainment media (n = 64)	0	64 (100)
grew up in a structured, organised environment (n = 64)	45 (70.3)	19 (29.7)
are used to following rules (n = 64)	45 (70.3)	19 (29.7)
participated in extensive activities during school years which meant they had little free time (n = 64)	24 (37.5)	40 (62.5)
parents were highly involved, managing every detail of their lives at school (n = 64)	39 (60.9)	25 (39.1)
think that just taking part makes you a winner (n = 64)	22 (34.4)	42 (65.6)

From these results, it is apparent that staff members' perceptions about the environment and shaping events influencing Generation Y students are similar to those indicated by

undergraduate students (cf. **Table 4.19**, p. 242). Academic staff members indicated that most of the statements in Table 4.22 were in line with their own views. However, a statistically significantly lower percentage of academic staff members than undergraduate students agreed with the statements Generation Y students "**are sensitive to environmental issues like ethical consumption**" [$p < 0.0001$; CI = 14.2-8.9%] and "**participated in extensive activities during school years which meant they had little free time**" [$p < 0.0023$; CI = 4.4–29%].

Similar to undergraduate students, half of the academic staff members indicated that the statement "**Generation Y students are involved in voluntary community service**" was in line with their own views. There was no statistically significant difference in these responses. In spite of their perceived greater social awareness, emotional openness as well as the supposed environment of greater respect and tolerance for diversity, it seems that the undergraduate students in this population are not more involved in voluntary community service as is generally believed regarding Generation Y (Taylor & Keeter, 2010:Online). Academic staff members also indicated that they did not agree with the statement "**Generation Y students' parents were highly involved, managing every detail of their lives at school**", which was similar to undergraduate students' responses to this statement, and the difference was not statistically significant. The following response provides a view of academic staff members' insight into the diversity of the undergraduate students they lecture to:

The diversity in the student corps often results in large variations in the experiences and background of students. In one class there will often be students that come from a privileged background where parents were very involved in their children's lives and they were given every opportunity possible. In the same class are students from disadvantaged backgrounds who are the first generation of university attendees in their family – they are under a lot of pressure to succeed, often without the support and assistance of more privileged students.

However, there were statistically significant contrasting perceptions regarding the following statements. Academic staff members indicated disagreement, while undergraduate students indicated agreement with the statements Generation Y students "**grew up in a structured organised environment**" [$p < 0.0001$; CI = 47.9-0.8%], "**are**

used to following rules" [$p < 0.0001$; CI = 52.2–75%] and "**are the most educated generation ever**" [$p = 0.0001$; CI = 13.5-37.2%]. Although only 47.8% of SoAH student indicated agreement with the latter statement, the difference was not statistically significant (cf. **Table 4.19**, p. 242). Academic staff members' responses to open questions support the findings above:

- *"Volg nie opdragte noukeurig uit nie" (Do not follow instructions carefully)*
- *"Jy moet nog altyd kan luister" (You must still be able to listen)*
- *"Dissipline" (Discipline) and "Struktuur in hul lewens" (Structure in their lives) are challenges*

Furthermore, academic staff members alluded to undergraduate students' under preparedness for tertiary education, for example:

- *Poor school system with lack of language and maths skills in previously disadvantaged groups*
- *Poor preparation at high-school level for university*
- *Adapting to learning in another language than native tongue*
- *"Om vanuit 'n skool leeromgewing aan te pas by die universiteit" (To adjust to the university from a school learning environment)*
- *"Om binne ons Fakulteit se studierigtings gekonfronteer te word met die feit dat hulle nie meer 80% en 90% behaal nie" (To be confronted with the fact that within the study areas in our Faculty they no longer achieve 80% or 90%)*

Academic staff members also alluded to some of the challenges within their environment that undergraduate students commonly referred to (cf. p.248). For example:

- Crime and violence (*More dependent on certain aspects because parents have to stay on their heels and transport them to make sure they are not raped or kidnapped or drugged*)
- Disrupted family life, for example divorce (*Disrupted family units is a major complicating factor for this generation; Increasing phenomenon of "single parent"*

and "composite" families; Materialism: parents try to compensate by gifts because of lack of time due to workloads)

- Unemployment and poverty (*Greater challenges re studies – admission to courses, finding suitable accommodation, employment opportunities after completion of studies; Economy; "Finansies om as student te kan oorleef" [Finances to be able to survive as student]; Job scarcity/unemployment*)
- Peer pressure, especially with reference to alcohol and drug abuse or addiction, smoking, sexual promiscuity, teenage pregnancy, pornography, suicide (*To maintain values – moral, religious, family, etc.; "Word groot waar duidelike riglyne vaag geword het en ook verskuif het rakende lewenstyl, morele waardes, ens." [Grow up where clear guidelines have become vague and have been shifted regarding lifestyle, moral values, etc.]*)
- Unfair treatment (based on race) and affirmative action *"Omgekeerde diskriminasie" [reverse discrimination]; "Die rassisme van die algemene publiek oorkom (wit en swart)" [Overcoming the racism of the general public (white and black)]; Ongoing racism, the best applicant are (sic) not necessarily appointed; "Om medisyne te beoefen in 'n klimaat van swak leierskap, swak bestuur en swak befondsing van veral staatsinstellings" [To practise medicine in an environment of poor leadership, poor management and poor funding of especially state institutions]; Corruption*)
- Keeping up in a fast-paced, changing world, especially with regard to technology *("Studente moet tred hou met snelweë van elektroniese ontwikkeling" [Students must keep up with highways of electronic development] Like everyone else, to be able to cope and blossom in this changing world).*

Notably, academic staff members did not mention HIV/AIDS or the challenges of sexual promiscuity and teenage pregnancy that were commonly mentioned in undergraduate students' responses to open questions.

4.6.3 Summary of findings regarding Section E, Environment and shaping events

It seems apparent that academic staff members' perceptions of undergraduate students' environment are accurate, especially since their perceptions are similar to those of undergraduate students' perceptions, with few exceptions. One could therefore assume

that academic staff members demonstrate a good understanding of undergraduate students' life and environment.

Both undergraduate students and academic staff members indicated agreement that technology has a major impact on Generation Y students' daily life, although it emerged that while students' access to technology is high, their use of it is limited to a few applications mainly for social communication purposes. Specific issues related to South African society or the 21st century environment, were highlighted by both groups as challenges that Generation Y students grapple with.

4.7 CONCLUSION

In Chapter 4, **Results and discussion of questionnaire survey**, the quantitative and qualitative results from the questionnaires for both undergraduate students and the academic staff members who lecture to them were presented and discussed. This chapter represents Phase I of this mixed-methods research design, namely Concurrent Triangulation.

In the following section, Chapter 5, **Results and Discussion of Focus Group Interview**, the results and discussion of results of Phase II of the study design, namely the Sequential Explanatory Phase will be done. In this chapter, the analysis and interpretation of the findings from the focus group interview will be presented.

CHAPTER 5

RESULTS AND DISCUSSION OF FINDINGS OF THE FOCUS GROUP INTERVIEW

Focus groups are an inherently flexible method and any attempt to produce a watertight template for their use can only serve to diminish research creativity and innovation.
(Barbour, 2005:748)

5.1 INTRODUCTION

This chapter will present the results from the focus group interview (FGI) held with academic staff members from the FoHS. The FGI formed part of the second phase of the mixed-methods research design used in this study, namely sequential explanatory design (QUAN→QUAL), yielding qualitative data. As graphically presented in Figure 3.2, ***Visual diagram of the procedures in the study*** (cf. p. 72), the quantitative data (QUAN) from the questionnaire survey were analysed statistically, yielding descriptive data, while the qualitative data (qual) were analysed by content analysis and used to confirm or conflict with the quantitative data. This was described as Phase I of the study design, namely concurrent triangulation (QUAN + qual), and is described as a means of integrating findings from open and closed questionnaire surveys among a single group of participants (Schifferdecker & Reed, 2009:639-640) (cf. **Chapter 3, Research Design and Methodology**, p. 67).

The results of Phase I (concurrent triangulation) of the research design in this study were reported on in Chapter 4, ***Results and discussion of findings of questionnaire survey*** (cf. p. 110). These findings from Phase I were used to develop questions for the FGI, with the purpose of further exploring and elucidating these findings in order to answer the research questions (cf. **Chapter 1, Overview of the Study**, p. 1). This formed Phase II of the study, sequential explanatory design (QUAN → QUAL). The advantage of using such a mixed-method research design includes providing the best answers to research questions as it capitalises on the strengths while simultaneously minimising the weaknesses of

individual methods (Rocco *et al*., 2003:20), and is considered ideal in the medical education environment (Schifferdecker & Reed, 2009:638).

As discussed in Chapter 3, ***Research Design and Methodology*** (cf. p. 67), focus group interviews may be used to contribute to the interpretation of survey findings, by making use of group dynamics rather than "understanding the distribution of responses in a group" (Bernard & Ryan, 2010:40), thus yielding greater perspective on the topic at hand (Greeff, 2005:300). Breen (2006:465) mentions that focus group interviews are appropriate when members of a group are expected to "develop and generate ideas" and "explore issues of shared importance". As the final stage of this research design, the FGI is particularly valuable to expand on the findings from the questionnaire surveys and to contribute to formulating the educational approach as stated in the aim of the study (cf. **Chapter 1, Overview of the Study**, p. 1). In the following section, the background to the FGI and data analysis will be discussed.

5.2 BACKGROUND TO THE FGI DATA ANALYSIS

Focus group interviews have become increasingly popular as a means of understanding and explaining "the meanings, beliefs and cultures that influence the feelings, attitudes and behaviours of individuals" (Rabiee, 2004:655). However, they yield vast amounts of data presenting a daunting challenge to researchers in both the analysis and interpretation of data (Rabiee, 2004:657). The danger exists that focus group interviews are merely used as embellishments to a "methodological toolkit" rather than being used within a critical and rigorous methodological and design framework ensuring the fulfilment of their potential to provide "valuable insight" (Barbour, 2005:748).

While the strengths of focus group interviews lie in the production of "concentrated amounts of data on precisely the topic of interest", yielding deeper levels of meaning or subtle nuances as well as the contribution of group interaction in terms of a "stimulating and secure setting", these may be offset by their limitations in terms of cost, lack of skill of the researcher or facilitator, bias (both on the side of the facilitator or participants) and the lack of representation of the total population (Greeff, 2005:312; Stewart *et al*., 2007:43).

In order to contribute meaningfully to research, focus group studies must be approached with great attention to quality. With this in mind, the consolidated criteria for reporting qualitative research (COREQ) were suggested by Tong, Sainsbury and Craig (2007:349-357). The COREQ is a 32-item checklist to be used as a tool in the reporting of qualitative research studies, specifically focus groups and in depth interviews. The checklist is grouped into three domains, namely Research team and reflexivity, Study design and Analysis and findings. Table 5.1 compiled by the researcher is an adapted list of criteria formulated from the abovementioned 32-item COREQ checklist suggested by Tong *et al*., (2007:351-356), and was used in reporting on the FGI held in Phase II (sequential explanatory design) of this study.

TABLE 5.1 ADAPTED COREQ*CRITERIA CHECKLIST FOR REPORTING OF FOCUS GROUP INTERVIEW USED DURING PHASE II (SEQUENTIAL EXPLANATORY DESIGN) [From Tong *et al*., (2007:351-356)]

Item	Description
Domain 1: Research team and reflexivity	
A. Personal characteristics (COREQ 1-5)	Facilitator and/or researcher credentials, occupation, gender, experience and training
B. Relationship with participants (COREQ 6-8)	Established relationships, participant knowledge of interviewer, interviewer characteristics, e.g. bias
Domain 2: Study design	
C. Theoretical framework (COREQ 9)	Methodological orientation underpinning the study
D. Participant selection (COREQ 10-13)	Sampling, approach, sample size, non-participation
E. Setting (COREQ 14-16)	Data collection, attendees, demographic data regarding sample
F. Data collection (COREQ 17-23)	Interview guide, repeat interviews, audio/visual recording, field notes, duration, data saturation, transcripts returned
Domain 3: Analysis and findings	
G. Data analysis (COREQ 24-28)	Number of coders, description of coding tree, derivation of themes, software, participant checking
H. Reporting (COREQ 29-32)	Quotations presented and identified, consistency between data and findings, clarity of major and minor themes

*COREQ = Consolidated criteria for reporting qualitative research (Tong *et al*., 2007:351-356).

In the following sections, the three domains mentioned by Tong *et al.* (2007:351-356) will be discussed with reference to the items listed from the adapted COREQ criteria as illustrated in Table 5.1.

5.3 RESEARCH TEAM AND REFLEXIVITY

In this section, both the facilitator (interviewer) and researcher's personal characteristics and relationships with the participants will be discussed.

5.3.1 Personal characteristics

The FGI was conducted by a male academic staff member at the UFS who is trained and skilled in both conducting and facilitating focus groups, and who was completing a Ph.D. at the time of the study making use of focus group interviews in his research design. In addition the abovementioned facilitator is registered as a medical specialist at the Health Professions Council of South Africa (HPCSA), and is involved in undergraduate and postgraduate training at the FoHS, UFS. The facilitator possessed the characteristics suggested by Greeff (2005:306) including friendliness, a sense of humour, interest in people and the topic under discussion, good listening ability, familiarity with group discussions and the research methodology, as well as treating the participants with positive regard.

The credentials of the researcher, who acted as observer during the FGI, were described in Chapter 1, ***Overview of the study*** (cf. p.9). Her active involvement in both undergraduate and postgraduate teaching at the FoHS, contributes to her ability to identify with the experiences and challenges that the participants in the FGI are faced with in the teaching and learning environment.

The abovementioned credentials of both the facilitator and observer contribute to the credibility of the findings of the FGI as the impact of these factors on the interpretation of the findings may be judged (Tong *et al*., 2007:351).

5.3.2 Relationship with participants

Both facilitator and researcher were acquainted with the participants as colleagues, and shared an understanding of the teaching and learning and working environment in the FoHS, as mentioned previously (cf. 5.3.1, p.5). The participants were aware of the researcher's reason for doing the research (completion of her Ph.D. study) – this was also explicitly stated at the onset of the FGI by the facilitator.

The facilitator was not personally involved in the research, and had no bias toward or assumptions regarding the FGI, and could therefore derive no personal gain from the FGI. As the researcher (who was privy to the results of Phase I of the study design, and who had performed the literature survey as well as designed the questions for the FGI and therefore would probably have bias or assumptions regarding the outcomes of the FGI) acted as observer and did not participate in the FGI, there could be no influence on either frank discussion or participants' responses during the FGI. This contributed towards the transparency of the process.

5.4 STUDY DESIGN

In this section, the theoretical framework, participant selection, setting and data collection will be discussed.

5.4.1 Theoretical framework

The methodological orientation and theory underpinning this phase of the research may be described as content analysis. Using this methodology, qualitative data obtained by a FGI is organised in a structured and systematic way (recorded and transcribed) and the analysis done to reveal themes occurring in interviews (Breen, 2006:466, Creswell & Plano Clark, 2007:197). The analysis of data in this way is challenging as it requires moving from descriptive ("identification and refinement of themes and subcategories") to analytical ("provide an explanation for the patterns identified in the data") (Barbour, 2005:747). There may be many approaches to analysing qualitative data obtained from focus groups. Rabiee (2004:657) mentions Krueger's (1994) "framework analysis" which consists of interconnected stages that uses a thematic approach to develop themes from the research

questions and participants' responses. This is similar to the concept of content analysis of focus groups described by Creswell and Plano Clark (2007:197-199).

5.4.2 Participant selection

The data collection method (cf. **3.3.3 Data collection: Focus group interview**, p. 90) and sample selection method (cf. **3.3.4.3. *Sample selection: Focus group interview***, p.98) were described in Chapter 3, ***Research design and methodology*** (cf. p.67).

Purposive sampling was used to identify participants suitable for the FGI based on their knowledge, experience and expertise regarding undergraduate Health Sciences Education (cf. **Table 3.4 Eligibility criteria used for purposive sampling of academic staff members for Focus Group Interview**, p.102). A degree of homogeneity in the sample could be found in the fact that all the participants were academic staff members who lecture to the Generation Y cohort, making comparisons possible within the group. This homogeneity is advantageous as participants who perceive themselves as similar "spend less time explaining themselves to each other and more time discussing the issues at hand" (Greeff, 2005:304). However, the diversity within Schools in the FoHS and the variety of disciplines represented by the participants allowed for stimulating discussion (Barbour, 2005:746).

Ten academic staff members participated in the FGI. They represented the three schools in the FoHS, including four staff members from the SoM, four staff members from the SoAH and two staff members from the SoN. This representation reflects the numbers of students in the three schools in the FoHS (cf. **Table 3.3**, p.94). Six to ten participants is thought to allow for a variety of responses while allowing each participant the opportunity to engage in the discussion (Greeff, 2005:305). At the same time this group size amongst those with vast experience (such as the academic staff members recruited for the FGI), may be slightly too large to allow each participant to contribute maximally. The effect of personality (extroversion versus introversion) could be seen in the FGI. Fewer, but well-considered responses were received from the more introverted participants, while other, more extroverted participants tended to contribute extensively and regularly to most if not all questions. However, no power relationships, or pairing-up tended to develop during the FGI.

Although it is suggested that group sizes of four to six members are more ideal for situations where participants are highly experienced or share much information (Lewis, 2000:Online), the researcher opted to include academic staff members from each of the Schools in the FoHS, including an academic staff member from each of the Departments within the SoAH. This ensured a great degree of representation of the entire population of academic staff members in the FoHS.

No participants refused participation or dropped out during the FGI. Participants who were invited (via e-mail) but did not participate did so because the date and/or time of the FGI were not suitable for them (cf. ***3.3.4.3 Sample selection: Focus group interview***, p. 98).

5.4.3 Setting

The FGI was conducted in a seminar room in the Department of Basic Medical Sciences in the FoHS building. Participants were seated around a table with the facilitator. The observer sat at a side table taking field notes and was not involved in the discussion, besides thanking the participants and facilitator on completion of the FGI. The setting was familiar but neutral to all the participants, and therefore contributed to a non-threatening environment. The environment could be seen as hospitable and non-threatening. To ensure participants' comfort, water and sweets were available on the table, and a refreshment break was included.

As all the participants are academic staff members at the FoHS, they were acquainted with each other, but they were all from different Departments within the FoHS, so that no disempowerment or clique-forming could jeopardise their participation. The topic under discussion was applicable to all, and was not of a sensitive nature, allowing for the opportunity for frank discussion.

There were three male participants (of which one was the facilitator) and eight female participants. The gender distribution of academic staff members who participated in the questionnaire survey included 60.6% females (cf. **Chapter 4, Results and Discussion of Findings of Questionnaire Survey**, p.117). However, it should be noted that for the FGI, academic staff members from each of the three schools were selected by purposive sampling, and that the gender distribution of academic staff members in the SoAH and

SoN who participated in the questionnaire survey was 85% and 100% females respectively (cf. **Chapter 4, Results and Discussion of Findings of Questionnaire Survey**, p.117), which explains the higher number of female participants in the FGI.

Only one participant in the FGI spoke English as their first language; the remaining nine participants as well as the facilitator spoke Afrikaans as first language. However, in order to accommodate the English-speaking academic staff member, the FGI interview was conducted in English. As academic staff members at the UFS present lectures in both English and Afrikaans due to the parallel-medium language policy of the UFS (UFS Language Policy, 2003:Online) the assumption can be made that academic staff members have a sufficient command of English enabling effective discussion. However, during the introduction to the FGI, the facilitator made it clear that participants were welcome to express themselves in Afrikaans to ensure clarity and enhance understanding, and that their comments would subsequently be translated into English (cf. Appendix F, *Transcription of Focus Group Interview audio recording*).

5.4.4 Data collection

The data collection method was discussed in Chapter 3, ***Research design and methodology*** (cf. **3.3.3 Data collection: Focus group interview**, p. 90). Issues of reliability, validity and trustworthiness (cf. **3.5 Ensuring the quality of the study**, p. 109) as well as ethical considerations (cf. **3.6.2.2** ***Informed consent: Focus group interview***, p. 113 and **3.6.3.2** ***Right to privacy: Focus group interview***, p. 114) for the FGI were also discussed in Chapter 3, ***Research design and methodology*** (cf. p.67).

The significant and conflicting findings from the questionnaire survey were identified and themes or focus areas were developed based on the results from the questionnaire surveys for both undergraduate students and academic staff members, reported on in Chapter 4, ***Results and discussion of findings of questionnaire survey*** (cf. p. 117). This formed the basis for the development of questions for the FGI. The questions were formulated and sequenced to address the aim of the study and to ensure that adequate variety in responses was elicited (Greeff, 2005:308).

The questions and prompts used in the FGI by the facilitator that were developed by the researcher (acting as observer during the FGI) may be viewed in Appendix C2, ***Focus group agenda for facilitator***. These prompts were developed to facilitate the discussion, encourage participation, provide the facilitator with adequate background knowledge and allow for a dynamic flow in the discussion (Greeff, 2005:307). The questions were also made available to the participants during the FGI in both English and Afrikaans, and may be viewed in Appendix C1, ***Focus group agenda for participants***.

Attention was paid to formulate clear, simple, concise, open-ended questions. These were arranged from general to more specific and definite time frames for each question were set to ensure that the discussion did not lose momentum or become deadlocked. Twelve questions were included, which included opening, key and ending questions.

The facilitator introduced the FGI by means of welcoming the participants, setting them at ease, giving a brief description of the topic with reference to the information document that participants had received in advance, stating the process and ground rules including instructions and confirming confidentiality and anonymity (cf. Appendix C2, ***Focus group agenda for facilitator***). The facilitator also sought verification of responses and provided a brief summary of each question before proceeding to subsequent questions, and concluded the FGI by thanking participants.

An audio recording of focus group interview data was done while the observer (researcher) took contextual field notes regarding participants' gestures and non-verbal responses (e.g. nodding agreement, laughter) as well as dynamics in the group to be used in later data analysis and interpretation. The seating arrangements and participant numbers as well as order of responses were indicated so that voice recognition on the audio recording could be verified. The researcher as observer also saw to the logistical arrangements of the FGI.

Transcription of the audio recording was done by the researcher, in Microsoft word format. This transcription was made available to both the facilitator as well as each of the participants of the FGI via e-mail. A period of one calendar month was provided as time to review the transcript for accuracy. After this period, none of the participants indicated any corrections to the transcript that was made. One participant commented that she realised from the transcription how her speech was littered with repetitive phrase, e.g. "you know".

In consultation with the facilitator, who was skilled in the process of transcription of audio recording, minor editing changes were done to words that were not clearly audible on the audio recording or where the participants' speech was muffled. This final transcript of the focus group interview together with the contextual observations made by the researcher as observer during the FGI were used as the basis for data analysis and interpretation of the FGI (cf. Appendix F, ***Transcription of Focus Group Interview audio recording***).

The FGI duration was two hours and 30 minutes as planned on the agenda (cf. Appendix C2). Only one group was held. Greeff (2005:306) cautions against using only one group as the data generated may reflect only the unique dynamic of the particular group and not more generalised responses. One could argue, on the other hand, when responses tend to be similar (as in this FGI), conducting additional groups may contribute only to generating greater amounts of data, and not necessarily richer data (Greeff, 2005:306).

In addition, the small size of the target population (71 academic staff members took part in the questionnaire survey) and the logistical difficulty in arranging a group consisting of members from all three the Schools in the FoHS, including the four different departments in the SoAH who fulfilled the eligibility criteria for selection as participants (cf. Table 3.4, p.94), made a single FGI feasible in this study.

5.4.5 Pilot study

As indicated in Chapter 3, ***Research design and methodology*** (cf. **3.3.5.2** ***Pilot study: Focus group interview***, p.104), no pilot study was undertaken, although the questions were refined in consultation with experienced academic staff members (Greeff, 2005:309). Although piloting focus group interviews is valuable to ensure streamlining of the questioning approach and structure, due to the small target population size, the researcher made use of the expertise of academic staff members with experience in medical education and qualitative research methodology (focus groups) to evaluate the interview questions for their efficacy and applicability.

5.5 DATA ANALYSIS AND FINDINGS

In the following section, data analysis and reporting of findings will be discussed. The analysis is described in Chapter 3, ***Research design and methodology*** (cf. **3.4.2 Qualitative data analysis**, p.106),

5.5.1 Data analysis

The researcher coded the data from the final FGI transcript, including the written transcript of the audio recording as well as contextual field notes.

As this phase of the research design (sequential explanatory design) aimed at explaining findings from Phase I (concurrent triangulation design) as well as contributing to answering the research questions of the study, including research questions two and three, namely "Can we formulate appropriate responses or interventions by identifying the differences in perceptions regarding Generation Y between undergraduate students and academic staff members?", and "What should the appropriate educational approach be for the uniquely diverse and specific generation profile of undergraduate students in the Faculty of Health Sciences at the University of the Free State?" (cf. **Chapter 1 Overview of the Study**, p. 6), a priori themes had been identified based on the themes used in qualitative analysis of findings in Phase I.

The key concepts, themes and codes used during this analysis may be viewed in Table 3.5 (cf. p. 109). However, during the analysis of the FGI data, new themes could be derived that contributed richly to the answering of the research question as mentioned above, and which made the FGI a highly valuable method in this study.

Rabiee (2004:657-660) provides a series of practical steps (based on Krueger's work [1994]), which are valuable to facilitate the analytical process, namely:

- Becoming familiar with the data (including transcribed narrative and observational field notes)
- Identifying the thematic framework by arranging ideas or contexts into categories
- Indexing and sorting of quoted responses

- Managing the data (data reduction)
- Interpretation (taking into account words, context, internal consistency, frequency, intensity of comments, specificity of response, extensiveness and the big picture).

As the only data coder, the researcher initiated the process of data analysis by reading the transcribed narrative and observational field notes repeatedly as a process of familiarisation with the data. The effect of interviewer bias was minimised as the facilitator was not involved in the analysis of data.

During this process of familiarisation, the transcribed narrative and observational field notes for each question in the FGI agenda were scrutinised for major and minor themes. This was done manually, by highlighting responses to the questions, and sorting the main ideas into categories, and subsequently developing major themes from these. Minor themes were obtained as greater understanding was gained from the data.

As the FGI agenda questions were based on *a priori* coding from the analysis of the questionnaire survey data (both quantitative and qualitative), the major themes were based on the key concepts, thematic categories and codes used in the qualitative data analysis of open questions in questionnaire survey (cf. Table 3.5, p.102) which were in turn derived from the sections in the survey questionnaire that determined the structure of the closed questions (cf. **Chapter 4, Results and Discussion of Findings of Questionnaire Survey**, p.117).

An additional helpful measure in the analysis of the qualitative data during the reading of the transcribed audio recording was the questioning method described by Rabiee (2004:658), citing the scholarly work of Krueger and Casey (2000). These questions included firstly determining whether the participant answered the question asked, and if so, deciding whether anything of importance was added about the topic or whether it was a repeat of previously mentioned ideas. If the answer did not match the question asked, it was then determined whether it answered a different question, and the ideas were appropriately grouped.

5.5.2 Reporting

As suggested by Breen (2006:472) focus group data may be recorded indicating the "most important themes", "most noteworthy quotes" and "any unexpected findings". For the reporting of data, supporting quotes from all the participants were included to contribute to the transparency and trustworthiness of the data (Tong *et al*., 2007:356). In the final analysis a summary of findings, the interpretation thereof and the possible theory generated from these were given. The reliability of the data is enhanced by the degree of agreement amongst participants regarding issues, as well as how often participants changed their opinion (Breen, 2006:472,473).

In the following sections, the data from each focus group question will be presented including the major and minor themes, noteworthy quotes and unexpected findings for each question. This form of reporting has been used in other studies utilising focus groups, for example, the qualitative stage of a study on Australian first-year medical students' self-concept (Jackman, Wilson, Seaton & Craven, 2011:11-16). Accordingly, the questions were arranged in three areas, namely:

- Initiating the session
- Specific areas of interest (based on the divisions in the questionnaire survey [cf. Appendices A1-A4])
- Suggested educational approach.

The following discussion will include these three areas.

5.5.2.1 *FGI Area 1: Initiating the session*

Question 1: What is the value of considering the generational characteristics of undergraduate students in the approach to the teaching and learning environment?

The following three major themes emerged from the responses to the first question, which was aimed at providing a general introduction to the topic: [Supporting quotes are given in italics]

Major theme 1: The current teaching and learning environment is uniquely different

Many responses alluded to the changes in society in general and the current teaching and learning environment that impact the approach to students. For example, one participant summarised as follows:

"...something that has happened is the rise of the learner-centred education....the onset of mass education....and the most important one is the emergence of information and communication technologies in education..."
"...this generation of students are very apt in accessing information and becoming more and more proficient even more than ourselves in able to access information..."

However, a minor theme that emerged from the responses to this question included the presence of certain disadvantages and challenges in the abovementioned changed teaching and learning environment, for example:

- Student under-preparedness:

"*I think that we must look at their skill background as well because the school system changed...how we know how to learn they don't know...that can also have an effect on their studies.*"

- Misaligned perceptions or understanding:

"*...the other important thing is that we don't assume that we know what they need...because we can think how we think that it ought to be, and then it is completely wrong.*"

"*...they also have to understand how we think so that they can see what is important.*"

"*...we can also focus on trying to change their mindset...because they are not always correct.*"

"*...students will become aware that the facilitators or the lecturers are involved with their teaching and learning.*"

Major theme 2: There is a need to understand students and their environment

The second major theme to emerge was that an understanding of students' characteristics should inform any adjustments to pedagogical approaches.

"*we must look into the generation kind of student that we have and try to understand them and then...you have to apply or you take other teaching and strategies to help them so you must understand them first and ... the way they learn best so you have to go in depth into them first.*"

Major theme 3: Understanding will promote success in the teaching and learning environment

The third major theme was that of confidence that knowledge about students will lead to evidence-based changes in pedagogical practices (which correlates with the abovementioned theme), and that this will lead to successful outcomes.

"*I think also if you consider the characteristics you will get better transfer of learning.*"

"*I think if one takes into consideration the way our students think due to the generation in which they grew up in or to which generation they belong, that we can align the way we teach with the way in which they learn best...we will be more successful in getting our information across to the students in such a way that they can relate to it.*"

"*I think the value is that you will have to redesign and design your content and you have to revisit your teaching and learning strategies all the time because of the characteristics because not one teaching approach will help you to reach all the students because they are so different and they have all these different ideas about how they learn and what they want to learn.*"

5.5.2.2 *FGI Area 2: Specific areas of interest*

The questions in this section are divided into divisions, namely Goals and ideals, Communication styles, skills and needs, Learning styles and needs and Environment and shaping events. This is in alignment with both the Key concepts, thematic categories and codes used in the analysis of qualitative data from the questionnaire survey (cf. **Table 3.5**, p. 102) as well as die divisions in the questionnaire surveys for both undergraduate students (cf. Appendices A1 and A1) and academic staff members (cf. Appendices A3 and A4). These questions are based on the findings described in **Chapter 4, Results and discussion of findings of questionnaire survey** (cf. p.110).

Goals and Ideals

Questions two and three were included under this section.

Question 2: How can we harness the optimism, ambition, confidence and assertive behaviour of Generation Y perceived by both staff and students, to improve learning?

Four major themes were developed from participants' responses to question two: [Supporting quotes are given in italics]

Major theme 1: The qualities of the lecturer

Participants agreed with responses that indicated the value of lecturers displaying a positive, enthusiastic attitude towards both the students and the learning process, and that lecturers have an important responsibility as role models:

"...I really think the way the teacher comes to the process is very important and that if you come with an understanding of them and optimism of your own...."

"...one of the most important things for them was the enthusiasm of the lecturer, the way in which he presents content. And they value that highly, even more than any other aspect of the lecturer, even the clarity of his voice, etc. ..."

"...they also appreciate ...a role model and for their own enthusiasm that they can identify with you with their own enthusiasm and their confidence regarding the way in which you do it..."

Major theme 2: Student involvement as a teaching and learning strategy

General, emphatic agreement in the group existed regarding the active involvement of students to ensure effective learning. Strategies to involve students in their own learning included the following:

- Using peers as leaders:

"I actually see if you use a student that has all these characteristics [reference to optimism, ambition, confidence and assertive behaviour in Question 2] *and did prepare actually, and use them to help their colleagues, for that student it works very, very well and the other students also accept it more readily from his colleague – the same thing that you said, but because it comes now from my colleague you know I understand it a bit better or you know, I agree with it."*

"So if I can identify the leaders, you will find that they all follow the leaders and you find that you've got a vibrant class."

- Encouraging students to set their own learning goals:

"So what we usually do is to ask them to say what do they want to see themselves in the next four years, or the next three years, and they come up and say this is what we want to, and how do you, so which is another way of putting them more involved in the whole process..."

- Empowering students by exposing them to situations where they can see where their learning is taking them:

"...we took the whole group of senior students, 40 of them, to the congress last week...and just how much they valued the experience because they saw role models and all of a

sudden saw how where their learning is really going on a different level to what we told them, and you know also that thing of understanding that, I am empowered, you know that I know a lot of these things..."

- Harness students' positive qualities (confidence, optimism, ambition, assertive behaviour) in specific, premeditated ways:

"...we have to get strategies like the congress in place for them so that they can live it out and in our teaching strategies we must have things like projects that they can work on and that they can use their confidence and can use their assertive behaviour to reach some outcomes."

"...if your student or a learner comes to the learning process with optimism and ambition I mean that is the perfect place to start....one needs to slot into that they see the learning process an opportunity that they want to learn and to buy into....."

However, although generally regarded as positive attributes, these behaviours could also contribute to limiting effective functioning in the teaching and learning environment if not managed empathetically. Many participants alluded to experiences of perceived failure of active involvement of students:

"...the way we tried to do it five, six, seven years ago was to get the students involved in the teaching process, having them prepare things and having a discussion where they teach and the facilitator is there to sort of control things and fill in the gaps, but, and we assumed they would be able do it, but it didn't seem to work, we had to change it back to different methods..."

This led to the development of the third major theme:

Major theme 3: The impact and management of specific student behaviour on the teaching and learning environment

The responses included in the discussion of this theme are associated with the minor theme mentioned above, namely the presence of certain disadvantages and challenges in the changed teaching and learning environment (cf. p.266). Students display certain characteristics that must be managed with empathy and understanding to promote the achievement of outcomes. For example:

- Assertive attitudes may be interpreted as or may indeed lead to aggressive behaviour:

"I think they that they think we just want to not take responsibility and make them work, but they don't really understand what's behind that...because they are assertive, they then tend to become almost aggressive about the fact that they don't want to do that..."

- Fear of failure:

"Because they are so ambitious a lot of the time they feel failure to a very big extreme where other students maybe not have felt it that bad in the past, but just a little bit of failure they, it's just the end of the world for them....we will also need to be very careful in the way we manage these characteristics. It's positive but if you don't handle it correctly it can be negative."

The abovementioned major theme naturally leads to major theme 4. Participants indicated generalised and emphatic agreement with these responses.

Major theme 4: The climate of the teaching learning environment must be secure

"My experience is also like number five, we can be facilitators, but they have to feel secure within that situation. If you don't give them the underlying things, they will become unsecure and not optimistic and enthusiastic..."

When prompted by the facilitator about specific methods of creating security, this participant (four) responded:

"I think it's just a general thing, but they want to know what is going on, they want the basis, they don't want to get something out of something, they want the basis of the knowledge."

However, another participant (eight) gave a concrete example as follows:

"...by the secure environment where the student can practice his abilities under the tutelage of the lecturer and under his supervision is a very nice place where a student can develop this ability. " [Reference to the ability of interviewing patients mentioned in participants' preceding response]

Participant four then indicated agreement with intense feeling as follows:

"I think I agree with number five, seven and eight with regard to the safe environment, it must be an environment that is conducive to learning....you can take the student a little bit further than in general."

The following response draws together the thread of the attitudes discussed in Major theme 3, with the secure environment alluded to in Major theme 4:

"And can I just say, reassurance is very important, to reassure the student that you are on the right track that's what they want even if they are very assertive, you have to say that you are on track."

Question 3: In what way can we address the contrasting perceptions between staff and students (for example arrogance, self-centredness, demands for instant gratification, media and peer influence, unprofessionalism seen in casual dress and behaviour and immorality) to improve our ability to interact with students?

From participants' responses the following two major themes emerged: [Supporting quotes are given in italics]

Major theme 1: Addressing ethics and professionalism in the curriculum

The issue of ethics and professionalism and how to include it in the teaching and learning environment was a common topic of agreement amongst participants. The following strategies were put forward as methods of addressing these issues:

- **Discussion** with students to explain the rationale and value of professional behaviour is more valuable than formal lectures on these topics.

"...I gave a lecture on values within our profession and the next year, nothing comes out of that....I change it to a discussion and we discussed the whole thing....and that was a very good session because then we can afterwards see what happens within the clinical field wherever they go..."

"Interactive discussions with assertive students will be the most productive learning environment...."

"What number one said about them wanting to know why, that's to me a very basic part of his generation.....and they're quite willing to follow you know if you can explain why..."

"...also we don't have to tell them what to do, we have to discuss why, why it's necessary to do things in that way."

"students ...first crossed out the sessions on professionalism, on ethics...and I sometimes wonder if one starts a discussion like that by making them understand how important it is, most probably they will then not have that negative attitude towards those sessions?

- **Time** should be formally structured in the curriculum for discussions with students about ethics and professionalism in an applicable, appropriate way.

"I think we need sort of like a vertical strand to have these discussions on an ongoing way....so you need to make time within the curriculum to really address several issues....there needs to be time to reflect on what has happened during a teaching session."

"...these abstract things for them....one should interweave that into the rest of the learning....ask questions in class, involve them....ask them...what would be the ethical thing to do here....."

- Visual stimulation and experiential activities are valuable **strategies**.

"I also saw it with our human rights thing, they don't understand why they are doing human rights, but when we do a practical session for a week long...and they see what happens and how do people feel and what happens to them...they start acknowledge what we tell them in the lectures.....they also have to experience things....that makes a big difference."

"...get back to real life examples....use also a number of video...and then they have a short discussion...so I bring back values and ethicals within their practice....not as a formal practice."

- **Assessment** must take place to ensure consolidation of ethics and professionalism into students' knowledge, skills and attitudes.

"...we know students, if something is not assessed, it's not important...so when you do a case study on a patient, you're not going just to be assessed only on your diagnosis, on your treatment, but on being professional, feedback from the patients and maybe if you can bring that in the assessments they're going to start understanding and seeing why we say it's so important...."

"...part of their assessment is the ethical, professional, the whole conducting of the interview, of the patient interaction, the actual result."

"some of our students, they used not to call the patient...using 'Mr' or 'Ntate' ....we told them, we taught them....and then we put it into our rubrics....and all the students now say 'Mr", "Ntate" [Sesotho word indicating respect; similar to 'Father' or 'Sir']..."

- Formalised **codes of conduct** provide for structure.

"...luckily in our profession, there are rules and regulations and conduct, codes of conduct and we deal with that in a professional way and in a disciplinary way...

"I define borders for students right from the beginning, tell them this is what I want, and this is how it should be done, and this is the borders within which this discipline operates, and you can then accept these borders as a valid way of doing.....

General consensus was also seen in opinions about the role of the lecturer as role model, especially in terms of professional behaviour. This was included as the second major theme.

Major theme 2: The importance of role-modelling and coaching

"...so if you tell them, not it's wrong, show them, and with that I think us being role-models is very important....students sometimes they learn more by visual, by your experience, example than what you're actually telling them to do or not to do."

"I would just like to reiterate the concept of the role model...now I think that...is a very important component of coaching the student to show them you as a role model and how they can do it...I think that interactivity between you and the student is extremely important for him to develop these concepts..."

The following section deals with communication styles, skills and needs.

Communication styles, skills and needs

Questions four and five were included under this section.

Question 4: How can interpersonal communication skills and communication between staff and students be improved?

The following two major themes emerged from responses to question four: [Supporting quotes are given in italics]

Major theme 1: Avenues of communication

- Formalised, written information documents.

By including information in documents that are available to students from the onset, much confusion is eliminated.

"...what we put in our module guides and to guide them through the year and through the semester is very important, and it must be comprehensive..."

- Multi-modal communication.

Bearing in mind that students use a variety of communication methods and that they prefer continuous communication, an open forum of multi-modal availability was generally agreed on. For example:

"...open office doors....we really are in communication with them all the time..."

"...via any media, they've got my phone number, they've got my e-mail, I've got students e-mailing me with questions, etc. so I am available."

"...can't necessarily speak to the student but I think if we tell them from the beginning that they can e-mail us, and at any time...that will make us more accessible to them....

"I think we should understand the fact that these students are in constant communication with their friends and it's always either e-mail or Face book...actually communicating on different levels at one single time, and the thing that we don't have is time, we can't

necessarily speak to the student but I think if we tell them from the beginning that they can e-mail us, and at any time, that will make us more accessible."

"...they prefer to send an SMS."

However, the attitude and behaviour of the lecturer in the communication interaction was equally important.

Major theme 2: The "good" communicator

The following emerged as important characteristics to ensure effective interpersonal communication between students and lecturers:

- Availability.

"I have found one of the most important components for interpersonal communication is availability...if you show them you are available, they are more keen to communicate."

A minor theme that emerged from this was that interpersonal communication extended beyond mere academic engagement:

"I think we find having an open door there we find that ...they do come and discuss a lot of personal problems with them, and sometimes being young, they sort of blow these things out of proportion and you know one can deal with it and you get them back on track...they've got to deal with life but they're really not equipped to do it."

- Civility and trust.

"...the whole concept of unconditional positive regard of their dignity...and you show them that you really listen to what they say."
"...they must be able to trust you...we must show that politeness to the student, but not going down to their standard but being at a professional level but showing something like empathy actually."

"...treat them like a colleague...when you feel you talk to them on their level, but on an academic level then they are much more appreciative of the topic...."

A minor theme that emerged from this was the emphatic agreement that distinct borders must be set for interpersonal communication to avoid unprofessional behaviour or familiarity:

"sometimes...students don't know their borders and they become unprofessional and want to small-talk things...and we as lecturers have to look at that and tell them at that point this is unprofessional because some of us are afraid to tell students you are now unprofessional...the borders must be there."

Question 5: In what ways can students' need for direct access to and feedback from lecturers be incorporated in the teaching and learning environment?

The following two major themes emerged from responses to question five: [Supporting quotes are given in italics]

Major theme 1: Feedback should occur in a variety of formats

One participant highlighted the methods that they used in the SoN, including scheduled feedback sessions in the timetable ("*it's a must and it's done very fast like after a test..."*), reflection sessions following for example hospital visits *("we give them feedback on what has happened that day and to debrief a little bit*"), and generalised feedback ("*give them feedback on Blackboard...post a general feedback and say this is what we found from all the tasks or everything that we have assessed*").

A minor theme that emerged from this was the different needs and levels of use and proficiency with learning management systems, for example Blackboard (the learning management system in use at the UFS at the time of the study). Participants agreed that while it appeared that younger students (including first and second years) preferred making use of generalised feedback formats (for example Blackboard), as students' seniority increased, they found this method frustrating, inaccessible and impersonal.
Participants noted:

"...even among this Generation Y there is also a gap right now...."

"We also had the impression that the students will appreciate it if we use Blackboard because of this whole thing that they want the media and they like doing that...but the last discussion that I had with our students was they actually thought Blackboard was inaccessible...whatever we put onto Blackboard doesn't seem to be what they want."

"...when they start with the course...the world is wide open and they want to learn a lot from the electronic media...but when they get closer to their final exams, they are overwhelmed by the knowledge,...and they want it in small packages that they can digest and memorise....and the electronic media becomes a bit of a burden to them."

Furthermore, according to the participants, students require personalised, individualised immediate feedback:

"...they like the feedback immediately after...they want us to give individualised feedback....."

"...we really see that they do appreciate getting this direct individual feedback...what they appreciate a lot is that they can do it in their own pace and in their own manner."[The participant was referring to an electronic objectively structured clinical examination (OSCE) that allowed students to immediately review incorrect answers upon completion of the examination.]

As noted by one participant, when students reach the clinical phase of their study and are exposed to patients and case assignments, they particularly value the input and feedback from the lecturer:

"...they value that contact with the lecturer...now they've got to integrate a great many things...when it's not just a question-answer thing.....and then they appreciate...that personal feedback."

Major theme 2: Feedback is a reciprocal process, and needs to move beyond the academic sphere

Participants indicated generalised agreement that academic communication was distinct from a more "general" form of communication, and that this was essential to develop the student holistically:

"...once a term the year-group coordinator have a discussion with the class where they can actually discuss anything...it's almost more maybe a debriefing...and we had very positive results because you get that trust then and you give them the feeling that you're there for more than just giving them knowledge or learning them how to be a professional but you're also there too for them as a person so they can develop..."

By giving students the opportunity to voice their opinions, greater understanding is gained of their needs and their view of the teaching and learning environment is influenced positively.

"...we started having small discussions with the students every week I found that that was the only way in which they started to trust me enough to start to talking about their personal things as well and where we actually integrate the knowledge part with their personal perceptions...you know what their background is...they actually like being able to air their views and to have this kind of contact."

This theme is closely related to Major theme 2: The "good" communicator under Question 4 (cf. p.277), as well as the concept of the lecturer as empathetic role model (cf. Major theme 1: The qualities of the lecturer, p.269 and Major theme 4: The climate of the teaching learning environment must be secure, p.272, under Question 2), and Major theme 2: The importance of role-modelling and coaching (cf. p.275) under Question 3.

The following section deals with learning styles and needs.

Learning styles and needs

The following major themes emerged from responses to Question 6:

Question 6: Staff and students disagree that students are capable of deep or active learning, taking responsibility for their learning or critical thinking. How can contrasting perceptions regarding learning skills be aligned to encourage and facilitate students to achieve successful learning?

The following major themes were identified: [Supporting quotes are given in italics]

Major theme 1: Successful learning requires creative, innovative teaching strategies

Participants indicated general agreement with, and shared numerous examples of creativity in the approach to teaching and learning activities:

"For academic content to be effective regarding the learning experience of the student, I have found the most important component is it must be engaging...you must have creativity in designing the way in which you deliver the content to the student that it engages the student and I found that, when that happens, the student really learns..."
"...throwing questions all the time, engaging them...innovating and getting them to that level where ...they want to engage in class, you know, even if they didn't come prepared."

"...I developed games which I made competitions between different groups and all of a sudden, the same question that I asked before that nobody put up their hand, now all of a sudden, everybody want to answer because I'm in competition with this group."

"...in that practical situation you need that reinforcement, reassurance....you also need to get lots and lots of different styles that you have to use in order for them to remember."

Major theme 2: Generate expectations based on actual perceptions

While participants agreed that by expecting much from students led to greater achievement on their part, it was important that lecturers knew what students' perceptions were of their capabilities.

"...the thing of setting the bar high...if you expect a lot of them and you expect professionalism...they actually rise to the occasion...."

"...all students can learn, maybe not on the same day, and maybe not in the same way...but you've got to believe they can do it first and then make them believe."

As indicated by the following responses, misalignment regarding academic capabilities between lecturers and students may compromise the success of academic outcomes:

"I wonder if we should not go and reflect on exactly how we try and teach these students...it's very important to actually have feedback from students to try and understand why we seem not to be able to engage them in an active learning process."

"Is it that the students think they can do it but we don't believe they can or is it the other way round? I think the biggest problem is that we as teachers don't realise that they can learn by themselves."

Question 7: Should students be involved in decisions regarding subject content? If so, how?

The responses to question seven generated strong feeling against the proposal, leading to the following two major themes: [Supporting quotes are given in italics]

<u>Major theme 1: Students do not have the capability or experience to make decisions regarding subject content, but providing choices or options does create an empowering environment</u>

Responses varied from very emphatic arguments against students' input, to suggestions that a forum is created within prescribed learning outcomes to satisfy their desire to exert influence or exercise choice:

"...students don't have the insight at all to decide on something like subject content. They shouldn't influence ...the outcomes of the course at all – academically."

"I do think that it's valuable giving them the opportunities...maybe some outside things that are not necessarily part of the curriculum...to have that open forum...but I don't think in the basic content of things."

"I agree that they cannot really have input into content, but it's like a menu, they can make a choice of a few things in a menu..."

However, based on participants' responses indicating the value of feedback from students regarding the academic content or teaching and learning activities, a second major theme emerged:

Major theme 2: Student feedback may be valuable to guide the development of course content

Participants indicated agreement with responses that mentioned how senior students or graduates can provide insightful, reflective and therefore valuable feedback regarding the structure, alignment and content omissions or overlaps in the teaching and learning environment that should guide and inform the development of curricula. For example:

"I think they should be involved, and the reason for that...we designed a curriculum in such a way that we assume that certain things happen at a certain time. But there is not that much inter-modular communication. So what I do find that sometimes students get the same thing over and over again...it's only when we ask them that we find that a specific subject was done four or five times at certain stages and then another subject which was very prominent in assessment wasn't really done...I don't think junior students, but students in their fourth or fifth year, they've been through the process and they can give us feedback....I don't think we should let them influence us to such an extent that we take out things that we think is important."

I always get more useful inputs from graduates because they now they are applying you know they are in the field."

"...we take that feedback [from final year students] and we can put it in for our second and third years because we know, they are going to use it. So it's with insight then they give us that feedback."

Participants all agreed with the following response indicating the importance of recognising students' role in constructing their own body of knowledge, and how input from them contributes to achieving this through alignment:

"...It's all about alignment, about getting the alignment right. Because we make assumptions about what the teachable moment is. You can teach something and it can be completely lost because it wasn't taught at the right moment, and actually only the, in constructing their body of knowledge can actually tell you, you know, when that would have been appropriate."

In finalising this question, one participant indicated with strong emotion that clear distinction is made regarding the extent of students' input.

"I just want to make sure that we understand the difference between the content which I see as the outcomes, versus technicalities in overlaps and omissions in that, and there students can play a valuable role with their input, but the ultimate outcomes I don't think should be influenced by students at all."

Question 8: Group work is problematic to most students, yet an important part of the learning environment. What methods can be put into place to ensure its efficacy?

The following major theme emerged from responses to question 8: [Supporting quotes are given in italics]

<u>Major theme 1: Students need information and guidelines regarding the rationale for, conduction and assessment of group work</u>

Participants agreed that although students generally did not seem to enjoy group work, by explaining its importance and empowering them to manage the process as well as

enlightening them on the assessment process, it will be a much more effective tool in the teaching and learning environment.

"I don't think all students understand the importance of group work. I think we first of all have to explain to the student why this is important to be involved in that group or in that process."

"...maybe just tell them why they have to do this in a group...."

"The way we assess students in group work was the main thing that made them negative about group work."

"...for me is important the assessment criteria and the rubrics of the assessment, because most of the students don't know what is going to be assessed and how it's going to be assessed..."

"...one needs to give them some guidelines on how to conduct group work...how to handle conflict, how to contract with one another, how to deal with the guys that don't do the work...."

A minor theme emerging from the responses to Question 8 is related to the composition of groups, where one participant mentioned that taking into account students' various learning styles improved the performance of groups:

"...we try to make a group that consist of all the learning styles...the groups that are based on their learning styles definitely perform better and there's less conflict in that group than in other groups that's just randomly compiled."

Question 9: How can visual stimulation, technology and the need to learn by discovery and exploration be incorporated to a greater extent in teaching, without discarding personal, face-to-face contact with the lecturer?

The following two major themes emerged from responses to Question 9: [Supporting quotes are given in italics]

Major theme 1: Technology use should be rational, balanced and realistic

It was evident from participants' responses that any enthusiasm about ubiquitous technology use was tempered by an awareness of both its strengths and limitations. As stated eloquently by one participant:

"Technology is a tool, it's a tool that should be used to enhance the learning experience of the student, and it's a tool that should be used to enhance the way in which you deliver the content to the student, I think ...then you use technology in the correct manner. People think that technology is the solution, it's not the solution, it's a tool that you must use."

A minor theme flowing from this was that a valuable example of the use of technology was to free the lecturer's hands in terms of time (avoiding presenting the same content repetitively by making use or recorded material or using it as an adjunct for students to prepare for contact sessions):

"I see technology to help you...we don't have enough time for the students, not just for the teaching, but to maybe address certain issues that the students feel they need more lecturing or whatever in. So, now, if you can use that technology so that the students can go on their own, whenever, wherever they are, and utilise it and go into the subjects that they want more time on, but it's not your time...I think that's the way I use it definitely."

The second major theme flows from an understanding of the limitations of technology:

Major theme 2: Technology cannot replace face-to-face contact with the lecturer

Participants strongly agreed that the physical and personal presence of the lecturer as facilitator of learning cannot be ignored.

"I think one should never assume that just by showing the student a video or by having a session that they have to do on their own we shouldn't assume that learning has actually taken place. So I fully agree that there has to be a person involved as well. I don't think a computer or any technology can ever replace the value of a person."

"...they can do everything outside your contact session, but you need to bring them back....there is still place for the lecturer to summarise what they've done outside."

Once again, the importance of creativity emerged as a minor theme:

"...you can actually in (sic) with technology bring the patient sometimes into the classroom ...so I think it's just about being very creative about it"

The following section deals with Generation Y's environment and shaping events.

Environment and shaping events

Question 10: In what ways can students' need for a structured, organised environment be met?

The following two major themes emerged from responses to Question 10: [Supporting quotes are given in italics]

Major theme 1: Structure in the academic environment must be provided on many levels

Participants indicated general agreement with the responses to question 10, including the following components of a structured organised environment:

- Structured workbooks and module guides.

"We also structured our workbooks in themes....we begin with the more common to the most difficult..."

- Structured communication.

"...be more structured also in your communication with them, when you see them, when you work with them, that you are structured in the ways that you tell them what to do and don't just talk...."

"...even though the outcomes are provided in all the module guides....you must tell them."

- Guidelines on outcomes and assessment.

"I think the students also have a need for comprehensive assessment rubrics. If they don't have that rubric, then they're lost, they don't know where to go...."

"I definitely think that you should brief them on the outcomes...when you start with your lecture you must tell them these are the outcomes that we're going to reach today, this is how we're going to do it, and this is how you're going to be assessed more or less, otherwise they are lost."

- Briefing prior to course commencement.

"...they go through a week of orientation before they enter into the formal module...and that helps quite a lot to brief them on what's going to happen with them..."

Consciously providing a structured, organised academic environment also translates into the approach to students' engagement, leading to major theme two:

Major theme 2: Provide context and reinforcement (the "big picture") to allow for effective knowledge construction

"...you need to tie what's going to happen today with what has happened before..."

"...what we see with the students usually when they've written and they've done with the subject or a module, I've written the exam and I've passed it, now it's gone, I don't have to know that work again, I don't need to go back to it again. And to really reinforce that idea, there was a reason why you did that before we are coming to today; you need that work as well..."

These links should also be done vertically within the course, so that students can grasp the importance of scaffolding, building on existing knowledge and experience as their course progresses:

"...they want to have a structuring thing from the first year on, knowing what is going on in the first year and how it's going to be in the fourth year and how it link and that we have to recap every year....so they can see what they are going to do at the end and what is meant to be done."

Consciously pursuing and encouraging students' active involvement in their own knowledge construction contributes to a structured, organised environment:

"...they need to be able to see you know where am I working towards...they don't even understand where it's going to so you need to give them an idea of why you are doing this and then you know go back in the third and the fourth year to that knowledge that they've already constructed cause now they learned it, they were assessed on it so they've made a certain construct in their minds to be able to take that and build it into what they now need to do."

Unexpectedly, a minor theme that emerged additionally was a reiteration of the attitude of the lecturer in ensuring an organised environment. There was general agreement with the following response, confirming previously mentioned major themes that referred to the role and qualities of the lecturer (cf. Major theme 1: The qualities of the lecturer, p.273; Major theme 4: The climate of the teaching learning environment must be secure, p.276; Major theme 2: The"good"communicator, p.282; Major theme 2: The importance of role-modelling and coaching, p.280).

"I think also it translates into small things like punctuality, and you know, being available when you should be and so on, if that goes astray you know it becomes totally disorganised...."

Question 11: Students express a desire for mentoring by empathetic role-models. What are staff members' responsibilities in this regard?

The following major theme emerged from responses to Question 11: [Supporting quotes are given in italics]

Major theme 1: Providing mentoring by suitable role-models must be included consciously and carefully

Participants indicated agreement that although it was important that "first of all one needs to be that empathetic role model yourself", not all staff members possess the qualities needed, and that in the wider teaching and learning environment that includes the clinical or hospital setting, it is vital that specific individuals are made available to provide for the need for mentoring.

"to make available such people...you know to contract somebody from the outside who is just responsible you know for taking them into that hospital setting...so I think one must look for ways to provide for such people, besides the lecturers."
"...the concept of talent management...you use different people's different talents...so if somebody has a good role model and that person is very empathic (sic) that person can be utilised more for this specific area in a department. So if you utilise talent management, different lecturers can do different things within their own abilities...."

A minor theme emerging from this was that both positive and negative role models have a profound effect on students and their academic as well as personal development and when the lecturer or role model does not display empathy, the effects are destructive:

"...you cannot expect from somebody who's not empathic (sic), not a role model to do it with students; that will be disastrous."

"I often wonder if lecturers understand the impact that they have on students....students will tell me that a specific person was rude to them or they feel like they don't even feel like people around this specific person and I think it's our responsibility to make other people aware that they do have an impact on students....even if they don't feel empathetic enough to supply that kind of support by themselves, they should become aware of the fact that they also should not do the opposite...."

"...we need to identify the people who are very empathetic, who are that kind of role model and keep away those who (laughing) are just another character that we cannot change."

"...that is very important you know that that is a very, you know, vibrant and empathetic role model otherwise and certain to keep the others away from them. We have to really be very selective about who does the first years."

Related to the abovementioned quotes, one participant pointed out the value of students' feedback on lecturers providing a valuable avenue to elicit change and growth:

"So I think sometimes if you make somebody aware that there is a problem, you are going to change that person's behaviour."

An additional minor theme emerging from these responses was the issue of students' need for more than academic support, but also their personal issues and crises, and that while the lecturer should not become a therapist, it is vital that academic staff do accept the responsibility to refer students to appropriate support structures in place to meet their needs.

"...but we also have to be aware of the fact that we don't become therapists. Because we can't be assessors and therapists at the same time. There's a big difference between therapist and mentoring."

"Yes, we can't be their therapists for them you will there the whole time. But the students must be aware that there are people like that that they can go, because what I find is....they don't know there are these people that they can go to, they struggle through, their assessments go down but they don't know there are help out there, so they try to do it all on their own...." and upon prompting from the facilitator *"So you think it's your responsibility to refer them?" the participant answered "I think so, yes".*

Question 12: Both students and staff members agree that Generation Y grow up in a world with complex moral issues, excessive peer pressure and socio-political challenges. How can students be supported in the academic environment to cope and grow as professionals?

The following major themes emerged from responses to Question 12: [Supporting quotes are given in italics]

Major theme 1: The teaching and learning environment must prepare students for the reality of their environment

Participants indicated that the ethical, moral and social issues in the environment should be included in the curriculum, both by allowing for both informal discussions or debate that form students' values, as well as by including authentic examples and preparing students by equipping them with the knowledge, skills and attitudes to deal with the realities that they will encounter.

"you must bring this in as ethical and moral questions....a kind of debate in class on that certain topic and that's wonderful how they talk and we are there for them to get them again on that path, so it's important to bring that issues in your work and in your practical and show them..."

The facilitator prompts to the abovementioned participant included "*Right, so you don't just ignore it*" and "*Use it to your advantage*", to which the participant agreed.

"...there is a very important component that should be introduced in teaching or the philosophy or a way of thinking and that is to focus more on preparing the student for the world out there by bringing in more of real life examples into the training world that they can really experience what's happening while they're a student.....I see the students who are coached on real life work before going into real life have a much better chance of survival than others...."

"....students are going to work with people, patients and they have to know that those people are going to have different views as them, different moral ideas and they have to be able to cope with it....without you know, judging people."

"...they have to understand themselves as a different human being to the next person and how I can interact with another person..."

Once again, the concept of the lecturer as role-model emerged as a minor theme:

"...role models are so important. We had certain great role models on all those issues; just they have no map, no one."

The final FGI Area 3 was aimed at formally engaging the participants in the key question of the study (Breen, 2006:468), and as ending questions followed the initial introductory and subsequent transition questions that focused on the areas of interest in the quantitative survey instrument (Greeff, 2005:309).

5.5.2.3 *FGI Area 3: Suggested educational approach*

Two questions were included in this section and aimed at eliciting direct responses from the participants regarding the primary aim of the research study (cf. **Chapter 1 Overview of the Study**, p.7).

Question 13: What are the key elements that should be included in an educational approach to undergraduate students' generation profile?

Participants experienced difficulty in understanding and interpreting the question, but after initial hesitation, the participants shared in animated discussion indicating strong opinions, albeit in a relaxed, friendly manner. The following major theme emerged from responses to question 13:

Major theme 1: The teaching and learning environment should be supportive and secure

"I would like to see a safe teaching and learning environment where students can really feel free and supported in their learning quest."

Related to this the following minor themes emerged:

- Communication channels must be open.

"I think they're also a generation that like to be informed so the communication is the basis for everything and I think the interpersonal and academic communication..."

- The academic environment must be structured.

"...they want structure...."

- Empathetic role-models are essential key components in a suitable environment.

"...it must be a warm and empathetic environment, role-modelling very important...the trust that is nurtured...that is I think a key element."

- Students must be developed holistically.

"...students think the thing that they feel threatened most about is that overwhelming amount of information out there and what they really need from their studies....is...the basics, the basic coping skill and the discernment to know how what is important and what not."

- There is no fool-proof recipe; the process should be developed reflectively.

"...so our whole system should be interactive as much as possible to stay away from the danger of recipe-based teaching."

The second major theme to emerge from responses to question 13 is related to the latter minor theme:

Major theme 2: Awareness and understanding of students' unique characteristics and needs should guide strategies for teaching and learning

"I also link to that an environment with different learning approaches to accommodate the learning the different learning styles within the generation."

"I think the first thing is to make people aware that there is this generation gap...a lot of these students have this way about them, very often that's also the enthusiastic student and the way that that lecturer then disregards him or becomes negative will take away that enthusiasm."
"...we should consider electives so that students can select whatever according to their needs within a certain framework...So I think electives could be maybe some answer to challenge the students and to address their different learning needs and styles."

The final question in this section allowed for general comments to provide closure of the session and to ensure that all participants were satisfied that their opinions had been heard adequately.

Question 14: Are there any additional important points you would like to mention?

The final participant responses did not reveal any new themes beyond what were already mentioned previously, but revisited certain important elements. These included the following three major themes:

Major theme 1: Student feedback must be incorporated into the planning and development of the educational environment

"...where they can give feedback, and anonymous questionnaire, and I get a huge amount of information there...so I would recommend that to get something from the students, that is very valuable..."

Major theme 2: Students' diverse needs, including different academic and cognitive abilities, must be addressed

"...everybody must be catered for. Those who just want to learn and learn up to here, but there are top students whom we have to allow to explore and discover knowledge....so we don't only look at the average..."

"…what we do is, we do select our students...you get better results, you know, if you give the challenging topics to the ones who are also the ones that like to be challenged...."

Major theme 3: A successful teaching and learning environment begins with the lecturer's attitude

"And I think we should stop being negative about them (this generation), I think once we change our attitude towards them, we will most probably find that they are a group of people who have exceptional talents and who if we treat them in the correct way we can take or get them most, or the potential of them. And I think sometimes what they say, the change, if you want to change something, you should start changing yourself, and maybe it's time to rethink our attitude towards our students."

"...they're going to have to solve the problems of this world...their specific talents and ways about them, one should harness it....because they can be very creative, far more, you know, than we were in the same educational system."

5.5.2.4 *Conclusion of the session*

Participants indicated general agreement and a positive ambience could be discerned. The session was concluded by the facilitator who gave the researcher the opportunity to thank the participants and explain the process to follow.

5.6 SUMMARY OF FINDINGS OF RESULTS AND DISCUSSION OF FGI

The value of the FGI in this study confirmed that this qualitative method provides insights into the "hidden curriculum" in medical education that may not be as thoroughly evaluated

with quantitative methods, that it highlights areas of need in the preparation for practice for healthcare professionals and that it may contribute to inform educational approaches in medical education (Barbour, 2005:745).

The FGI agenda provided specific questions to guide the discussion, and from participants' responses to these questions, major and minor themes were developed. These were illustrated by extensive noteworthy quotes, and participants' agreement as well as any unexpected or additional findings was mentioned. Table 5.2 provides a summary of the major themes that emerged from the FGI questions. Table 5.2 continues from p.303-305.

TABLE 5.2 SUMMARY OF MAJOR THEMES FROM FOCUS GROUP INTERVIEW HELD WITH ACADEMIC STAFF MEMBERS (PHASE II: SEQUENTIAL EXPLANATORY DESIGN) [Compiled by the researcher (Van der Merwe, 2011) as part of this Ph.D. project] [Table continues from pages 303-305]

No	Question	Major themes (minor themes/points of interest)
FGI AREA 1: INITIATING THE SESSION		
1	What is the value of considering the generational characteristics of undergraduate students in the approach to the teaching and learning environment?	• The current teaching and learning environment is uniquely different (Student under-preparedness/Misaligned perceptions or understanding) • There is a need to understand students and their environment • Understanding will promote success in the teaching and learning environment
FGI AREA 2: SPECIFIC AREAS OF INTEREST **Goals and Ideals**		
2	How can we harness the optimism, ambition, confidence and assertive behaviour of Generation Y perceived by both staff and students, to improve learning?	• The qualities of the lecturer • Student involvement as a teaching and learning strategy (Using peers as leaders/Encouraging students to set own learning goals/Empowering students/Harness students' positive qualities in specific, premeditated ways) • The impact and management of specific student behaviour on the teaching and learning environment (Assertive attitudes may be interpreted as or may indeed lead to aggressive behaviour/Fear of failure) • The climate of the teaching learning environment must be secure
3	In what way can we address the contrasting perceptions between staff and students (re: arrogance, self-centredness, demands for instant gratification, media and peer influence, unprofessionalism seen in casual dress and behaviour and immorality) to improve our ability to interact with students?	• Addressing ethics and professionalism in the curriculum (Discussion/Time/Strategies/Assessment/Codes of conduct) • The importance of role-modelling and coaching

No	Question	Major themes (minor themes/points of interest)
	Communication styles, skills and needs	
4	How can interpersonal communication skills and communication between staff and students be improved?	• Avenues of communication (Information documents/ multi-modal communication) • The "good" communicator (Availability/Civility and trust)
5	In what ways can students' need for direct access to and feedback from lecturers be incorporated in the teaching and learning environment?	• Feedback should occur in a variety of formats • Feedback is a reciprocal process, and needs to move beyond the academic sphere
	Learning styles and needs	
6	Staff and students disagree that students are capable of deep or active learning, taking responsibility for their learning or critical thinking. How can contrasting perceptions regarding learning skills be aligned to encourage and facilitate students to achieve successful learning?	• Successful learning requires creative, innovative teaching strategies • Generate expectations based on actual perceptions
7	Should students be involved in decisions regarding subject content? If so, how?	• Students do not have the capability or experience to make decisions regarding subject content, but providing choices or options does create an empowering environment • Student feedback may be valuable to guide the development of course content
8	Group work is problematic to most students, yet an important part of the learning environment. What methods can be put into place to ensure its efficacy?	• Students need information and guidelines regarding the rationale for, conduction and assessment of group work
9	How can visual stimulation, technology and the need to learn by discovery and exploration be incorporated to a greater extent in teaching, without discarding personal, face-to-face contact with the lecturer?	• Technology use should be rational, balanced and realistic • Technology cannot replace face-to-face contact with the lecturer

No	Question	Major themes (minor themes/points of interest)
	Environment and shaping events	
10	In what ways can students' need for a structured, organised environment be met?	• Structure in the academic environment must be provided on many levels (Workbooks and module guides/Communication/Guidelines on outcomes and assessment/Briefing prior to course commencement) • Provide context and reinforcement (the "big picture") to allow for effective knowledge construction
11	Students express a desire for mentoring by empathetic role-models. What are staff members' responsibilities in this regard?	• Providing mentoring by suitable role-models must be included consciously and carefully
12	Both students and staff members agree that Generation Y grow up in a world with complex moral issues, excessive peer pressure and socio-political challenges. How can students be supported in the academic environment to cope and grow as professionals?	• The teaching and learning environment must prepare students for the reality of their environment
	FGI AREA 3: SUGGESTED EDUCATIONAL APPROACH	
13	What are the key elements that should be included in an educational approach to undergraduate students' generation profile?	• The teaching and learning environment should be supportive and secure (Open communication/Structured environment/Empathetic role-models are key elements/Students must be developed holistically/Process should be developed reflectively) • Awareness and understanding of students' unique characteristics and needs should guide strategies for teaching and learning
14	Are there any additional important points you would like to mention?	• Incorporate student feedback into the planning and development of the educational environment • Address students' diverse needs, including different academic and cognitive abilities • A successful teaching and learning environment begins with the lecturer's attitude

From major themes indicated in the abovementioned Table 5.2, it could be summarised that there are three important aspects ["big ideas" (Rabiee, 2004:659)] that emerged as vital when addressing in the educational approach for the generation profile of current undergraduate students in the FoHS at the UFS, namely:

- The nature of the teaching and learning environment
- The qualities of the lecturer
- The role of the student.

The abovementioned aspects were indicated with great frequency by participants in the FGI with reference to the context of the teaching and learning environment. Participants' responses revealed internal consistency as no opinion shift could be seen in participants' views during the discussion. As can be concluded from the quoted responses, in most instances participants alluded to personal experience rather than hypothetical situations, contributing to the specificity of responses (Rabiee, 2004: 658-660).

From the FGI findings clear direction could therefore be obtained for the framework to be used in addressing the aim of the study (cf. **Chapter 1, Overview of the Study**, p.7). A brief summary of the appropriate components of this framework will be discussed below, based on the findings of the FGI.

5.6.1 The nature of the teaching and learning environment

It is vital that the teaching and learning environment is supportive and secure. Communication must be available through a variety of modes, and should address students' academic and personal needs. The academic content should address issues such as ethics and professionalism explicitly, and should be aimed at preparing students for the reality of the working environment. This includes giving students the "big picture" so that they can actively take part in knowledge construction. Students' need for structure and feedback must be addressed specifically. Group work must be approached with strategies to enhance its efficacy. While it is compelling that technology, innovation and creativity are employed in strategies for teaching and

learning, the centrality of the lecturer as mentor and personal contact cannot be underestimated.

5.6.2 The qualities of the lecturer

Related to the above summary, it became obvious that the lecturer must display characteristics of empathy, enthusiasm and civility, and must act as a supportive role-model for students. The importance of skilled communication and availability, as well as a positive attitude towards students is emphasised.

5.6.3 The characteristics and role of the student

A recurring theme was the importance of generating a clear understanding of students' characteristics and expectations as well as feedback from students regarding various issues. This understanding should guide any strategies aimed at achieving student involvement in the teaching and learning process, and should include for example allowing students a degree of autonomous, albeit limited choice, and harnessing their typical behaviours in a way that benefits the teaching and learning environment.

5.7 CONCLUSION

In Chapter 5, based on the results and discussion of findings of the FGI, the findings from Phase I of this study (concurrent triangulation design) could be elaborated on and new issues identified. This formed Phase II of this study, namely sequential explanatory design (cf. Figure 3.2, p.79).

In Chapter 6, *Formulating an educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State,* the researcher will combine the quantitative and qualitative results from Phases I and II of the study in order to formulate guidelines for an educational approach for the generation profile of the undergraduate students forming the study population.

CHAPTER 6

AN EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE

"Teaching is not a matter of transmitting but of engaging students in active learning, building their knowledge in terms of what they already understand."
(Biggs & Tang, 2009:21)

"...how do we best equip the next generation of educators not only as effective teachers and researchers but also as effective facilitators for our new generation of learners?"
(Gibbs, Durning & Van der Vleuten, 2011:184)

6.1 INTRODUCTION

The abovementioned quotations point to the culmination of the aim of this study (cf. 1.4.2, p.7) which will be addressed in this chapter. A discussion of the combined findings from both the quantitative and qualitative results of this mixed-method research design, as described in Chapter 4, ***Results and discussion of findings of the questionnaire survey*** (cf. p.117) and Chapter 5, ***Results and Discussion of Findings of the Focus Group Interview*** (cf. p.258), will be used to inform the formulation of guidelines for an educational approach for the generation profile of undergraduate students in the FoHS, UFS. This is the final step in Phase II of this research, namely sequential explanatory design (cf. **Figure 3.2, Visual diagram of procedures in the study**, p.79).

The educational approach formulated in this chapter addresses the third objective of the study (namely "*Formulate an approach (including recommendations) for the generation profile of undergraduate students in the FoHS, UFS, incorporating the characteristics of undergraduate students as well as discrepancies in perceptions between undergraduate students and academic staff lecturing undergraduate students that could affect the teaching and learning environment*", cf. p.8), aims to answer research question three, as stated in Chapter 1, ***Overview of the study*** (cf. p.8), namely

"*What should the appropriate educational approach be for the uniquely diverse and specific generation profile of undergraduate students in the FoHS, UFS?*"

The guidelines and recommendations made by the researcher in this chapter are based on the new body of knowledge regarding the identified characteristics of undergraduate students and the discrepancies that were discovered between the perceptions of undergraduate students and academic staff members who lecture to them that affect the teaching and learning environment, which was done by means of the literature survey (cf. **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education**, p.19), as well as the empirical research findings, including the results of the undergraduate student and academic staff member questionnaire surveys (cf. **Chapter 4, Results and discussion of findings of questionnaire survey**, p.117) and the FGI held with academic staff members (cf. **Chapter 5, Results and Discussion of Findings of the Focus Group Interview**, p.258).

The abovementioned literature survey, questionnaire surveys and FGI addressed the first objective of the study ("*Obtaining data as to whether the characteristics of Generation Y as described in the literature are applicable and relevant to undergraduate students in the FoHS, UFS*", cf. p.7) which aimed to answer research question one ("*Can we apply the commonly described characteristics regarding Generation Y as found in the literature to the undergraduate students in the FoHS, UFS and therefore ascribe the challenges that academic staff experience in the teaching and learning environment to these unique generational characteristics?*", cf. p.7) as well as the second objective of the study ("*Identifying discrepancies in awareness and understanding of perceptions regarding the characteristics of Generation Y between undergraduate students and academic staff lecturing undergraduate students*") which aimed to answer research question two ("*Can we formulate appropriate responses or interventions by identifying the differences in perceptions regarding Generation Y between undergraduate students and academic staff members?*", cf. p.7-8) respectively.

By addressing the abovementioned objectives, a comprehensive range of findings was generated which contributed to developing an evidence-based understanding of an as yet unexplored population. This allowed the researcher to develop a robust foundation

on which to formulate a theoretical framework for the educational approach to be discussed in the following section.

6.2 THEORETICAL FRAMEWORK UNDERLYING THE EDUCATIONAL APPROACH

The theoretical framework pertaining to the teaching and learning environment as well as approaches to teaching and learning, as well as a conceptual definition of the term "educational approach" as proposed by the researcher, will be discussed below.

6.2.1 The teaching and learning environment and approaches to teaching and learning

In Chapter 2, ***Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education*** (cf. p.19), and based on engagement with the literature, the **challenges in Health Sciences Education** (cf. p.45) specifically in the South African context, were highlighted (cf. p.47). Some **guiding principles** that influence the higher education teaching and learning environment were discussed (cf. p.47). These include **teaching and learning approaches** (cf. p.50), **learning styles** (cf. p.53), **culture** (cf. p.56), **innovations and ICT** (cf. p.57) and **adult learning principles** (cf. p.60).

It is apparent that higher education finds itself at a crossroads in terms of providing access to greater numbers of increasingly diverse students as well as ensuring their successful completion of endeavours in becoming life-long learners and critical thinkers with appropriate knowledge, skills and attitudes. It is no longer considered the domain of a privileged few, but is seen as an obtainable right to many. Furthermore, funding (or the lack thereof) and a tempestuous economic environment world-wide contribute to the conundrum faced by higher education institutions, namely providing a suitable environment where students of varying backgrounds, skill levels and abilities can be moulded into graduates who fulfil the requirements set out above.

The achievement of these ideals rests on creating a teaching and learning environment based on sound pedagogical theory whilst simultaneously addressing practical

management concerns and the rather prosaic reality of financial and political constraints. The juxtaposition between traditional educational approaches and the ever-increasing recognition that "teaching the way we were taught" does not meet the needs of a new century or its inhabitants who require innovative, transformative, forward-thinking, cannot be ignored (cf. **2.6.2 Guiding principles and theory**, p. 47).

To a large extent, the contrasting notions of a traditional teacher-centred versus a more contemporary student-centred approach lies at the heart of the opposing ends of a spectrum, challenging the underlying beliefs that inform our practice as teachers in higher education. This has set into motion the current swing from the teacher-centred (lecturer-based) approach, implying an expert who transmits his knowledge to passive recipients, towards a student-centred approach relying on the active engagement of and interaction with students by means of teaching and learning strategies that are constructively aligned (cf. **2.6.2.1** ***Teaching and learning approaches***, p.50).

Subsequently a plethora of theoretical frameworks and approaches have been developed aimed at producing graduates (of higher education) who are highly competent in terms of their knowledge, critical thinking, communication and life-long learning skills. At the heart of these theories lies the abovementioned desire to move beyond lecturer-based teaching and learning to a student-centred approach (cf. **2.6.1 The changing teaching and learning environment**, p.45).

Therefore, of necessity, the teaching and learning environment must be of such a nature that it nurtures activities conducive to "good" learning, whilst simultaneously discouraging ineffective or destructive practices. This would include a clear understanding of students, especially current undergraduate students, the so-called Generation Y, who find themselves in a uniquely different world inundated with technological breakthroughs and changing social interaction due to the consequences of ICT as well as the prevailing socio-political environment (cf. **2.5.1.2** ***Demography***, p.32; **2.5.2 Characteristics of Generation Y**, p.34). Hence the value of this study is highlighted as it provides for a comprehensive understanding of these students.

In addition, the relationship between the student and lecturer and the quality of teaching is integral to an effective teaching and learning environment – once again addressed in

the data generated from this study regarding differences in perceptions between undergraduate students and academic staff members as well as the FGI held with academic staff members which explored the appropriate responses to these conflicting views. However, merely expanding the lecturer's "bag of tricks" does not lead to transformation in practice unless the way lecturers think about teaching and learning is fundamentally challenged. This is only possible within a sound understanding of one's own epistemological and ontological background, and relates to the scholarship of teaching and learning (cf. **2.6.2 Guiding principles and theory**, p. 47; **2.6.2.1 *Teaching and learning approaches***, p.50).

The researcher is of the opinion that besides the role and impact of Generation Y in the Health Sciences Education environment (cf. **2.5.3 Generation Y in higher education**. p.40), and factors such as individual learning styles, students' deep or surface approaches to learning (**2.6.2.2 *Learning styles***, cf. p.53), the **cultural effects on learning** (cf. p.56), **innovation and ICT** (cf. p.57) and **adult learning principles** (cf. p.60) should inform teaching and learning strategies as well.

Therefore, in this study, as required by best evidence medical education that moves away from "opinion-based teaching" to "evidence-based teaching", as explained by Harden *et al*. (1999:554-555) (cf. **2.6.2 Guiding principles and theory** p. 47), the researcher recommends that critical appraisal of both existing practice as well as proposed innovation are done to avoid merely jumping on the bandwagon of new fads in lieu of making informed decisions based on scientifically reviewed evidence.

6.2.2 Defining the term "educational approach"

Just as "teaching" and "learning" cannot be separated as distinct phenomena in higher education, the concepts of "the approach to teaching and learning" and "the teaching and learning environment" are similarly intertwined. It would be somewhat impractical to address the approaches that underpin teaching and learning strategies and activities without simultaneously considering the teaching and learning environment these approaches are designated for. In addition, when considering approaches to teaching and learning and the environment where teaching and learning occurs, the distinct inhabitants populating this environment should be considered circumspectly. They

include the students, or participants, for whom higher education is intended, as well as the academic staff, or practitioners, involved in the process of facilitating successful higher education.

In the context of this research related to Health Sciences Education, Canning's explanation of pedagogy (cf. **2.6.2.1** ***Teaching and learning approaches***, p.50) supports the researcher's definition of the term "educational approach". Subsequently, the following scheme has been developed to represent the key elements required to ensure successful pedagogy in Health Sciences Education, as illustrated in Figure 6.1:

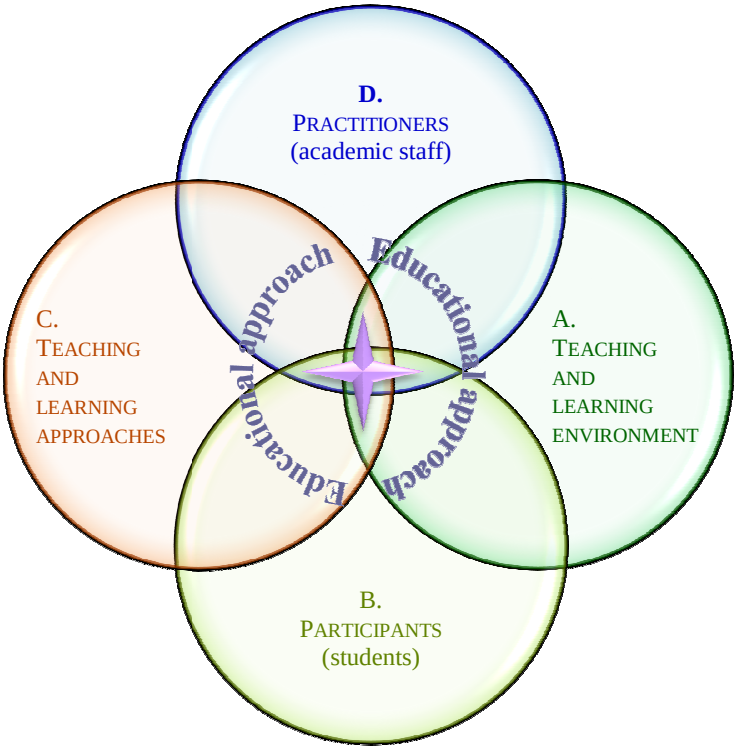


FIGURE 6.1 THE EDUCATIONAL APPROACH – A SYMBIOTIC INTERACTION BETWEEN KEY ELEMENTS FOR SUCCESSFUL PEDAGOGY IN HEALTH SCIENCES EDUCATION [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project]

As illustrated by the overlapping spheres in the Venn diagram in Figure 6.1, a symbiotic interaction between all four of the *Key Elements for Successful Pedagogy in Health Sciences Education* culminates in the ideal educational approach, i.e. **A. Teaching and learning environment** + **B. Participants (students)** + **C. Teaching and learning**

approaches + **D. Practitioners (academic staff)**. However, this may not be the only possible scenario, as different elements have been given more or less emphasis in various educational approaches. The researcher discusses the possible effects of excluding any of the abovementioned *Key Elements* (cf. **Figure 6.1**, p.313) from the educational approach, which contributes to justifying the proposed *Key Elements*:

A. Teaching and learning environment + C. Teaching and learning approaches:

In this form, pedagogy is a mere theoretical concept and of no practical use in society, as confirmed by Canning (2007:393) (cf. **2.5.2 Guiding principles and theory**, p.47). Excluding **B. Participants (students)** or **D. Practitioners (academic staff)**, creates a discipline devoid of human interaction and unable to meet the needs it is intended for – a sterile academic exercise without democratic values.

A. Teaching and learning environment + C. Teaching and learning approaches + D. Practitioners (academic staff):

Ignoring **B. Participants (students)** similarly produces an academic exercise in scholarship centred on the educator as the supreme conveyor of expert knowledge. This detracts from the intended purpose of education as a transformative force furthering knowledge, developing skills and shaping attitudes and leads to the mere transfer of information without connecting with individuals or embracing their diversity.

A. Teaching and learning environment + C. Teaching and learning approaches + B. Participants (students):

Whilst it seems neither possible nor likely to exclude the **D. Practitioners (academic staff)**, from higher education, a somewhat fanatical paradigm shift away from being teacher-centred towards becoming student-centred in combination with the overzealous adoption of any and all innovative ICT applications without judiciously researching their true value and use in Health Sciences Education, may lead to relegating practitioners to mere operators of technology-driven pedagogy at the expense of all-important human interaction. This is often the case when institutions implement innovations in response to emerging theory or academic discourse, led by expert

committees of policy makers or authority figures who are not "at the coalface" as lecturers are. Just as considering the students' voice is vital to ensure that their needs are met, it is essential to pay heed to lecturers' concerns and challenges to ensure that theory and practice integrate coherently.

B. Participants (students) + D. Practitioners (academic staff):

The final scenario is one where theory is made obsolete by reducing pedagogy to short-lived human interaction. Without a secure environment that allows for the appropriate exercise of theory in practice, it remains just that: theory. And without theory to drive and guide one's practice, a nurturing environment is trivialised. Sound knowledge of the salient theoretical underpinnings of pedagogy as both science and art provides for a conceptual framework with stature and authority. This offers protection against the destructive effects of manipulation (by the media or those in positions of power), passing fads with no supporting evidence or ignorance (oblivion to the wisdom of history or experience).

The researcher therefore concludes that the components to be considered in the definition of the "educational approach" should incorporate all four of the abovementioned *Key Elements for Successful Pedagogy in Health Sciences Education*, including the climate of the teaching and learning environment, indicated by **A. Teaching and learning environment**, pedagogical theory, indicated by **C. Approaches to teaching and learning** as well as the role-players involved indicated by **B. Participants (students)** and **D. Practitioners (academic staff)** (cf. **Figure 6.1**, p.313). This implies that the student (abilities, characteristics, approaches to learning, communication styles, background and motivation) and lecturer (skills, experience, underlying theoretical approach, concept of teaching and expectations regarding student learning) as well as the interaction between them in an appropriate environment with proven theoretical grounding are central to successful teaching and learning in Health Sciences Education.

In the following section, the significant findings from this study will be described pertaining to the formulation of the educational approach for the generation profile of undergraduate students in the FoHS, UFS.

6.3 OVERVIEW OF SIGNIFICANT FINDINGS

An overview will be given of the significant findings from both Phases I and II of the research design used in this mixed-methods approach.

6.3.1 Significant findings from Phase I: Concurrent triangulation design

A brief summary of the significant findings from each section of the questionnaire survey both for undergraduate students and academic staff members is presented below. This is based on the findings from Chapter 4, ***Results and discussion of findings of questionnaire survey*** (cf. p.117). Responses to closed and open questions revealed both corroborative and conflicting perceptions, within the population of undergraduate students as well as between the two groups of participants, namely undergraduate students and academic staff members. Making use of concurrent triangulation in this phase of the research design enhanced the richness and complexity of the data, yielding a more nuanced understanding of the characteristics of Generation Y in this milieu. This is inherent to research that "involves exploration of complex initiatives and interactions among multiple players" (Schifferdecker & Reed, 2009:638) (cf. **Chapter 3, Research Design and Methodology**, p.67).

6.3.1.1 *Demographic information: Undergraduate students*

Students from the SoM comprised 52.3% of the sample, and were almost equally distributed between male and female students. About 60% of the SoM students were White and Afrikaans speaking and about 30% were Black students, while less than 15% of SoM students were English or Sotho speaking respectively. Students from the SoAH comprised 36.7% of the sample, and were mostly White, Afrikaans and female (this is due to the fact that there are limited numbers of black students in the SoAH), while students from the SoN (11% of the sample) were mostly female, and more or less equally distributed between White and Black students who were respectively Afrikaans or Sotho speaking (cf. **4.2.1.7** ***Summary of demographic information of undergraduate students in sample population***, p.132).

6.3.1.2 *Demographic information: Academic staff members*

The majority of academic staff members participating in the questionnaire survey were White, Afrikaans-speaking females, employed in the SoM, who held postgraduate qualifications and had multiple years of experience as lecturers. Their birth years placed them in the so-called Generation X birth cohort (1961-1980) (cf. **4.2.2.5 *Summary of demographic information of academic staff members in sample population***, p.139).

6.3.1.3 *Values and behaviour*

Both academic staff members and undergraduate students shared perceptions that indicated agreement with the reported optimism, positive and assertive behaviour, confidence, ambition, high self-esteem and high expectations of success as well as the desire for work-life balance displayed by Generation Y students.

Academic staff members' perceptions included that undergraduate students belonging to the Generation Y cohort display self-centred, arrogant and unprofessional behaviour, as well as an attitude of entitlement and a desire for instant gratification. These perceptions contrasted significantly with undergraduate students' perceptions about themselves as members of Generation Y. There were some significant differences between the student groups in the FoHS. For example, SoM students' perceptions were more in line with those of academic staff members and SoN students' perceptions contrasted significantly regarding peer, parental and media influence as well as their notions of success. SoAH students' perceptions differed significantly from the other student groups in the FoHS as well as from academic staff members' perceptions regarding issues of entitlement and instant gratification, self-esteem and life influences.

Generation Y students are reportedly more open-minded and tolerant than older generations. However, responses from both academic staff members and undergraduate students pointed to a perception of decreased respect and responsibility, lack of moral integrity and challenges in terms of managing racial diversity in society amongst Generation Y students in this study population. Peer pressure emerged as a prominent theme influencing undergraduate students' attitudes and actions.

6.3.1.4 *Communication styles, skills and needs*

As seen in both academic staff members' and undergraduate students' responses, clear emphasis was placed on the need for structure and supervision as well as empathetic mentors/role-models. Feedback (preferably positive and individualised) was accentuated.

Academic staff members' perceptions differed significantly from undergraduate students who did not perceive the deleterious impact of technology on interpersonal communication as well as poor intergenerational communication. However, undergraduate students' responses to open questions revealed that they considered communication undeniably negatively affected, for example, by the existence of multiple, superficial online relationships.

Undergraduate students indicated that their perceptions differed significantly from those of academic staff members, as well as those described in the literature regarding Generation Y and ICT. For example, undergraduate students' responses indicated that they did not prefer communication through technology rather than face-to-face contact and that they did not favour the anonymous online environment (cf. **2.5.2 Characteristics of Generation Y,** p.34). SoN students' responses indicated a significantly greater emphasis on technology and constant connectivity and less influence from authority figures, while SoAH students' responses revealed the prominence of technology for social purposes and human interaction rather than educational purposes, as well as a desire for regular individualised feedback. SoM students' perceptions were more in line with those of academic staff members regarding information-seeking behaviour and communication abilities.

6.3.1.5 *Learning styles and needs*

Undergraduate students (especially SoAH and SoN students) perceived that they possessed good higher order processing and critical thinking skills, including the ability to take responsibility, to be active, autonomous learners, preferring learning through experience and exploration. These perceptions contrasted significantly with those held by academic staff members. However, both academic staff members' and

undergraduate students' perceptions indicated that Generation Y students experienced difficulty with deep learning although these students were typically thought to be able to "multi-task", to enjoy interesting learning content and to want to work independently (cf. **2.5.2 Characteristics of Generation Y**, p.34).

Group work was revealed to be a problematic albeit essential issue (all undergraduate students but especially SoM students indicated a preference against group work, although they regarded it as important). This is in contrast to the assertion that members of Generation Y are collaborative team players who want to work in groups (cf. **Table 2.1**, p.29; **2.5.2.3** ***Learning styles and needs***, p.38).

Undergraduate students also indicated experiencing difficulty with managing great volumes of written information leading to a preference for visual stimulation and restricted learning activities aimed at achieving assessment criteria, indicating that the goals for active and deep learning may not be commonly achieved.

Generation Y students reportedly place a premium on the use of technology in a varied, interesting and preferably individualised environment (over which they exert collaborative influence, cf. **2.5.2.3** ***Learning styles and needs***, p.38) by a motivated, involved lecturer. Significantly more SoN students indicated a preference for informal, varied lectures and desired a measure of influence on content, while SoAH students indicated a significantly higher predilection for interesting learning content. While academic staff members indicated a succinct understanding of students' needs for example for visual stimulation, concern was expressed about an apparent lack of academic skills including deep learning and critical thinking. This was also supported by the significant contrast in academic staff members' responses indicating that they perceived that student collaboration on subject content decisions was not advantageous.

Notably, and somewhat surprisingly, academic staff members' and undergraduate students' perceptions contrasted significantly in terms of undergraduate students indicating that they benefited from structure and supervision and that the role of traditional lectures was not obsolete. Furthermore, the role of e-learning seemed to be rather precariously offset with a keen expectation for traditional face-to-face contact time with a knowledgeable facilitator/mentor/role-model. Especially SoAH students

appeared to want personal interaction with their lecturers. These findings contrasted markedly with notions in the current discourse surrounding 21st century students and educational practices involving ICT (***2.5.2.2 Communication styles, skills and needs***, p.36, ***2.5.2.3 Learning styles and needs***, p.38).

6.3.1.6 *Environment and shaping events*

Academic staff members demonstrated insight into undergraduate students' background and environment, seen in the shared perceptions between academic staff members and undergraduate students regarding Generation Y's environment and shaping events. For example, agreement existed regarding issues of diversity. In addition, responses contrasted with those commonly held in popular media regarding Generation Y, for example their supposed altruism, environmental advocacy or experiences of parental over-involvement (cf. **2.5.2.4** ***Environment and shaping events***, p.40). However, SoM students' responses were more aligned with those of academic staff members on these issues. There were significant contrasts between academic staff members' disagreement and students' agreement with perceptions regarding Generation Y being the most educated generation ever, and being accustomed to structure and discipline in their environment.

Technology is a compelling and pervasive influence in Generation Y students' lives on many levels. This was illustrated by the vast majority of all participants (both undergraduate students and academic staff members) who indicated technology as the major difference between Generation Y and older generations in their responses to open questions. Both academic staff members and undergraduate students indicated shared perceptions that the ubiquitous nature of technology had both positive and negative effects on Generation Y students' lives, including communication, societal conduct and education. Undergraduate students indicated widespread access to various forms of technology (somewhat refuting the alleged "digital divide", cf. **2.5.3.1** ***Role and impact of Generation Y in higher education***, p.40), but their use of these technologies was indicated to be restricted to social interaction practices, in spite of their perception of superior ability when compared to older generations. The overwhelming omnipresent nature of available information and a paucity of skills to sift and discern between sources available emerged as a recurrent theme.

South African society apparently poses unique and daunting challenges to its members of Generation Y, including for example the HIV/AIDS epidemic, crime and violence, racism, affirmative action and the legacy of a politically turbulent past. These issues emerged as highly prevalent and urgent, in both undergraduate students' and academic staff members' responses to open questions.

6.3.2 Significant findings from Phase II: Sequential explanatory design

In the following section, the significant findings from Phase II, sequential explanatory design, in the form of a focus group interview held with academic staff members based on findings from Phase I of the research design, will be discussed (cf. **Chapter 5, Results and Discussion of Findings of the Focus Group Interview**, p.258). This qualitative exploration of quantitative findings yields data that contributes to complementing and clarifying initial findings (Schifferdecker & Reed, 2009:639) (cf. **Chapter 3, Research Design and Methodology**, p.67). Table 5.2 (cf. p.303) is a summary of the findings from the FGI.

The intersection of *Key Elements for Successful Pedagogy in Health Sciences Education* in a symbiotic relationship (cf. **Figure 6.1**, p.313) as developed by the researcher provided a valuable framework for the discussion of the significant findings from Phase II of this study design. A brief discussion of the major and minor themes identified from the FGI findings supporting the abovementioned *Key Elements* will follow:

6.3.2.1 *Teaching and learning environment [A]*

When addressing the nature of the teaching and learning environment the following aspects should be included:

- An understanding of the **differences** and therefore **challenges** inherent to the prevailing teaching and learning environment should form the point of departure for the discourse surrounding strategy-building and planned action
- A **supportive and secure setting** to encourage effective learning must be provided
- **Multimodal communication** addressing both academic and personal needs must be available

- Strategies for **group work** must be revisited
- While the creative and innovative use of **technology** is vital, it should be used merely as a tool and not in lieu of human interaction with a lecturer/mentor
- **Feedback** in multivariate formats and multiple forums should be included.

6.3.2.2 *Participants (students) [B]*

FGI findings consistently referred to gaining an understanding of students' characteristics, expectations and feedback to inform strategies that aim to actively engage students in deep learning. Whilst findings from the questionnaire surveys revealed many congruent perceptions regarding Generation Y between both undergraduate students and academic staff members (cf. **Chapter 4, Results and discussion of findings of questionnaire survey**, p.117 and **6.3.1 Significant findings from Phase I: Concurrent triangulation design**, p.316), it is the contrasting perceptions and unique components of the current teaching and learning environment and society at large that contribute largely to misunderstandings and ensuing challenges. For example, undergraduate students want to exert a collaborative influence on their learning content, while academic staff members are of the opinion that these students do not have the background or experience to do so. Therefore, guidelines could include **harnessing Generation Y students' typical attitudes and behaviours** in a way that benefits the teaching and learning environment. Accordingly the researcher has formulated the following guidelines:

- Give students a measure of **autonomous choice** by means of electives, for example, so that their desire to collaborate in decision-making may be fulfilled
- Recognise their need for and purposefully include **structure and support, supervision and guidance** as well as **mentors and role-models**
- **Revise assumptions** (for example regarding self-directed learning) and carefully base **innovations** (for example ICT applications) on their value in terms of sound educational principles and evidence-based Health Sciences Education judgements as well as a thorough understanding of students' diverse needs and capabilities.

6.3.2.3 *Approaches to teaching and learning [C]*

At the heart of the approach to teaching and learning lies an approach that is student-centred and outcomes-based:

- Academic content must be **applicable** to the "real world" and should explicitly focus on for example **ethics and professionalism**
- **Scaffolding** by means of contextualising content as well as structure and feedback allow for more effective knowledge construction
- **Involvement of students** in teaching and learning strategies and consciously **addressing specific attitudes and behaviours** must be anticipated and attended to.

6.3.2.4 *Practitioners (academic staff) [D]*

Although skill in the academic setting, both in terms of content knowledge and teaching expertise is essential, findings from the FGI with academic staff members indicated that the lecturer should additionally display the following **qualities** (in alphabetical order):

- Availability
- Civility
- Effective communication skills
- Empathy
- Enthusiasm
- Positive attitude
- Professionalism
- Role-modelling behaviour
- Support.

In the following section, the guidelines developed from the findings of both Phases I (concurrent triangulation) and II (sequential explanatory design) used in this mixed-methods research will be discussed.

6.4 GUIDELINES FOR AN EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FoHS, UFS

In order to conclude Phase II of the research design (cf. **Figure 3.2**, p.79), the researcher has devised the following guidelines that may be used in the formulation of the educational approach for the generation profile of undergraduate students in the FoHS, UFS (cf. **6.2 Theoretical framework underlying the educational approach**, p.310; **6.3 Overview of significant findings**, p.316). Each *Key Element* in the symbiotic relationship (cf. **Figure 6.1**, p.313) is addressed individually whilst at the same time not losing sight of the vital interaction and inclusive nature of these elements. For the purposes of this discussion, an introductory paragraph regarding each of the key elements to be included in the educational approach will be followed by the suggested guidelines related to it.

6.4.1 Teaching and learning environment [A]

The teaching and learning environment should be designed to meet the demands of society for reform in both the health and education systems, and should incorporate the impact of ICT on these systems and society as a whole. However, the fundamental goal of education in terms of fostering, developing and maturing transformation in the individual should also be met within an appropriately structured, supervised and secure environment. Both ICT and the issue of structure and supervision in the teaching and learning environment are addressed below.

6.4.1.1 *ICT*

Any technology enabled activity should be driven by sound educational rationale. While the pervasive nature of ICT provides for ubiquitous connectivity and widespread access, the challenges of the lack of infrastructure, limited resources and the impact of students' diverse educational and socio-economic backgrounds and skill levels require that any interventions or improvisation should be implemented circumspectly. The following guidelines are recommended regarding ICT to ensure that its use is rational, balanced and realistic:

- **Clear goals** must be stated so that the needs of specific programmes are met
- The applications should be **discipline specific** and **contextualised** (cf. **2.6.2.4** ***Innovation and Information-Communication Technology***, p.57)
- An **understanding of students** and **how they learn** (such as the data provided by this study) should precede any innovations in terms of ICT strategies. Whilst the impact of technology in shaping pedagogy cannot be ignored, it is imperative that actual user skill and access are not stereotyped or labelled
- Therefore these strategies should be **sensitive to culture** as well as **different levels of expertise or exposure** to ICT (cf. **2.5.3.1** ***Role and impact of Generation Y in higher education***, p.40)
- Implementation of ICT in the teaching and learning environment should aim to **empower students to cope with increasing volume and the changing nature of knowledge in the digital environment** so that they can become self-regulatory and capable of utilising appropriate practices
- Multimodal methods and strategies should **include variety**, but should not favour innovation at the expense of currently available and useful technologies
- The issue of **training and skill levels** for both academic staff and students must be addressed before blindly embracing advances
- Implementing applications commonly utilised for entertainment and communication in a way that **awakens active engagement** and enthusiasm allows for **meaningful learning** to take place
- **Best practice models** and examples described in scholarly literature should inform planning in this regard. For example, **internet-based techniques** (blogs, wikis and glogs), **innovative devices** (classroom response system technology), **collaboration** and **student-generated content** (cf.**2.7.2 Suggested solutions**, p.62) contribute to enhancing an interesting and exciting environment, but are not necessarily the panacea for stimulating intrinsic motivation for deep learning.

6.4.1.2 *Structure and supervision*

Cognisance of students' educational background, learning styles and learning processes contributes to an understanding of the ideal learning environment (cf. **2.6.2.2** ***Learning styles***, p.53, **2.6.2.3** ***Cultural effects on learning***, p.56).The following guidelines are

recommended that were developed from the FGI findings when constructing a secure learning environment suitable for Generation Y students in the FoHS, UFS:

- Structured programmes with **clearly formulated goals, outcomes, guidelines and processes** must be **communicated in advance**, regularly and repeatedly, both in written and personal communication
- Interactive, specific and constructive **feedback** should be included consistently as an integral component of the approach
- **Responsibility** in terms of work schedules and accountability must be fostered and developed
- An environment of **professionalism, support and consistency** should be created by supervisory mentors and a system of peer role-modelling
- The environment should provide a **platform** allowing all students to develop to their full potential and not just a privileged few
- Close attention must be paid to **balancing** theoretical and experiential activities, e-learning and personal contact sessions, as well as assessment exercises and strategies – an approach that is labour, planning and resource intensive
- The teaching and learning environment must prepare students for the **reality of their environment** (the "real world").

6.4.2 Participants (students) [B]

First and foremost, an understanding of who students are, what and how they think about their world and their learning as well as what motivates them or the issues that affect their personal and academic lives should be the foundation of the discourse surrounding educational practices, specifically in the teaching and learning environment of Health Sciences Education. This is especially applicable to the challenges associated with the South African context (cf. **2.6.1.2** ***South African context***, p.47, **2.6.2.3** ***Cultural effects on learning***, p.56) and may be achieved by using the survey instrument developed for the purpose of this study.

This study provides for a comprehensive view of the characteristics of and perceptions regarding an as yet unexplored population of undergraduate students in the FoHS, UFS,

who belong to the Generation Y cohort, both from the point of view of undergraduate students themselves, as well as the academic staff who lecture to these students. While other scholarly work has illuminated aspects of Generation Y students' characteristics, especially regarding their ICT skill and use in the teaching and learning environment (cf. **2.5.1.2** ***Demography***, p.32, **2.5.3 Generation Y in higher education**, p.40), as far as could be ascertained there are currently no similar databases available on Generation Y students in Health Sciences Education in South Africa or elsewhere, proving the significance of this study.

The following guidelines were formulated emerging from the research findings regarding undergraduate students' identified characteristics:

- Address the "**generation gap"** in terms of the following perceptions demonstrated by undergraduate students so that misunderstanding and prejudice which lead to conflict and impaired relationships in the teaching and learning environment may be avoided. Undergraduate students' perceptions of themselves as members of Generation Y revealed the following:

a. They are superior in their skill and use of ICT application in comparison to older generations, who were generally perceived to be incapable of handling innovative technology
b. They did not perceive that their ability to communicate is impaired by constant technology use, but they did perceive that older generations do not know how to communicate with them
c. They perceived that older generations were generally intolerant and narrow-minded (unlike them)
d. In contrast to their outlook on older generations, they did not view themselves as arrogant, unprofessional, self-centred, displaying a sense of entitlement and demanding instant gratification without working hard, or approaching their learning superficially intent only on achieving in assessments.

- Provide guidance and support in their **perceived areas of need or weakness**, for example:

a. A perceived lack of respect or responsibility displayed by Generation Y students
b. The inability to discern among and manage the vast amount of information available
c. A desire for mentoring and empathetic role-models due to the pressures and challenges of their unique environment in South Africa as well as the globalised moral decay of society
d. Preferences against group work although students did perceive it as important.

- **Harness their perceived positive qualities** including optimism, friendliness, open-mindedness and ambition, good interpersonal communication skills with diverse groups as well as confidence in their higher order thinking and learning capabilities in specific premeditated ways. For example:

a. Encourage students to set own learning goals
b. Empower students (for example, using peers as leaders, providing options that create opportunities for students to make decisions regarding their own learning or using senior students' or alumni feedback in guiding the development of course content).

- Include **face-to-face contact involving interaction with academic staff** as undergraduate students indicated that they did not favour technology in the teaching and learning environment above more traditional approaches, and expressed a dislike for e-learning

- Students should be encouraged to **play an active role in knowledge construction**. This may be facilitated by building on prior knowledge (scaffolding) and contextualising content (the "big picture")

- **Investigate options** to recruit students' high percentage of access to and use of cellular (mobile) phones and computers for interpersonal communication and social networking in the teaching and learning environment.

6.4.3 Approaches to teaching and learning [C]

The current discourse in higher education, and specifically Health Sciences Education is informed by a paradigmatic shift away from teacher-centred and content-focused curricula (leading to the mere passive transfer of knowledge) towards a student-centred view based on constructivist underpinnings that is regarded as the ideal (cf. **2.6.2.1** ***Teaching and learning approaches***, p.50). However, distinct challenges emerged from the findings in this study that impact on decisions regarding the appropriate educational approach for the generation profile of undergraduate students in the FoHS, UFS, including the following:

a. Undergraduate students **lack organisational and study skills that are inherent to higher education processes** as many are under-prepared (due to their secondary education or socio-economic background) or unaware of the demands of higher education (for example independence in self-directed learning or preparation for contact sessions)
b. There are wide ranges in **student motives and engagement**, which may lead to marginalisation of non-traditional or first-generation students
c. **Language problems** (the language of instruction is both students' and lecturers' second language or the use of academic terminology that prevents understanding) are significant barriers to successful teaching and learning
d. A lack of understanding exists regarding the fact that Health Sciences Education encompasses **unique disciplines of study with specific methods of exploration and engagement** placing high demands on students' intellectual and emotional intelligence often leading to disillusionment and disappointment when students do not cope with these demands.

Furthermore, in the shift towards a student-centred approach, one should guard against becoming so focused on the student's qualities that it results in stereotyping or prejudices based on differences in capabilities, characteristics or educational background. A **balanced and appropriate student-centred approach** should include the following:

- **Responding to needs** (students' strengths or areas for improvement and what they want/need)

- **Providing challenges** (recognising that the acquisition of the ideals of higher education, namely life-long learning by self-directed, actively engaged and transformed reflective practitioners, may involve overcoming obstacles and successfully negotiating difficulty) (cf. ***2.6.2.1 Teaching and learning approaches***, p.50)

- Acknowledging both the **potential and limitations** of the current tidal wave of **technological breakthroughs** that are driving educational and healthcare reform (cf. **6.4.1.1** ***ICT***, p.324, for suggested guidelines regarding ICT)

- Addressing the need for **human interaction in didactic approaches** so that future healthcare professionals emerging from the current cohort of undergraduate students belonging to Generation Y become more than merely supremely efficient handlers of technological devices or applications. This means:

a. Addressing **ethics and professionalism** in the curriculum (allowing for discussion, setting aside time, devising strategies regarding assessment and codes of conduct)
b. Recognising the importance of **role-modelling and coaching**.

- Students should be encouraged to **play an active role in knowledge construction**. This may be facilitated by building on prior knowledge (scaffolding) and contextualising content (the "big picture")

- Equipping the healthcare professionals of the 21st century with the ability to (Frank *et al*., 2010:Online) (cf. **2.6.1.1** ***Challenges in Health Sciences Education***, p.45):

a. Analyse, synthesise and evaluate information and not merely memorise and recall information
b. Display critical thinking, sound clinical judgment and social accountability
c. Engage in ethical conduct and professional behaviour

d. Provide leadership and facilitate change through education
e. Effectively work in teams.

6.4.4 Practitioners (academic staff) [D]

It is evident that lecturers can no longer rely on their personal experience as students ("teach as we were taught") or even their teaching skill (how to best convey the subject matter), nor is vast knowledge of one's subject matter or superior academic and/or research capability alone adequate to meet the needs of the prevailing teaching and learning environment. Furthermore, definitive evidence supporting training in pedagogical theory as a method of significantly improving instructional practice is still lacking (Postareff *et al*., 2007:557-571). It would appear, therefore, that a combination of **personal qualities and skill** as well as **practical implementation of pedagogical theory**, are required to equip the lecturer for their demanding and complex role in Health Sciences Education that meets the needs of the 21st century and its inhabitants. This is derived from the findings from both the questionnaire survey for academic staff members and the FGI held with academic staff members, as follows:

- The lecturer must be equipped with and display distinct **personal qualities** in addition to exemplary **subject knowledge**. These qualities were mentioned above (cf. 6**.3.2.4** ***Academic staff*** *[D]*, p.323), and are encompassed by the following:

a. **Communication skills** (this would include availability at appropriate and set times, civility and respect towards students, trustworthiness)
b. **Role-modelling/mentoring/coaching** (careful consideration must be given to students' needs for empathy, inspiration and guidance, extending beyond the limits of the academic sphere; therefore a congruent personal and professional persona is imperative)
c. **Feedback** (attention must be paid to provide for reciprocal and structured feedback in a variety of formats; this is optimally facilitated by a healthy relationship characterised by clear boundaries, negotiated terms and mutual respect)
d. **Attitude** (the lecturer must display a positive attitude, characterised by enthusiasm and passion, genuine interest in students and their holistic well-being as well as a dedication to teaching as a profession)

e. **Reflective practice** (through a process of focused reflection and subsequent refinement of strategy, the educational approach may be tailored to address students' unique needs and characteristics in the most appropriate way whilst at the same time adhering to the demands placed by the educational and healthcare environments).

- Ultimately, the expansion of lecturers' expertise should occur within a meticulous **pedagogical framework**, paying close attention to the **practical implementation of emerging theory**. (cf. **2.6.2.1** ***Teaching and learning approaches***, p.50). This can be addressed in the following ways:

a. Ensuring appropriate, current and innovative **"craft knowledge"** (Van Driel *et al*., 1998:674 quoted by Mckenna and Yalvac, 2007:406; cf. **2.6.2.1** ***Teaching and learning approaches***, p.50). This entails expertise within one's subject or discipline
b. Acquisition of a working "**pedagogical content knowledge"** (Mckenna & Yalvac, 2007:406; cf. **2.6.2.1** ***Teaching and learning approaches***, p.50). Lecturers' approaches to teaching arise from their concepts of education. Awareness of and reflection on these beliefs and values is a prerequisite to a rational educational approach
c. Nurturing opportunities for **personal growth and enrichment**. Just as attention should be paid to both the emotional and cognitive aspects of learning which affect students' motivation and achievement of higher education outcomes, these aspects in the lecturer's armamentarium should be in place.

Therefore, the researcher proposes that staff development programmes should explicitly focus on these three areas, namely academic staff members' knowledge of their discipline (for example by providing opportunities for academic enrichment), the expansion of their notions of pedagogy (for example by encouraging the acquisition of credentials in education) as well as creating a nurturing environment supporting holistic well-being.

6.4.5 Alignment with theory and application of the educational approach

Table 6.1 was compiled by reorganising the *Seven Principles of Good Practice in Undergraduate Education* as well as the *Twelve Attributes of Quality in Undergraduate Education* listed by Chickering and Gamson (1987:3-7) (cf. **2.6.2 Guiding principles and theory**, p. 47), and aligning these with the four *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p.313) developed by the researcher. This elucidates the applicability and relevance of the *Key Elements* to currently accepted theory regarding undergraduate education.

TABLE 6.1 ALIGNMENT BETWEEN THE KEY ELEMENTS, PRINCIPLES FOR GOOD PRACTICE AND ATTRIBUTES OF QUALITY IN HIGHER EDUCATION [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project]

FOUR KEY ELEMENTS	SEVEN GOOD PRACTICES	TWELVE ATTRIBUTES OF QUALITY
A. Teaching and learning environment	1. Give prompt feedback 2. Encourage student-faculty contact	i. Assessment and prompt feedback ii. Out-of-class contact with faculty iii. Emphasise the early years of study
B. Participants (students)	3. Encourage cooperation among students 4. Emphasise time on task	iv. Collaboration v. Adequate time on task vi. Synthesis of experiences
C. Approaches to teaching and learning	5. Encourage active learning	vii. Active learning viii. Integration of education and experiences ix. Ongoing practice of learned skills
D. Practitioners (academic staff)	6. Communicate high expectations 7. Respect diverse talents and ways of learning	x. High expectations xi. Respect for diverse talents and learning styles xii. Coherence in learning

The abovementioned Table 6.1 indicating alignment between existing theory and the findings from this research support the educational approach formulated in this study.

The researcher has compiled Figure 6.2 as an illustration of the scaffolding that underlies the construction of the educational approach in this study. It is in the design

of a pyramid, implying that each level (layer) is built on the foundation of the previous one, and that the apex of the pyramid forms the ultimate outcome of the study.

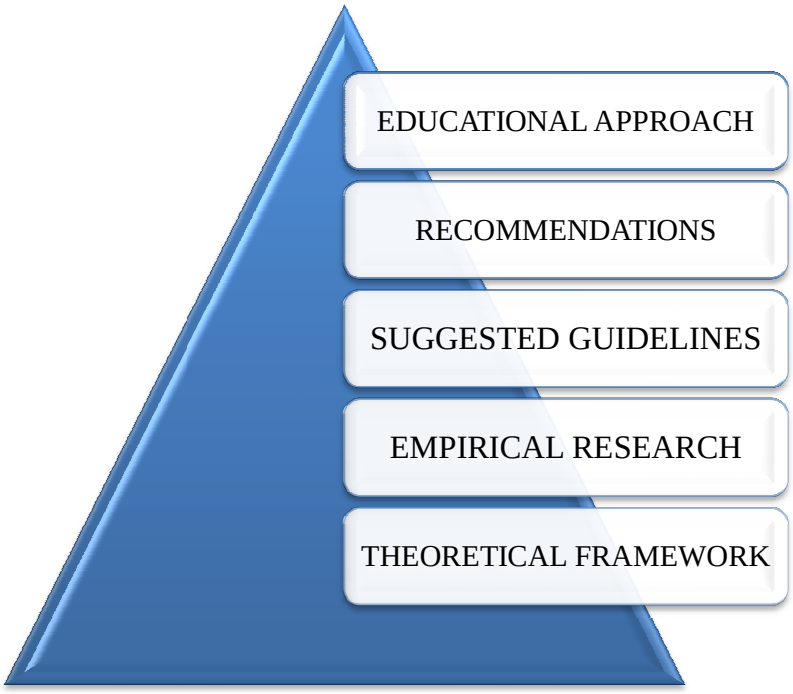


FIGURE 6.2 THE EDUCATIONAL APPROACH PYRAMID [Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project]

Figure 6.3 is a schematic representation of the educational approach that is suggested in response to the overall goal of this study (cf. 1.4.1, p.7), namely "*to provide for evidence-based data regarding Generation Y within the diverse student population mentioned above,* "so that these data may be used in the formulation of an educational approach that is appropriate for undergraduate students in the FoHS, UFS.

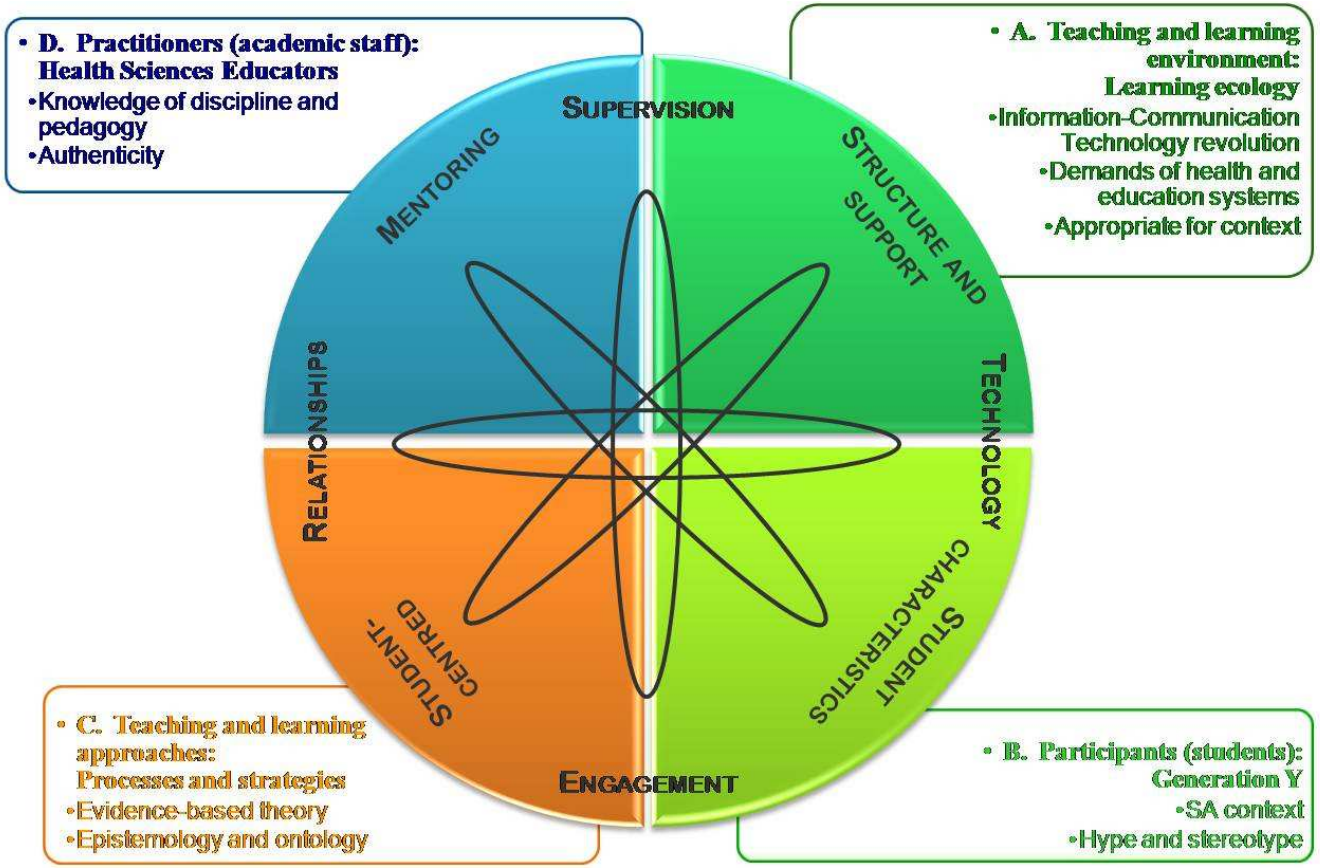


FIGURE 6.3 SCHEMATIC REPRESENTATION OF THE EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FOHS, UFS

[Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project]

Figure 6.3 (cf. p.335) builds on the *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p.313, **Table 6.1**, p.333) as the component quadrants of a whole, interacting and intersecting to provide a holistic view of the suggested integrated educational approach.

The first element, **A. Teaching and learning environment** refers to the particular context that determines the nature of this environment (the learning ecology). The **ICT revolution, demands of health and education systems** as well as ensuring that the environment is **appropriate for the specific context**, are determining factors. The guidelines as presented in **6.4.1 Teaching and learning environment** [A] (cf. p.324), and referring to **ICT** (cf. 6.4.1.1, p.324) and **structure and supervision** (cf. 6.4.1.2, p.325) inform the design and development of an environment that is conducive to transformative knowledge construction by actively engaged students in which rational, educationally sound use is made of innovative technologies within a well-organised system that pays attention to balance, professionalism, successful academic outcomes and relevance within the 21st century.

The second element, **B. Participants: students**, refers to the current cohort of undergraduate students in the FoHS, UFS, who belong to the Generation Y cohort. In order to ensure transcendence beyond current **hype and stereotype**, and to gain significance within the context of Health Sciences Education at a **South African Higher Education institution**, the guidelines presented in **6.4.2 Participants (students) [B]** (cf. p.326) enable the construction of a comprehensive understanding of the specific characteristics as well as providing direction in addressing these by means of teaching and learning strategies.

The third element, **C. Approaches to teaching and learning**, indicates the **processes and strategies** foundational to the educational approach and which, ideally, should be founded on evidence-based theory as well as a thorough grounding in **epistemological and ontological frameworks.** In **6.4.3 Approaches to teaching and learning [C]** (cf. p.329), the distinct challenges identified from the findings from this study prompted guidelines aimed at achieving a student-centred approach that aims to do more than merely transfer information to various categories of students or provide glib solutions for effective learning, but rather takes a long-term and broader view so that the ultimate

goal is achieved – facilitating the development of healthcare professionals who are expertly equipped with the appropriate knowledge, skills and attitudes to meet the needs of the 21st century.

The fourth and final element, **D. Practitioners (academic staff)** points out that besides sound **knowledge and skill** in both the discipline (subject) at hand as well as **pedagogical theory** and **practice**, the lecturer as practitioner in the teaching and learning environment should also display **authenticity**. This includes the components of empathy, congruence and unconditional positive regard for students (Blackie *et al*., 2010:639) (cf. ***2.7.2.6 Mentoring***, p.65) and must be intentionally cultivated with reference to communication, role-modelling, feedback, the lecturer's attitude and reflective practice (cf. **6.4.4 Practitioners (academic staff) [D]**, p.331).

The abovementioned *Key Elements* (A-D) form the quadrants that are foundational to a nexus containing related concepts within and between these quadrants, whilst simultaneously constituting a holistic approach. While the concepts represent opposing ends in the graphic model, they are not opposite, but rather at either end of a spectrum. Far from contradicting each other, these opposed concepts tend to exert permissive or synergistic effects on one another. The concepts illustrated in Figure 6.3 (cf. p.335) include:

- **Structure and support**, found within quadrant **A. Teaching and learning environment** indicating the nature of the environment, and student-centred, found within quadrant **C. Approaches to teaching and learning**, indicating the underlying pedagogical framework. The implication is that achieving a truly student-centred approach (focusing on engaging meaningful learning, and not just on typecasting) is only possible within an environment providing structure and support (on both academic and personal levels for both students and lecturers)

- **Technology**, straddling quadrants **A. Teaching and learning environment** and **B. Participants (students)**, indicating the prevailing ICT revolution and its ubiquitous presence in the lives of Generation Y students, and **relationships**, straddling quadrants **C. Approaches to teaching and learning** and **D. Practitioners (academic staff)**, indicating the human element of the lecturer as practitioner

practising the teaching and learning strategies. In Health Sciences Education, which endeavours to equip technologically highly skilled practitioners with the ability to effectively interact with the human beings they are trained to serve, it is of utmost importance that a balance is struck between innovative technology and interpersonal relationships

- **Student characteristics**, found within quadrant **B. Participants (students)** and **mentoring**, found within quadrant **D. Practitioners (academic staff)**, reflecting the position and responsibility of each of the role-players in the teaching and learning environment respectively. Based on the findings of this study, a comprehensive database of the respective values and behaviours, communication styles, skills and needs, learning styles and needs as well as environment and shaping events of Generation Y students at the FoHS, UFS could be established. It became apparent that mentoring by empathetic, inspirational role-models was imperative to enable students' achievement at both academic and meta-cognitive levels

- **Engagement**, straddling quadrants **B. Participants (students)** and C**. Approaches to teaching and learning**, indicating the significance of actively engaging learners in teaching strategies, and **supervision**, straddling quadrants **A. Teaching and learning environment** and **D. Practitioners (academic staff)**, indicating that the lecturer should provide guidance within a nurturing environment. By recognising that undergraduate students' ability to engage deeply so that they may become responsible, independent, autonomous learners displaying higher order thinking skills is not a gift possessed by a talented few, but rather a skill honed through patient, forward-thinking, creative coaches/mentors, much of the frustration and failure associated with for example self-directed learning may be avoided.

In the following section, recommendations will be made based on the educational approach schematically represented in Figure 6.3 (cf. p.335) and discussed in 6.4 (cf. p.324).

6.5 RECOMMENDATIONS FORMULATED FROM THE EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FoHS, UFS

Based on the findings of this study (cf. **Chapter 4, Results and discussion of the questionnaire survey**, p.117; **Chapter 5, Results and Discussion of Findings of the Focus Group Interview**, p.258) forming Phase I (concurrent triangulation) and Phase II (sequential explanatory design) respectively of this mixed-methods research project and summarised in **6.3** ***Overview of the significant findings*** (cf. p.316), the researcher identified four *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p.313). Subsequently the educational approach for the generation profile of undergraduate students in the FoHS, UFS, as schematically represented in Figure 6.3 (cf. p.335), was formulated and discussed (cf. **6.4 Guidelines for an educational approach for the generation profile of undergraduate students in the FoHS, UFS**, p.324). Accordingly, the following recommendations are made:

1. When considering the design and development of an educational approach, a theoretically sound contextual framework should form the basis for practical strategies and activities

2. The *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p.315) should be included as the background to the educational approach, namely:

   A. Teaching and learning environment
   B. Participants (students)
   C. Approaches to teaching and learning
   D. Practitioners (academic staff).

3. The components of the abovementioned *Key Elements* that are pertinent should be identified, as indicated in the following (cf. **Figure 6.3**, p.335):

- **Learning ecology (Teaching and learning environment [A])**

It is imperative that the teaching and learning environment of the 21st century should allude to the prevalent **ICT revolution**, the reformative **demands of health and education systems** and that it should be **appropriate for context**

- **Generation Y students (Participants (students) [B])**

The unique **SA context** should be considered when addressing and assessing the **hype and stereotype** surrounding the current cohort of undergraduate students

- **Processes and strategies (Approaches to teaching and learning [C])**

Evidence-based theory must inform both the **epistemology and ontology** that underlie any teaching and learning approaches.

- **Health Sciences Educators (Practitioners [D])**

Knowledge of their **discipline** and **teaching** as a scholarly activity as well as **authenticity** should form the pillars on which academic staff members build their professional activity.

4. Each of the following concepts forming the **nexus** of the educational approach represented in Figure 6.3 (cf. p.335) and discussed in 6.4.5 (cf. p.333) must be addressed, as follows:

- **Structure and support** should be foundational in a secure teaching and learning environment
- The teaching and learning approach must be **student-centred**, focusing less on transfer of information and more on transformative knowledge construction
- Rational, balanced and realistic application of innovative **technology** is required to stay current and sustainable in the teaching and learning environment
- Nurture and develop healthy, supportive **relationships** so that the teaching and learning environment becomes more than the implementation of a programmatic, technology-driven didactic exercise.

- A thorough understanding of **student characteristics**, including their strengths and weaknesses, provides for an approach guided by evidence rather than assumptions or generalisations
- **Mentoring** as authentic role-models who display empathy, congruence and unconditional positive regard for students should be the point of departure for academic staff members who are skilled both in their discipline as well as pedagogy
- **Engagement** of students in an active, collaborative and responsible manner is vital for the maturation of academic and meta-cognitive skills
- **Supervision** ensures that intended and meaningful learning takes place, whilst at the same time pro-actively recognising and managing concerns.

5. It should be ensured that the educational approach is relevant and therefore takes precedence in the specific context, for example the FoHS, UFS in this case, by effectively disseminating findings to a wide audience.

In the following section, a conceptual framework will be presented to be used as a model when demonstrating how the researcher developed the educational approach as proposed in this study.

6.6 CONCEPTUAL FRAMEWORK FOR THE EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FoHS, UFS

Figure 6.4 was developed by the researcher, and is expanded from the *Educational Approach Pyramid* (cf. **Figure 6.2**, p.334). This figure proposes a conceptual framework to be used as a model when demonstrating the educational approach formulated in this study. Figure 6.4 is based on the construct illustrated in Figure 6.3 (cf. p.335), and incorporates the *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p.313) as well as the guidelines (cf. 6.4, p.324) and recommendations (cf. 6.5, p.339) formulated in Chapter 6 (cf. p.308).

The lowest tier in the model is formed by means of the theoretical framework, developed from engagement with the literature, and alluding to Generation Y, Health

Sciences Education and the distinct environment at the FoHS, UFS. The second tier is built on the first, and consists of the empirical research findings, divided into the two phases of this mixed-methods research design. Phase I, concurrent triangulation, is subdivided into the components of the questionnaire survey, including demographic information and the findings related to values and behaviour, communication styles, skills and needs, learning styles and needs, as well as environment and shaping events. Phase II, sequential explanatory design, includes the FGI derived from the questionnaire survey findings, and yields insight regarding the teaching environment, the characteristics and role of the student and the qualities and attributes of the lecturer. Following from these findings, the third tier is constructed as guidelines arranged under the four *Key Elements for Successful Pedagogy in Health Sciences Education*, as proposed in this study, namely the teaching and learning environment [A], the participants (students) [B], approaches to teaching and learning [C] and the practitioners (academic staff) [D]. Specific areas of concern addressed by these guidelines are listed. The fourth tier consists of a list of five recommendations formulated from these guidelines, culminating in the overarching educational approach proposed in the study.

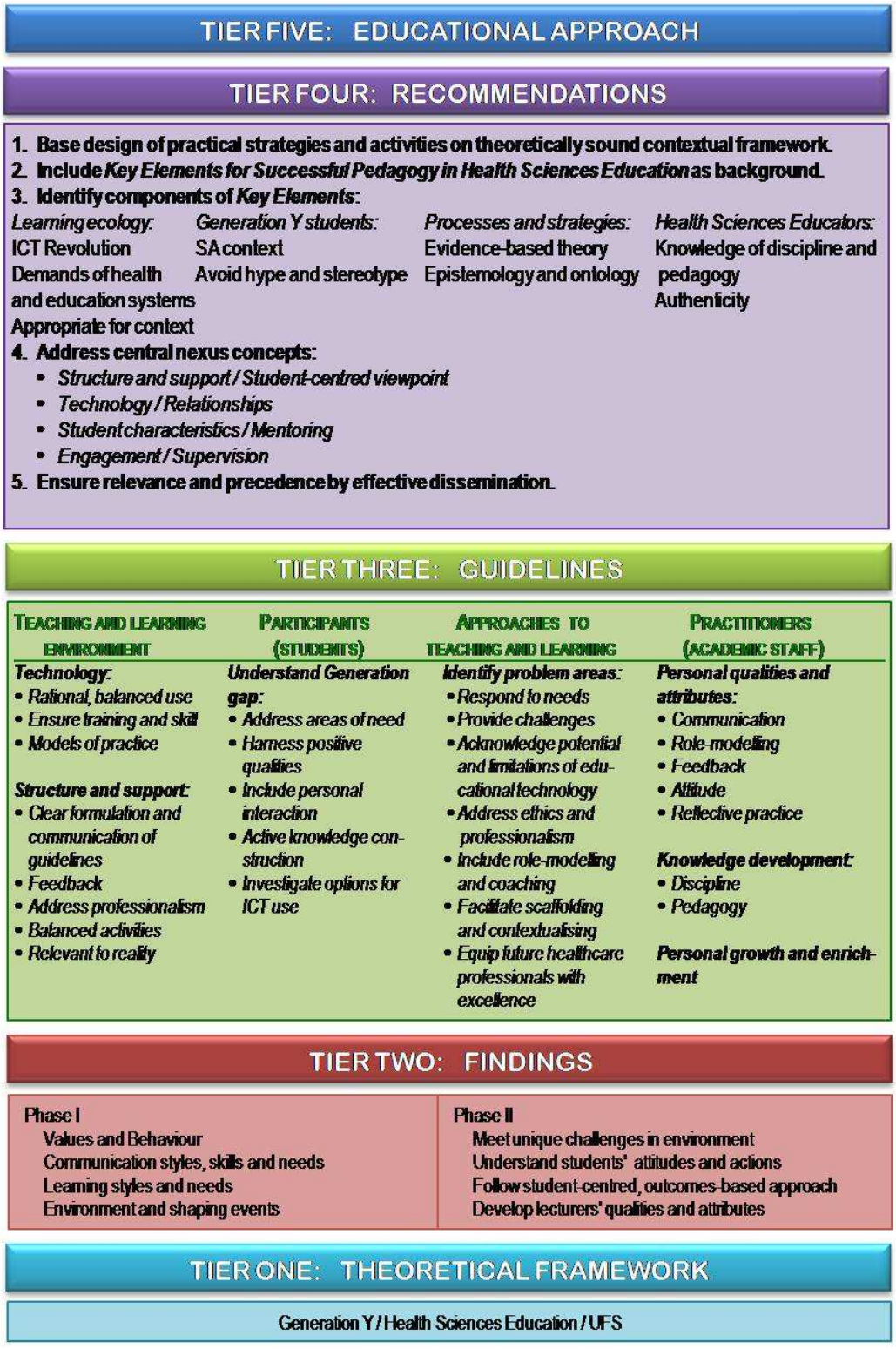


FIGURE 6.4 CONCEPTUAL FRAMEWORK FOR THE EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FoHS, UFS

[Compiled by the researcher (Van der Merwe, 2011) for the purposes of this Ph.D. project]

6.7 CONCLUSION

In this chapter, an educational approach was formulated for the generation profile of current undergraduate students in the FoHS, who belong to the Generation Y cohort, and who have specific characteristics in terms of their values and behaviour, communication styles, skills and needs, learning styles and needs as well as regarding their environment and shaping events. The educational approach was based on a symbiotic interaction between the Key Elements for Successful Pedagogy in Health Sciences Education (cf. **Figure 6.1**, p.313) and included a nexus of central concepts building on the former (cf. **Figure 6.3**, p.335). Guidelines were outlined (cf. 6.4, p.324) followed by recommendations drawing on these guidelines (cf. 6.5, p.339) and represented schematically in Figure 6.3 (cf. p.335). Finally, a conceptual framework was presented as a model (cf. **Figure 6.4**, p.343) to be used when demonstrating the educational approach formulated as stated in the overall goal, aim and objectives of the study (cf. 1.4, p.6).

In Chapter 7, ***Conclusion, recommendations and limitations of the study***, the researcher will give an overview of the research questions answered in the study, and will state the conclusion, discuss the limitations of the study, the contribution of the research as well as any recommendations made from the study before finalising the thesis with a conclusive remark.

CHAPTER 7

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

"The Commission on education of health professionals for the 21st century....adopted a global perspective seeking to advance health by recommending instructional and institutional innovations to nurture a new generation of health professionals who would be best equipped to address present and future health challenges."

(Frank *et al*., 2010:Online)

7.1 INTRODUCTION

An in-depth study was done by the researcher with the intention to formulate guidelines and recommendations that may be followed in the educational approach for the unique generation profile of undergraduate students in the FoHS, UFS.

Current undergraduate students belong to the so-called Generation Y cohort, based on their birth years. According to generational theory, differences may be observed in the typical characteristics, attitudes, belief systems and therefore actions of generations due to the effects of sharing a common place in history. While these perceptions about generations and differences between older and younger generations should not be reduced to stereotype or oversimplification, they do impact on both the work and education environment.

Many of the typical attributes ascribed to Generation Y in both popular and scholarly literature are related to the tremendous impact of ICT worldwide as well as increased globalisation and societal shifts. Health Sciences Education as well as the healthcare system currently faces many challenges, including those specifically associated with effectively engaging Generation Y students in both the educational and professional work environment. Instead of reverting to generalisations, this research aimed to discover whether the commonly held views describing Generation Y are indeed accurate in the distinctively South African context and how differences in perceptions regarding this generation cohort impact on the teaching and learning environment

within the boundaries of Health Sciences Education, with the view to identifying a useful and appropriate way of addressing these issues in the FoHS at the UFS.

For example, regarding the values and behaviour commonly ascribed to Generation Y, the findings from this research indicated that while undergraduate students and academic staff members indicated agreement with the positive attributes demonstrated by Generation Y, including idealism, optimism, confidence and being non-materialistic, undergraduate students' views differed from those of academic staff members and the literature pointing out their weaknesses including arrogance, narcissism, an attitude of entitlement and demands for instant gratification as well as being susceptible to peer pressure.

In addition, although undergraduate students perceived themselves to be more open-minded than their lecturers, as well as a perspective indicating the importance of family and personal relationships, they indicated the deleterious effects of moral decay and a loss of respect and responsibility in their generation. Therefore the researcher is of the opinion that undergraduate students in the FoHS, UFS, do not exemplify the typical Generation Y student as described elsewhere.

Regarding communication and the impact of technology, in contrast to academic staff members' perceptions, undergraduate students indicated that they had a need for structure and guidance in their environment, and that they did not regard technology as having a negative effect on their communication, as they perceived that they were good, albeit casual communicators. They valued relationships and did not prefer text messaging over personal interaction. However, once again, responses to open questions revealed that undergraduate students did actually perceive that their communications skills were impaired due to the use of technology in communication and that they yearned for meaningful interpersonal communication, both personal and in the academic environment.

Regarding communication, members of Generation Y in the FoHS therefore matched the typical view of a wired and connected cohort whose face-to-face communication abilities have deteriorated due to ICT applications in their daily life. Furthermore, in lieu of pandering to their inclination for ubiquitous technology use, academic staff

members should take note of the subliminal desire for effective communication, guidance and role-modelling, providing a healthy alternative option for communication, without creating the impression of poor skill with technology (a perception widely held by undergraduate students in this population).

The researcher became aware of a dualism amongst students: while they simultaneously regard older generations as incapable of utilising new technology and themselves as superior pundits of its applications, they admit to the resulting impairment in relationships and communication skills and subsequent desire for mentoring in this regard.

Regarding learning styles and needs, Generation Y students in this population stayed within their typically described confident and assertive persona and indicated that they viewed themselves as proficient in terms of their academic capabilities, for example critical thinking, as well and proficiency at multi-tasking, in contrast to academic staff members who indicated a more sober view. However, undergraduate students did admit to difficulty with areas including deep learning and managing vast amounts of information. In this regard, the researcher is of the opinion that the notions of students' academic preparedness and capabilities, understanding and expectations in terms of self-directed learning should be investigated and addressed more stridently.

Furthermore, while academic staff members and undergraduate students indicated agreement that this cohort of students responded well to visual stimulation and variety in their environment, a concept that may be termed "edutainment", surprisingly, and flying in the face of widely held notions (including those held by academic staff members), undergraduate students indicated that they in fact preferred traditional lectures to e-learning, wanted to work independently, and did not enjoy working in teams/groups. In addition, they indicated desiring supervision in a structured, organised environment as well as the use of rewards and incentives to motivate them. Furthermore, these students indicated that they did not see themselves as demanding constant, immediate feedback, but rather regular, positive feedback from an empathetic role model.

A major area of disagreement was the desired collaboration by students in terms of input into the academic content contributing to a tailored educational experience, while academic staff members did not agree with this at all. The researcher is of the opinion that many of the currently advocated reforms in Health Sciences Education including the adoption of educational technology and group work need to be revisited in terms of their applicability for this generational cohort, and that innovations should be preceded by evidence garnered from the population these innovations are intended for in lieu of automatically adopting models from elsewhere.

Regarding the environment and shaping events that Generation Y students were exposed to, there was agreement between the perceptions of academic staff members and students and the literature that this is indeed a highly diverse population, and that technology is probably the most significant factor impacting on them.

However, this population of undergraduate students in the FoHS, UFS, does not fit the profile of an altruistic, environmentally aware generation who grew up in a sheltered environment. In fact the South African society they find themselves in has created a highly volatile setting characterised by solemn realities including the prevalence of HIV/Aids, sexually transmitted diseases, teenage pregnancy, drug and alcohol abuse, racism, ongoing discrimination and affirmative action as well as the legacy of a politically turbulent past. Intriguingly, academic staff members were not as vociferous in their voicing of these issues which students continuously referred to. The researcher is of the opinion that this is a serious shortcoming leading to misunderstanding of students and their holistic development, and that these issues directly impact on the healthcare environment that students are being trained for.

In addition, regarding students and their use of the pervasive ICT applications, it seems that while all students have access to and use these technologies for social interaction and entertainment, this use is limited to a small number of applications. In other words, there is no “digital divide” amongst students of varying socio-economic backgrounds when it comes to for example cellular phone communication, but more sophisticated and divergent applications (such as would be valuable in a cutting edge educational technology-driven curriculum) are rather unfamiliar and would show up unequal access and a disadvantaged background.

The aim of this chapter is to provide a brief overview of the study followed by comments and some concluding thoughts on the final findings. The chapter commences with an overview of the study including a review of the research questions and how these were answered, followed by a description of conclusions drawn, a short discussion on the limitations of the study, the contribution to knowledge and the significance of the study, recommendations made and finally a conclusive remark.

7.2 OVERVIEW OF THE STUDY

The research was approached and completed based on three explicit research questions. These questions arose as a result of an identified gap in current knowledge regarding Generation Y in Health Sciences Education. Building on a conceptual framework from engagement with the literature, and making use of suitable research design and methodology, data were collected and results presented. From the research findings as well as engagement with theory, the research questions were answered and conceptual conclusions made which served to inform a suggested educational approach for the generation profile of undergraduate students in the FoHS, UFS.

In Chapter 1 (cf. Point 1.3, p.4) an outline of the three research questions was presented. The research questions guided the study and shaped the final outcome. In Point 7.2.1 to 7.2.3 the research questions are reviewed and the main findings of each research question are given.

7.2.1 Research question one

The first research question was stated as follows:

Can we apply the commonly described characteristics regarding Generation Y as found in the literature, to the undergraduate students in the FoHS, UFS and therefore ascribe the challenges that academic staff experience in the teaching and learning environment to these unique generational characteristics?

The following objective was pursued:

Obtaining data as to whether the characteristics of Generation Y as described in the literature are applicable and relevant to undergraduate students in the FoHS, UFS.

The answers to this research question provided the background to the gap in knowledge that was identified and formed the rationale for the study. Furthermore, it contextualised the study within a distinctive and particular teaching and learning environment, namely Health Sciences Education in the FoHS, UFS, by providing for research-based evidence in an as yet unexplored population, therefore expanding on existing knowledge.

The objective was pursued by means of a literature survey (including key words) as well as a questionnaire survey for undergraduate students in the FoHS, UFS.

In Chapter 2, ***Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education*** (cf. p.19) a background was given regarding the challenges posed as a result of the typical generation profile and the need to identify novel approaches to address these. Figure 2.1 (cf. p.25) provided a diagrammatic **overview of the different aspects** discussed in Chapter 2.

Generational theory (cf. 2.4, p.26) was conceptualised and contextualised by including a discussion on the **background** (cf. 2.4.1, cf. p.26) as well as a description of different **generation cohorts** (cf. 2.4.2, cf. p.28) which was summarised in Table 2.1 (cf. p.29). To gain a comprehensive understanding of **Generation Y** (cf. 2.5, p.30), the **terminology** (cf. 2.5.1.1, p.31) used in both scholarly and popular discourse was mentioned as well as the applicable **demography** (cf. 2.5.1.2, cf. p.32) based on currently available literature from other populations.

In order to obtain a substantial and succinct understanding of the **characteristics of Generation Y** (cf. 2.5.2, p.34), the discussion was divided into sections. These included **values and behaviours** (cf. 2.5.2.1, p.35) describing the attitudes, goals and ideals influencing the perceptions and therefore values and behaviours commonly adhered to, **communication styles, skills and needs** (cf. 2.5.2.2, p.36) indicating

especially the compelling influence that technology has on communication both within and between generations, **learning styles and needs** (cf. 2.5.2.3, p.38) taking into consideration the co-existence of different generations in the higher education environment as well as the constantly evolving nature of knowledge transfer and construction and finally, **environment and shaping events** (cf. 2.5.2.4, p.40), providing a description of the prevailing mutual history, world events and social environment characterising certain life stages which leads to different world views amongst diverse age cohorts.

This provided the background to developing an understanding of **Generation Y in higher education** (cf. 2.5.3, p.40), so that the **role and impact of Generation Y in higher education** (cf. 2.5.3.1, p.40) could be evaluated – both in a global and local context. This was narrowed down to the field of **Generation Y in Health Sciences Education** (cf. 2.5.3.2, p.42) contextualising the evidence from literature regarding both the nature of and approaches to the challenges associated with the predominance of the Generation Y cohort in the present educational environment.

A discussion on the **higher education teaching and learning environment** (cf. 2.6, p.45) followed in order to clearly specify the changing teaching and learning environment (cf. 2.6.1, p.45) by alluding to the **challenges in Health Sciences Education in general** (cf. 2.6.1.1, p.45) and honing in on the **South African context** (cf. 2.6.1.2, p.47) to place this study in an applicable setting.

In order to provide a thorough contextual framework, a discussion was included on the **guiding principles and theory** (cf. 2.6.2, p.47) that inform approaches and adaptations to ensure the sustainability of higher education. This included present **teaching and learning approaches** (cf. 2.6.2.1, p.50) that have undergone a paradigmatic shift from being teacher-centred to student-centred, **learning styles** (cf. 2.6.2.2, p.53) which are based on the individual's cognitive, personality and behavioural factors, contributing to their approaches to learning, the highly influential **cultural effects on learning** (cf. 2.6.2.3, p.56) which are highlighted in the contemporary diversity of ethnicities, educational backgrounds and culture amongst increasing numbers of non-traditional students, **innovation and ICT** (cf. 2.6.2.4, p.57) which have revolutionised the possibilities in the teaching and learning environment but simultaneously present

challenges in terms of including these in a rational manner as well as **adult learning principles** (cf. 2.6.2.5, p.60) focusing on developing students' self-regulatory abilities.

Finally, some **issues were identified** (cf. 2.7.1, p.61) in the Health Sciences Education teaching and learning environment which should be addressed in an educational approach, including generational characteristics, the ICT revolution, the lecturer-student relationship as well as pedagogical theory.

A few **suggested solutions** (cf. 2.7.2, p.62) based on current literature were put forward namely the assimilation of a multi-tasking mindset, customisation of the learning environment through mentoring and providing students with the opportunity to collaborate. Furthermore, practical examples were given, including the use of **technology** (cf. 2.7.2.1, p.63), encouraging **active learning** (cf. 2.7.2.2, p.63), the introduction of **games, fun and humour** (cf. 2.7.2.3, p.63), making use of **simulation** (cf. 2.6.2.4, p.64) or **personal response system technology** (2.7.2.5, p.64) as well as focusing on **mentoring** (2.7.2.6, p.65).

In Chapter 3, ***Research Design and Methodology*** (cf. p.67) the empirical phase of the study was described, including the undergraduate student questionnaire survey. However, for the purpose of this concluding chapter, a more detailed discussion of Chapter 3 will be provided in Point 7.2.2 (cf. p.356). The first component of the research design, namely Phase one (concurrent triangulation) was used to address research question one in addition to the abovementioned literature survey, and included the collection and analysis of quantitative and qualitative data respectively through closed and open questions in the undergraduate student questionnaire survey (cf. 3.3.1, p.85; 3.3.2, p.86).

In Chapter 4, ***Results and discussion of findings of the questionnaire survey*** (cf. p.117) the findings from both the undergraduate student questionnaire survey and academic staff member questionnaire surveys are presented. However, for the purpose of this concluding chapter, the findings related to answering research question one will be discussed only, namely the **results and discussion of findings of the undergraduate student questionnaire survey** (cf. 4.2.1, p.121; 4.3.1, p.138; 4.4.1, p.185; 4.5.1, p.214; 4.6.1, p.241) while a more elaborate description of the contents of

Chapter 4 will be provided in Point 7.2.2 (cf. p.356) when addressing research question two (see below).

The **introduction** (cf. 4.1, p.117) in Chapter 4 included a description of the components of the questionnaire survey, namely Sections A, Demographic information, B, Values and behaviour, C, Communication styles, skills and needs, D, Learning styles and needs and E, Environment and shaping events. This facilitated clarity when viewing the information obtained in the exploration of the literature (cf. **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education,** p.19).

This was followed by a **demographic description** of the undergraduate student study population (cf. 4.2.1, p.121), illustrated in Figures 4.1 to 4.8, including the **distribution of undergraduate students in the FoHS** (cf. 4.2.1.1, p.122) and the **age distribution** (cf. 4.2.1.2, p.128), **gender** (cf. 4.2.1.3, p.128), **home language** (cf. 4.2.1.4, p.129) and **ethnicity** (cf. 4.2.1.5, p.131) of undergraduate students in the sample population, summarised in Point 4.2.1.7 (cf. p.132).

The subsequent sections in Chapter 4 provided for the quantitative and qualitative data from the closed and open questions in the questionnaire surveys respectively. This included the quantitative results analysed statistically followed in each case by a discussion of qualitative findings including supportive or contradictory statements from the undergraduate student questionnaire survey for Section B, **Values and behaviours** (cf. 4.3, p.138), for the undergraduate student population (4.3.1, p.138), presented in Tables 4.1 to 4.2, Section C, **Communication styles skills and needs** (cf. 4.4, p.185), for the undergraduate student population (4.4.1, p.185), presented in Tables 4.5 To 4.7, Section D, **Learning styles and needs** (cf. 4.5, p.214), for the undergraduate student population (4.5.1, p.214), presented in Tables 4.11 to 4.14 and Section E, **Environment and shaping events** (cf. 4.6, p.242), for the undergraduate student population (4.6.1, p.242), presented in Tables 4.19 to 4.21.

The main findings related to research question one were as follows:

Generation Y displayed characteristic attitudes and beliefs leading to values and practices as well as communication and learning behaviours, mostly due to their prevailing environment and its shaping events. This included agreement with perceptions describing them as optimistic, open-minded, tolerant and confident with superior skills in terms of technology use, communication, education and collaboration and preferences for structure, supervision, visual and experiential learning. These positive qualities must be creatively harnessed and nurtured in the teaching and learning environment.

However, their perceptions were distinctly different from those describing the Generation Y cohort elsewhere. For example, they indicated that they faced distinct challenges associated with living in South African society, and that they did not perceive themselves as self-centred or displaying a sense of entitlement or desire for instant gratification, although apparently lacking respect and responsibility.

Furthermore, in the teaching and learning environment, despite apparent confidence in their abilities, they indicated experiencing difficulty with deep learning, information overload, and the negative effects of technology on communication and human interaction, as well as preferences against working in groups and e-learning as opposed to traditional didactic practices. They expressed an obvious desire for mentoring by empathetic role-models. These results emphasise the role of the lecturer in the teaching and learning environment in terms of responding with compassion and empathy to undergraduate students' difficulty in negotiating the turbulence of their immediate environment, and avoiding prejudice when managing undergraduate students' perceived arrogance or self-centredness. Furthermore, at an institutional level, both students and academic staff must be supported in the cautious implementation of educational technology while simultaneously addressing the need for meaningful interpersonal interaction.

Therefore, research question one was answered as follows:

Due to both distinctive similarities and differences in perceptions regarding Generation Y students between the available literature and indicated from the undergraduate student questionnaire survey, all the commonly described characteristics of Generation Y as found in the literature cannot be applied universally to undergraduate students at the FoHS, UFS. In lieu of accepting widely held views in both scholarly and popular literature or basing assumptions on media-generated hype, the actual perceptions and beliefs held by a specific student cohort should rather be determined to inform one's understanding.

The distinctive generational characteristics of undergraduate students at the FoHS, UFS may pose particular challenges to academic staff members in the teaching and learning environment. These challenges must be succinctly identified and specifically addressed taking into consideration the *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p. 313).

Research question one was related to the first hypothesis of the study, namely:

The characteristics describing Generation Y in the literature fit the profile of undergraduate students in the FoHS, UFS.

The first hypothesis was disproved, as the results revealed that although many of the characteristics describing Generation Y in the literature do fit the profile of undergraduate students in the FoHS, UFS, there were significant differences, as discussed, between these descriptions and undergraduate students' perceptions as revealed by the questionnaire survey. Although undergraduate students in the FoHS, UFS, were indeed positive, confident and assertive, had positive views of their communication and academic abilities, and wanted a visually stimulating, variety-rich learning environment that was simultaneously structured, they were not characterised by a desire for collaborative teamwork, nor were they unambiguously in favour of e-learning.

7.2.2 Research question two

The second research question was stated as follows:

Can we formulate appropriate responses or interventions by identifying the differences in perceptions regarding Generation Y between undergraduate students and academic staff members?

The following objective was pursued:

Identifying discrepancies in awareness and understanding of perceptions regarding the characteristics of Generation Y between undergraduate students and academic staff lecturing undergraduate students.

This objective was pursued by means of both undergraduate student and academic staff member questionnaire surveys and a comparison of the results of these surveys, as well as the results from the focus group interview with academic staff members.

Following from the brief mention in Point 7.2.1 (cf. p.349), a more detailed discussion is included regarding the research design and methodology used in this study. In **Chapter 3, *Research Design and Methodology*** (cf. p.67) an overview was given of the rationale for the mixed-method research design used in this study. Following an **introduction** (cf. 3.1, p.67) which referred to how the methodology and research design aimed to address the objectives of the study, some **theoretical perspectives on the research design** were given (cf. 3.2, p.68) in which the **theory** (cf. 3.2.1, p.68) underpinning the choice of a mixed-methods research design was discussed comprehensively.

This included a **visual representation of the steps in a mixed-methods research model** as it was implemented in this study in Figure 3.1 (cf. p.76), followed by a description of the **strategy of inquiry and research approach** (cf. 3.2.2, p.77), which included a visual diagram of the procedures in the study in Figure 3.2 (cf. p.79). Figure 3.2 illustrated the two phases of the research design implemented in this study, namely concurrent triangulation (Phase I) followed by sequential explanatory design (Phase II).

The procedures and products of the data collection, data analysis and results of each of the two phases were listed in Figure 3.2 9 (cf. p.79). Table 3.1 (cf. p.82) listed the **questions and steps in the design of mixed-methods research**. This section went on to include a description of the two phases followed in this research design. Phase I, concurrent triangulation, comprised of questionnaire surveys for both undergraduate students and academic staff members which allowed for the simultaneous collection of quantitative and qualitative data allowing for layering and depth of interpretation. Phase II, sequential explanatory design, made use of the findings from Phase I to inform the FGI, therefore following the quantitative data with qualitative data collection to further elaborate on and enhance the richness of the results.

This was followed by a description of the **research methods** (cf. 3.3, p.85) which included the **data collection methods** for the **literature survey** (cf. 3.3.1, p.85), the **questionnaire survey for both undergraduate students and academic staff members** (cf. 3.3.2, p.86) which explained the design and implementation of the questionnaire as survey instrument as well as the **data collection method** for the **focus group interview** (cf. 3.3.3, p.90). This was followed by a description of the **sample selection** (cf. 3.3.4, p.92) including the **target population, survey population, sample size, and a description of the sample** for the **undergraduate student questionnaire survey** (cf. 3.3.4.1, p.93), **academic staff questionnaire survey** (cf. 3.3.4.2, p.96) as well as the **focus group interview** (cf. 3.3.4.3, p.98) and finally the **pilot study** (cf. 3.3.5, p.103) for the questionnaire survey (cf. 3.3.5.1, p.103) as well as the FGI (3.3.5.2, p.104). Tables 3.2 (cf. p.94) and 3.3 (cf. p.94) gave information regarding the **undergraduate degree courses offered in the FoHS** and the **numbers of undergraduate students registered in the FoHS** respectively that were used in determining the target population for the undergraduate student questionnaire survey. Table 3.4 (cf. p.102) provided an overview of the **eligibility criteria for purposive sampling of academic staff members for the FGI**.

The methods of **data analysis** (cf. 3.4, p.105) for the two phases of the research design were described including the **quantitative data analysis** (cf. 3.4.1, p.105) of the closed questions in the questionnaire surveys by means of statistical analysis and the **qualitative data analysis** (cf. 3.4.2, p.106) of the open questions in the questionnaire

surveys as well as the FGI by means of content analysis of thematic variables. Figure 3.3 (cf. p.108) and Table 3.5 (cf. p.109) elucidated the **qualitative analysis**.

This chapter was concluded by referring to the methods of **ensuring quality of the study** (cf. 3.5, p.109) by addressing issues of **reliability** (cf. 3.5.1, p.110), **validity** (cf. 3.5.2, p.110), **trustworthiness** (cf. 3.5.3, 111) and **minimising of potential misinterpretation of results** (cf. 3.5.4, p.112) as well as stating the **ethical considerations** (cf. 3.6, p.112) with references to **approval** (cf. 3.6.1, p.112), **informed consent** (cf. 3.6.2, p.112) and the **right to privacy** (cf. 3.6.3, p.114) for both the questionnaire surveys and the FGI. Finally the section on **formulating the educational approach** (cf. 3.7, p.114) that dealt with the aim of the study was addressed, before the **conclusion** of Chapter 3 (cf. 3.8, p.115).

As previously mentioned under Point 7.2.1 (p.349), **Chapter 4, *Results and discussion of findings of questionnaire survey*** (cf. p.117) described the findings from the undergraduate students' and academic staff members' questionnaire surveys. The findings related to the **results and discussion of findings of the undergraduate student questionnaire survey** were mentioned as they related to answering research question one, and referred to the **introduction** (cf. 4.1, p.117), **demographic description** of the undergraduate student study population (cf. 4.2.1, p.121) as well as the quantitative and qualitative data pertaining to the undergraduate student questionnaire survey for the **Sections B, Values and behaviours, C, Communication styles, skills and needs, D, Learning styles and needs and E, Environment and shaping events** respectively.

In Chapter 4 the **results and discussion of findings of the academic staff member questionnaire survey** were discussed with reference to the **demographic description of the academic staff members in the study population** (cf. 4.2.2, p.132), including the **distribution of academic staff members in the FoHS** (cf. 4.2.2.1, p.134) and illustrated in Figure 4.9 (cf. p.134), the **age distribution** (cf. 4.2.2.2, p. 136), **gender distribution, home language and ethnicity** of academic staff members in the study population (cf. 4.2.2.3, p.137) as well as the **tertiary qualifications held by academic staff members** (cf. 4.2.2.4, p.137) which were summarised in Point 4.2.2.5 (cf. p.138).

This was followed by both quantitative and qualitative results in the form of tables representing the statistical analysis of quantitative data, followed by quoted statements from the qualitative data providing for corroboration or contradiction of the quantitative results related to the **academic staff members' questionnaire survey** in **Section B**, **Values and behaviours** (cf. 4.3, p.138) as it is related to academic staff members (cf. 4.3.2, p.172), presented in Tables 4.3 and 4.4 and summarised in Point 4.3.3 (p.183), Section C, **Communication styles, skills and needs** (cf. 4.4, p.185) as it is related to academic staff members (cf. 4.4.2, p.203), presented in Tables 4.8 to 4.10 and summarised in point 4.4.3 (cf. p.213), Section D, **Learning styles and needs** (cf. 4.5, p.214) as it is related to academic staff members (cf. 4.5.2, p.230), presented in Tables 4.15 to 4.18 and summarised in Point 4.5.3 (cf. p.241) as well as Section E, **Environment and shaping events** (cf. 4.6, p.242) as it is related to academic staff members (cf. 4.6.2, p.253), presented in Table 4.22 (cf. p.253) and summarised in Point 4.6.3 (cf. p.256). The chapter was **concluded** in Point 4.7 (cf. p.257).

In Chapter 5, ***Results and Discussion of Findings of the Focus Group Interview*** (cf. p.258) the **introduction** (cf. 5.1, p.258) was followed by a discussion on the **background to the FGI data analysis** (cf. 5.2, p.259). Table 5.1 (cf. p. 260) provided for the **criteria that were used in the reporting of the FGI data**.

This was followed in Point 5.3 (cf. p.261) with a discussion on the **research team and reflexivity**, with reference to the personal characteristics (cf. 5.3.1, p.261) and **relationships with participants** (cf. 5.3.2, p.262) of the researcher and FGI facilitator. Hereafter, the **study design** (cf. 5.4, p.262) was described with reference to the **theoretical framework** (cf. 5.4.1, p.262), **participant selection** (cf. 5.4.2, p.263), **setting** (cf. 5.4.3, p.264), **data collection** (cf. 5.4.4, p.265), including to the compilation of questions and an agenda for the FGI and the recording and transcription of the audio recording, as well as the **pilot study** (cf. 5.4.5, p.267).

This was followed by a discussion on the **data analysis and findings** (cf. 5.5, p.268), including the description of the **approach to the final FGI transcript** including the written transcript of the audio recording and contextual field notes (cf. 5.5.1, p. 268) and the **reporting of the data** (cf. 5.5.2, p.270). This was arranged into the three areas that comprised the FGI agenda, including **initiating the session** (cf. 5.5.2.1, p.270), **specific**

areas of interest (cf. 5.5.2.2, p.273) and the **suggested educational approach** (cf. 5.5.2.3, p.398). In each of these areas the questions from the FGI agenda were discussed individually with the major and minor themes identified from responses to these questions represented with supportive quotes given for each.

The **conclusion of the session** was described in Point 5.5.2.4 (cf. p.301), which was followed by a **summary of findings of the results and discussion of the FGI** (cf. 5.6, p.301), in the form of Table 5.2 (cf. p.303-305). The findings summarised in Table 5.2 were then discussed with reference to the **nature of the teaching and learning environment** (cf. 5.6.1, p.306), the **qualities of the lecturer** (cf. 5.6.2, p.307) and the **characteristics and role of the student** (cf. 5.6.3, p.307), followed by the **conclusion** of Chapter 5 (cf. 5.7, p.307).

The main findings related to research question two were as follows:

There were definite differences in perceptions between undergraduate students and academic staff members regarding current undergraduate students in the FoHS, UFS, who belong to the Generation Y cohort. These included that academic staff members had less flattering perceptions than undergraduate students of Generation Y, including for example that they perceived that these students displayed attitudes of arrogance, self-centredness and a sense of entitlement as well as demands for instant gratification, that undergraduate students did not regard technology as deleteriously affecting their communication skills or relationships, that they had a more positive view of their academic abilities than academic staff members (except with regard to managing vast amounts of written information) and that they disliked group work in spite of its perceived importance.

Significantly, undergraduate students and academic staff members disagreed on students' indicated desire for collaboration in terms of subject content, as well as students' indicated disagreement with statements suggesting that they prefer online learning to more traditional settings. Therefore, current teaching and learning strategies must be revised to take into account these findings so that specific issues may be addressed to facilitate effective knowledge construction.

However, shared similar perceptions existed between undergraduate students and academic staff members regarding Generation Y students' qualities of optimism, positive and assertive behaviours, confidence, ambition, high expectations of success and work-life balance, their need for structure and supervision in the learning environment as well as interactive, experiential learning experiences, motivational leadership and role-modelling and the undeniable impact of technology on Generation Y students' daily lives. These positive qualities should be harnessed creatively, and the innate and valuable mentor-mentee relationship should be further explored and applied in the teaching and learning environment.

Many responses to open questions (qualitative data) did not consistently support the findings from quantitative data, therefore providing greater depth and breadth to the data. For example, undergraduate students alluded to the lack of respect and responsibility and the difficulties experienced with intergenerational and interpersonal communication due to living in a world characterised by the lack of moral integrity, racial diversity, excessive peer pressure and the distinct socio-political situation in South Africa.

The researcher is of the opinion that these undercurrents play a major role in the challenges faced on a daily basis in Health Sciences Education, and that greater accountability is required at institutional management level to equip and empower academic staff to deal with these matters. After all, the education of future healthcare professionals who are appropriately qualified to deal with the future demands placed on the healthcare system is no insignificant mission.

The FGI data revealed findings that supported the results from the questionnaire survey regarding the centrality of a supportive and secure teaching and learning environment characterised by open communication and feedback and efficient use of innovative technology, although not at the expense of human interaction. The implementation of educational technology or any didactic innovations should therefore be approached wisely, without losing sight of the all-important and foundational aspect of motivational guidance as well as the security of a structured environment.

The significance of the lecturer-student relationship was underlined by the FGI findings which highlighted the lecturer's qualities in terms of empathy and inspirational role-modelling, and that any strategies employed in teaching and learning approaches must be initiated first by an in-depth understanding of the characteristics of the student, in order to harness their strengths successfully whilst at the same time dealing with their weaknesses positively. Only then can transformative knowledge construction take place

Therefore, research question two was answered as follows:

Although there were many shared perceptions between academic staff members and undergraduate students regarding the Generation Y cohort of students which should be expanded on to ensure the successful functioning of the teaching and learning environment, several distinct contrasting perceptions were demonstrated that lead to misunderstandings and/or challenges that must be addressed specifically and creatively. For example, the fact that undergraduate students and academic staff members disagree on the issue of student collaboration on subject content, or that Generation Y students are inclined to be self-centred displaying a sense of entitlement, impacts negatively on interaction in the classroom. Awareness of these differences can alleviate much of the frustration, dissatisfaction and subsequent loss in terms of quality in the teaching and learning environment.

Generalisations or stereotypical assumptions which exacerbate conflict or prompt sweeping reform (for example widespread technology applications in the teaching and learning environment) should rather be explored and justified by evidence-based findings providing an informed view of the reality of the teaching and learning environment as well as the students that it is designed for.

The FGI held with academic staff members revealed that three important aspects emerged as vital when addressing the educational approach for the generation profile of undergraduate students in the FoHS, UFS, namely, the nature of the teaching and learning environment, the qualities of the lecturer and the characteristics and role of the student. These aspects were included in the educational approach that was formulated in Chapter 6, and schematically represented in Figure 6.3 (cf. p.335).

Research question two was related to the second hypothesis of the study, namely:

There is a discrepancy in the perception of Generation Y (born 1981-2000) between undergraduate students and academic staff lecturing undergraduate students in the FoHS, UFS, indicating generational diversity.

The second hypothesis was proved, as the results revealed that there are significant differences in some (but not all) of the perceptions regarding Generation Y between undergraduate students and academic staff members who lecture to them in the FoHS, UFS, therefore indicating generational diversity. These differences as elucidated above may lead to conflict and impaired functioning. Awareness of and inventive solutions for these differences must be developed in order to optimise teaching and learning.

7.2.3 Research question three

The third research question stated was:

What should the appropriate educational approach be for the uniquely diverse and specific generation profile of undergraduate students in the FoHS, UFS?

The following objective was pursued:

Formulate an approach (including recommendations) for the generation profile of undergraduate students in the FoHS, UFS, incorporating the characteristics of undergraduate students as well as discrepancies in perceptions between undergraduate students and academic staff lecturing undergraduate students that could affect the teaching and learning environment.

This objective was pursued by means of the literature survey, the results of the student and staff questionnaire surveys and the focus group interview with academic staff members.

In Chapter 2 (cf. p.19) the engagement with the literature was discussed, while Chapter 3 (cf. p.67) described the research design and methodology used in the study. Chapter 4

represented the questionnaire survey results and discussion of these findings (cf. p.117) while Chapter 5 represented the results and discussion of findings of the FGI (cf. p.258). These Chapters were discussed under Point 7.2.1 (cf. p.3549) and Point 7.2.2 (cf. p.356) with reference to research questions one and two respectively. Chapter 6, ***An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State*** (cf. p.308) represented the final step in Phase II of this research design (cf. 3.2.2 **Strategy of inquiry and research approach,** p.77).

Following the **introduction** (cf. 6.1, p.308), a **theoretical framework underlying the educational approach** was provided (cf. 6.2, p.310) by means of a discussion of the **teaching and learning environment as well as approaches to teaching and learning** (cf. 6.2.1, p.310) and a definition **of the term "educational approach"** was proposed (cf. p.6.2.2, p.312). Figure 6.1 (cf. p.313) represented a schematic representation of the educational approach as a symbiotic interaction between **four key elements of successful pedagogy in Health Sciences Education** as compiled by the researcher.

An **overview of significant findings** of the study (cf. 6.3, p.316) as related to the findings from Phase I, concurrent triangulation design (cf. 6.3.1, p.316) and Phase II, sequential explanatory design (cf. 6.3.2, p.321) respectively were presented. For Phase I, this included a brief summary of the findings regarding the **demographic information** for both undergraduate students (cf. 6.3.1.1, p.316) and academic staff members (cf. 6.3.1.2, p.317) as well as the pertinent findings from the sections on **values and behaviour** (cf. 6.3.1.3, p.317), **communication styles, skills and needs** (cf. 6.3.1.4, p.318), **learning styles and needs** (cf. 6.3.1.5, p.318) and **environment and shaping events** (cf. 6.3.1.6, p.320).

The significant findings from Phase II were discussed with reference to each of the *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p.313), namely the **teaching and learning environment** (cf. 6.3.2.1, p.321), **participants (students)** (cf. 6.3.2.2, p.322), **approaches to teaching and learning** (cf. 6.3.2.3, p.323) as well as **practitioners (academic staff)** (cf. 6.3.2.4, p.323).

Guidelines for an educational approach for the generation profile of undergraduate students in the FoHS, UFS were presented (cf. 6.4, p.324), also with regard to the abovementioned **key elements** (cf. 6.4.1, p.324; 6.4.2, p.326; 6.4.3, p.329; 6.4.4, p.331), including references to **ICT** (cf. 6.4.1.1, p.324) and **structure and supervision** (cf. 6.4.1.2, p.325) in the teaching and learning environment, as well as by presenting an **alignment with theory and application of the educational approach** (cf. 6.4.5, p.333).

Table 6.1 (cf. p.333) indicated the alignment between existing theory listing *Principles for Good Practice* and *Attributes of Quality in Higher Education* (cf. 2.6.2 **Guiding principles and theory**, p. 47) and the findings from the research design. In addition, Figure 6.3 (cf. p.335) was compiled as a schematic representation of the educational approach for the generation profile of undergraduate students in the FoHS, UFS, taking into account the four key elements (cf. **Figure 6.1**, p.313) as the quadrants forming a whole, and containing a nexus of related concepts that must be addressed in a holistic educational approach. This was followed by **recommendations** formulated from the proposed educational approach (cf. 6.5, p.339)

The main findings related to research question three were as follows:

As indicated from the literature survey (cf. **Chapter 2**, p.19), the results of the student and staff questionnaire surveys (cf. **Chapter 4**, p.117) and the focus group interview with academic staff members (cf. **Chapter 5**, p.258), undergraduate students in the FoHS, UFS, who belong to the Generation Y cohort, display distinctive characteristics, and there are various discrepancies in perceptions between undergraduate students and academic staff members who lecture to them that affect the teaching and learning environment as well as approaches to teaching and learning (cf. 7.2.1, p.349; 7.2.2, p.356).

These distinctive characteristics (for example an indicated preference for traditional lectures in lieu of e-learning or perceived superior communication skills yet deficiencies in interpersonal communication ability) and subsequent challenges in the teaching and learning environment (for example that academic staff members view students as

arrogant or demanding instant gratification or undergraduate students' dislike of group work activities) must be managed effectively.

When determining/designing an appropriate educational approach, there are four key elements that should interact simultaneously in a symbiotic fashion to ensure successful pedagogy, namely, the teaching and learning environment, the participants (students), teaching and learning approaches and the practitioners (academic staff) involved. In addition, these elements should create a background from which specific concepts must be addressed in the educational approach, including structure and support, a student-centred view, technology, relationships, student characteristics, mentoring, engagement and supervision.

The findings from this study, provided a comprehensive overview of the characteristics of Generation Y students at the FoHS, UFS, as well as insight into the possible ways of addressing these characteristics and the challenges that arose from different observations that were incorporated into guidelines addressing the abovementioned four key elements which align with existing theory directing good practice in higher education.

Finally, using the abovementioned guidelines informing the educational approach for the generation profile of undergraduate students at the FoHS, UFS, recommendations could be formulated that may make a modest contribution in the field of Health Sciences Education.

Therefore, research question three was answered as follows:

An approach (including recommendations) was formulated for the generation profile of undergraduate students in the FoHS, UFS, incorporating their characteristics as well as discrepant perceptions between undergraduate student and academic staff members that impact on the teaching and learning environment.

7.3 CONCLUSION

This study originated from the scholarly work describing the concepts of **generational cohorts,** specifically **Generation Y**, and how the distinctive **characteristics** seen in undergraduate students belonging to Generation Y impacts on **Health Sciences Education**, both internationally as well as in **South Africa**. This was related to the **discourse surrounding educational approaches** in the context of **imminent reforms in both education and healthcare systems** necessitated by the changing scenario of the 21st century (especially in terms of **ICT advances**) and the emerging **scholarship of teaching and learning** (cf. **Chapter 2, Generational Theory and Educational Approaches with reference to Generation Y in Health Sciences Education**, p.19). The aforementioned **engagement with the literature** allowed for an analytical view of the **theoretical perspectives** that inform **conceptual frameworks** in Health Sciences Education, and pointed to a **gap in current knowledge regarding Generation Y in the context of Health Sciences Education in South Africa**.

This study is based on the identification of an **existing gap in the literature regarding whether the characteristics commonly ascribed to Generation Y students worldwide were indeed relevant or applicable to Generation Y students in South Africa**, whether there were **discrepancies in perceptions** between undergraduate students as members of Generation Y and the academic staff members who lecture to them in the FoHS, UFS and the existing literature, and whether these **discrepancies influenced teaching and learning**. Furthermore, the study was grounded in the premise that awareness of contrasting viewpoints could inform the **formulation of an appropriate and therefore valuable educational approach for the generation profile of undergraduate students in the FoHS, UFS**, therefore addressing the requirements of **Best Evidence Medical Education** (Harden & Lilley, 2000:71,88) (cf. **2.6.2 Guiding principles and theory**, p. 47).

To **bridge this gap**, the research design and methodology in this study was in the form of a **mixed-methods approach in two phases**. A mixed-methods research design includes **both quantitative and qualitative data collection, analysis and integration** which facilitate a nuanced understanding of issues surrounding teaching and learning (especially in Health Sciences Education) by **generating a wide array of research**

findings. As a **pragmatic approach**, it capitalises on the strengths and minimises the weaknesses of quantitative and qualitative methodological frameworks individually, offering a broad base of evidence that is both **practical in application and widely acceptable** (cf. **Chapter 3, Research Design and Methodology**, p.67). Attention was paid throughout the implementation of the research design to issues of reliability and validity, ensuring the quality of the study (cf. 3.5, p.109).

Phase I of the mixed-methods research design in this study was in the form of **concurrent triangulation**. Data collection was done by means of a **questionnaire survey** completed by undergraduate students in the FoHS, UFS, belonging to the Generation Y cohort, as well as academic staff members who lecture to them, and included both **quantitative data** (from closed questions) that were analysed statistically as well as **qualitative data** (from open questions) that were analysed by thematic analysis.

These data were interpreted to identify significant as well as conflicting findings, and contributed to the development of themes or focus areas to be used in Phase II of the study design (cf. **Chapter 4, Results and discussion of findings of the questionnaire survey**, p.117). The high response rate by both undergraduate students and academic staff members in the sample population to the questionnaire survey (cf. 4.2.1, p.121; 4.2.2, p.132) contributed to the generation of a comprehensive database of research findings, increasing the generalisability of these findings in providing proof for the answers to the research questions.

Phase II was in the form of **sequential explanatory design** and made use of data collection by means of a **focus group interview** held with academic staff members. Thematic analysis of these data contributed to explanation of findings from Phase I as well as the identification of new issues (cf. **Chapter 5, Results and Discussion of Findings of the Focus Group Interview**, p.258). Both phases of the research design were not met by any major field work problems.

The final step in the research design included assimilation of all the combined quantitative and qualitative findings based on the results represented in the aforementioned Chapters 4 and 5, as well as from the engagement with literature in

Chapter 2. The **theoretical framework** constructed in Chapter 2 and the **factual aspects** in Chapters 4 and 5 provided the scientific evidence which was interpreted for the purpose of fulfilling the aim of the study (cf. 1.4.2, p.7), namely the formulation of an educational approach for the generation profile of undergraduate students in the FoHS, UFS. This was done in Chapter 6, ***An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State*** (cf. p. 308).

In Chapter 6, a schematic representation was constructed by the researcher consisting of the **Key Elements for Successful Pedagogy in Health Sciences Education** (cf. **Figure 6.1**, p. 313) which should form the background from which the educational approach may be generated. These included the **teaching and learning environment**, **participants (students), approaches to teaching and learning** as well as **practitioners (academic staff)**.

As suggested, these key elements should form an integrated foundation, on which the educational approach is built utilising **specific concepts**, including **structure and support** based on a **student-centred viewpoint**, **technology** but not at the expense of **relationships**, **student characteristics** incorporating the need for **mentoring** and active student **engagement** offset by **supervision**. This was schematically represented in Figure 6.3 (cf. p.335).

Guidelines were generated and recommendations made for the educational approach which was based on the **factual aspects** gained from the results of the study, as well as the **theoretical perspectives** derived from engagement with the literature that informed the **conceptual framework** underlying this research. This was demonstrated with a pyramid design (cf. **Figure 6.2**, p. 334), in which the educational approach formed the apex of a pyramid building on engagement with theory, empirical research findings, subsequent guidelines and recommendations formulated from these.

On a **conceptual level**, this study provided **evidence** that for an educational approach that will meet the demands for **quality in teaching and learning** for the 21st century, the **requirements of health and educational systems** as well as the **ICT revolution** should be considered in the design of the teaching and learning **environment**, and the

processes and strategies underlying teaching and learning **approaches** should be grounded in sound **epistemology and ontology** as well as utilise **evidence-based theory**.

At the same time, however, instead of reverting to **hype or stereotype** regarding **Generation Y students** who constitute the **participants** for whom this environment and approach is intended, a thorough **understanding** of these students, specifically in the **South African context** is required. Furthermore, the **practitioners**, or **Health Sciences Educators** need to display sound **knowledge of both their discipline and pedagogy**, as well as possess **authenticity** in their attitudes and actions.

The **conceptual framework** developed for this study, and incorporating all the aspects that were addressed in this research project, was illustrated in Figure 6.4 (cf. p.343), with the educational approach forming the final tier in a model constructed on consecutive tiers. The researcher proposes that this conceptual framework is utilised in the educational approach for the unique and specific generation profile of undergraduate students in the FoHS, UFS. Furthermore, the researcher is of the opinion that this model may be **valuable for application in other contexts**, for example, within other Faculties at the UFS, other Faculties of Health Sciences in South Africa, as well as further afield.

The **significance** of this research lies in its contribution to the body of **scientifically-based knowledge** regarding the **scholarship of teaching and learning** and **best evidence medical education**, as well as in its **value** in terms of **creating awareness** and providing for guidelines and recommendations which will **enhance best practice** in **Health Sciences Education**.

7.4 LIMITATIONS OF THE STUDY

The researcher recognises the following limitations in the study:

This study generated a **comprehensive array of research data and findings** from which the recommended educational approach was formulated. However, due to the

extensive nature of the results generated, these **could not be discussed in full** in this thesis.

For example, differences that emerged between undergraduate students' perceptions in the Schools of Medicine, Allied Health and Nursing respectively, were not addressed within the scope of this thesis. Comparisons between the distinctive characteristics of students in these schools does not fall within the overall goal, aim and objectives of this study which examined undergraduate students in the FoHS as a unified group, but would nonetheless provide valuable contributions within the fields of Medical, Nursing and Allied Health Professions Education respectively. The researcher is of the opinion that these differences must be explored more closely, and that the findings must be communicated within the fields as mentioned above. The dissemination of these findings may be assisted by the **preparation of publications** and **presentations** at national and international congresses related to Health Sciences Education specifically, as well as higher education in general.

In addition, in this study, the researcher has married theory and practice by **utilising theoretical insight in guiding the implementation of practical strategies**, whilst simultaneously retaining context specificity. Accordingly, this study may have **transcended the demarcated field of Health Sciences Education** due to the wide array of aspects under discussion. Although the findings are intended for the field of Health Sciences Education, it is recognised that the application thereof may include subtle variations within the fields of **Medical, Allied Health Professions and Nursing Education** that were encompassed by the term "Health Sciences Education" for the purposes of this research project (as discussed above). Furthermore, the **generation profile** under investigation in this study could be comparable to that seen in other disciplines of study at the UFS (in terms of demography), as well as in analogous higher education institutions in South Africa, therefore **making these findings applicable further afield**. These implications were not addressed within the scope of this thesis.

7.5 CONTRIBUTION OF THE RESEARCH

This study provided for evidence based on a comprehensive array of research data and findings that was used in the formulation of an educational approach for the unique

generation profile of undergraduate students in the Faculty of Health Sciences at the University of the Free State who belong to the Generation Y cohort.

The researcher is of the opinion that this research has made a **valuable contribution** by adding new facts and understanding to the existing body of knowledge regarding generational characteristics in the Health Sciences Education environment. The educational approach was formulated in **response to the existing gap in knowledge** and the issues identified from the research findings, and therefore address the need for rigorously tested and evidence-driven data so that teaching and learning practices are based on more than popular discourses or anecdotal communication.

In addition, the development of the survey instrument as well as the data collection methods as well as the completed research can be **utilised for further research** in the field of Health Sciences Education, both locally and internationally, as well as in higher education in general. The researcher is of the opinion that these research findings should stimulate the ongoing development of databases regarding student characteristics, and should take the form of a longitudinal study ensuring continuous knowledge update and therefore ensuring that educational approaches stay appropriate and current.

The **value of this research** will be fully extracted by improvements in quality in higher education that is achieved by averting the conflict and impaired relationships as a result of poorly understood or managed generational diversity that is caused by differences in values and expectations in the teaching and learning environment.

By creating greater awareness of the so-called Generation Y in the FoHS, UFS, and by formulating an appropriate educational approach for this generation profile within a unique and specific environment but with cognisance of the theoretical framework underpinning the educational approach, the researcher has contributed to enhancing an optimal scenario for teaching and learning, facilitating motivation of both students and staff as well as ensuring quality. The findings from this study **contribute to the scholarship of teaching and learning** by providing a body of empirical evidence based on existing conceptual understanding which contributes to innovative pedagogical practice. This falls within the definition of Best Evidence Medical Education.

7.6 RECOMMENDATIONS

The researcher is of the opinion that the significance and value of this study can be enhanced by the following recommendations:

- Presentation of the educational approach as formulated in this study to the FoHS Management Board, as well as the appropriate Faculty Committees involved in academic planning and curriculum development for consideration and possible implementation in the Schools of Medicine, Allied Health Professions and Nursing in the FoHS when designing, developing and reviewing its programs and curricula. The proposed model illustrated in the conceptual framework (cf. **Figure 6.4,** p.343) that was developed from the *Key Elements for Successful Pedagogy in Health Sciences Education* (cf. **Figure 6.1**, p.313), the *Educational Approach Pyramid* (cf. Figure 6.2, p.334) and the *Schematic Representation of the Educational Approach for the Generation Profile of Undergraduate Students in the FoHS, UFS* (cf. **Figure 6.3**, p.335) provide the point of departure for such a presentation
- Submission of a report regarding the generation profile generated from these data to the Centre for Teaching and Learning at the UFS
- Dissemination of the research findings by submitting publications to accredited subject journals. The publications must be aimed at including the phases of the mixed-methods research design, the generation profile generated from the findings with reference values and behaviours, communication, learning styles and needs as well as environment and shaping events respectively, teaching and learning strategies developed from the latter findings as well as the FGI held with academic staff members, the conceptual framework developed as well as the integration with existing literature of the study findings, amongst others
- Presentation of the research results and findings as well as the educational approach at relevant educational forums at national and international conferences
- Extension of the current database of research findings by continuously utilising the survey instrument developed in the study in the FoHS
- Creating awareness amongst academic staff members in the FoHS regarding the need for an educational approach that is tailored for the unique generation profile at

the FoHS as well as its implementation by means of staff development opportunities as well as research forums within the FoHS

- The conceptual framework forming this educational approach may be generalised beyond its local application as it may be contextualised for other situations and groups. Therefore, the researcher proposes expansion of the use of the survey instrument developed for the purpose of this study as well as the educational approach for the specific Generation Y profile by other Faculties at the UFS, as well as by other Faculties of Health Sciences, both locally and internationally, as a means of generating comprehensive databases regarding Generation Y students in other settings as well as encouraging further research in this regard
- Further improvement and development of the educational approach proposed in this study should be done by means of customised and flexible implementation, additional research as well as reflective practice. This means that the implementation of this educational approach and its impact on practices in teaching and learning in Health Sciences Education, as well as the effects on the quality of teaching and learning in the FoHS, UFS should guide further research.

7.7 CONCLUSIVE REMARK

The focus for effective educational practice by well-equipped lecturers should be on the involvement of students by means of teaching and learning approaches that are appropriate and balanced, as well as theoretically sound, within a suitable, relevant environment.

We should never lose sight of the enduring effects and therefore substantial significance of education. “A teacher affects eternity; he can never tell where his influence stops” (Adams, 2011:Online).

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APPENDIX A

QUESTIONNAIRES FOR UNDERGRADUATE STUDENTS AND STAFF

APPENDIX A1

QUESTIONNAIRE FOR UNDERGRADUATE STUDENTS (ENGLISH)

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

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences
Departement Basiese Mediese Wetenskappe / Department of Basic Medical Sciences

QUESTIONNAIRE TO STUDENTS: ENGLISH

Tel: 051-4053107 **Fax: 051-4441198**

February 2010

Dear Sir / Madam

I am conducting research to determine the perceptions regarding the attitudes, characteristics, preferences and expectations of the so-called **Generation Y students** (a.k.a. Millenials, Net Generation, born 1981 - 2000) enrolled in the Faculty of Health Sciences at the University of the Free State. Your co-operation in completing this questionnaire is kindly requested. There is no risk involved in the study. The benefits include that the data from this project will contribute to **creating awareness and understanding** of students in order to adopt an educational approach that facilitates an **optimal teaching and learning environment** in the Faculty of Health Sciences. The data will be made available to the Faculty of Health Sciences Management Board.

Your participation is voluntary and anonymous, and you will not be penalized or lose benefits to which you are otherwise entitled should you decide not to participate. Every effort will be made to keep personal information confidential. Personal information may only be disclosed if required by law.

Your co-operation is greatly appreciated. Any questions about the research may be addressed to me or the Secretariat of the Ethics Committee of the Faculty of Health Sciences, UFS, at telephone number 051-4052812.

By completing this questionnaire, you are giving informed consent that the information may be used for my research. The attached page with definitions will assist you in completing the questionnaire. Please remove this page when you hand in the questionnaire after the session. It will take you a maximum of 20 minutes to complete the questionnaire.

Thank you in advance for your assistance.

Yours sincerely

Dr. Lynette van der Merwe

DEFINITIONS

Generational theory	Shared behaviours, attitudes and expectations in people born during the same time in history *(Codrington 2008: Online, Borges, Manuel, Elam & Jones, 2006: 571)*
Generation Y *(Millenials / Nexters / Net Generation / Echo Boomers / Google Generation)*	Individuals born approximately from 1981 – 2000, with certain characteristics, values and perceptions *(Billings & Kowalski 2004: 104, Clausing, Kurtz, Prendeville & Walt 2003: 373, Howell, Servis & Bonham, 2005: 528)*
Other generations	Generation X (born approximately 1961 – 1980) Baby Boomers (born approximately 1941 – 1960) Silent Generation (born before 1940)
Students	Undergraduate students (learners) enrolled in a higher education institution to attain a qualification
Lecturers	Academic staff members responsible for teaching and/or facilitating learning and/or assessment of students at a higher education institution

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FACULTY OF HEALTH SCIENCES

Questionnaire for Students

An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State

For office use only				
	☐			1
	☐	☐	2	3

You have been asked to participate in a research study. Please note that by completing this questionnaire you are voluntarily agreeing to participate in this research study. You will remain anonymous and your data will be treated confidentially at all times. You may withdraw from this study at any time during the completion of the questionnaire. There will be 5 (five) sections to be completed. Instructions will be supplied with each group of questions. Your co-operation is greatly appreciated.

SECTION A: DEMOGRAPHIC INFORMATION

In the following section, demographic information is requested. Please make a cross (X) in the appropriate box for each item.

1	**Example: Gender**		
1.1	Male	1	
1.2	Female →	X	
1.	**Gender**		☐ 4
1.1	Male	1	
1.2	Female	2	
2.	**Which school are you enrolled in within the Faculty of Health Sciences?**		☐ 5
2.1	School of Medicine	1	
2.2	School of Allied Health	2	
2.3	School of Nursing	3	
3.	**For which degree course have you registered?**		☐ 6
3.1	B.Med.Sc. (Radiation Science)	1	
3.2	M.B., Ch.B. (Undergraduate medical programme)	2	
3.3	B.Sc. Nutrition and Dietetics	3	
3.4	B. Occupational Therapy	4	
3.5	B. Optometry	5	
3.6	B.Sc. Physiotherapy	6	
3.7	B.Soc.Sc. (Nursing)	7	

4. What is your current year of study? (Please note that this does not refer to the duration of your study, but your academic year) [ ] 7

4.1	First year	1
4.2	Second year	2
4.3	Third year	3
4.4	Fourth year	4
4.5	Fifth year (only for M.B., Ch.B. programme)	5

5. For how long have you been a student in the Faculty of Health Sciences, University of the Free State? [ ] 8

5.1	0-2 years	1
5.2	3-4 years	2
5.3	5-6 years	3
5.4	More than 6 years	4

6. Home language [ ] 9

6.1	Afrikaans	1
6.2	English	2
6.3	Sotho	3
6.4	Zulu	4
6.5	Xhosa	5
6.6	Other	6

7. Ethnicity [ ] 10

7.1	Black	1
7.2	White	2
7.3	Coloured	3
7.4	Indian	4
7.5	Asian	5
7.6	Other	6

8. Birthdate (Please enter the year only) [ ][ ] 11 12

19[ ][ ]

9. What is your highest educational qualification? [ ] 13

9.1	Grade 12	1
9.2	Post-matric diploma or certificate	2
9.3	Baccalaureate degree(s)	3
9.4	Post-graduate degree(s)	4

SECTION B: VALUES AND BEHAVIOURS

1. Attitudes

The following statements reflect commonly held perceptions or judgments about the values and behaviours of Generation Y students (born 1981 – 2000).
Please indicate your *AGREEMENT* or *DISAGREEMENT* with each statement by making a cross in the appropriate box, using the following response scale:

1=Strongly disagree 2=Disagree 3= Agree 4= Strongly agree

As a member of Generation Y, I

1.1	am optimistic about the future	1 2 3 4	14
1.2	can be described as friendly and pleasant	1 2 3 4	15
1.3	typically display positive, assertive behaviour	1 2 3 4	16
1.4	have a casual approach that may appear to lack professionalism	1 2 3 4	17
1.5	may seem arrogant	1 2 3 4	18
1.6	am self-centred	1 2 3 4	19
1.7	feel entitled to benefits not yet earned	1 2 3 4	20
1.8	will change the world	1 2 3 4	21
1.9	am ambitious	1 2 3 4	22
1.10	appear confident	1 2 3 4	23
1.11	will improve the future with innovative ideas	1 2 3 4	24
1.12	have high expectations of success	1 2 3 4	25
1.13	want instant gratification meaning I am not willing to wait for delayed rewards	1 2 3 4	26
1.14	have high self-esteem	1 2 3 4	27
1.15	am a fun-seeking, easy-going individual	1 2 3 4	28
1.16	think I am entitled to everything I want	1 2 3 4	29
1.17	am not easily impressed	1 2 3 4	30
1.18	don't pay much attention to propaganda by older people in positions of authority	1 2 3 4	31
1.19	am a street-smart, brand-conscious consumer	1 2 3 4	32
1.20	think life is not just about work	1 2 3 4	33
1.21	am influenced by the media (internet, TV)	1 2 3 4	34
1.22	prefer acceptance from peers more than parents	1 2 3 4	35
1.23	am bored by routine	1 2 3 4	36

1.24 **Please use this box for any additional comments regarding the attitudes of Generation Y students (born 1981 – 2000)**

37 38 39

40 41 42

43 44 45

2. Goals and Ideals

The following section refers to the goals and ideals that are important to Generation Y students. Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what *EXTENT* is each of the following statements in line with your own views?		
2.1	I aim to achieve work-life balance	1 2 3 4	46
2.2	I am motivated to achieve success	1 2 3 4	47
2.3	Work is about more than just money	1 2 3 4	48
2.4	Success at work means nothing without success in your personal life	1 2 3 4	49
2.5	It is important to have the right image including clothes, accessories, cars and toys	1 2 3 4	50
2.6	You should have control over your own time	1 2 3 4	51
2.7	It is important to live a moral life	1 2 3 4	52
2.8	Family relationships are valuable	1 2 3 4	53
2.9	It is very important to be accepted by your peers	1 2 3 4	54
2.10	Money can't buy passion or commitment	1 2 3 4	55
2.11	Work should have meaning	1 2 3 4	56
2.12	I am socially conscious	1 2 3 4	57
2.13	Work should provide enough money to enjoy life	1 2 3 4	58
2.14	Your life matters because what you do as an individual can make the world a better place	1 2 3 4	59

2.15 **Please use this box for any additional comments regarding the goals and ideals of Generation Y students**

60 61 62
63 64 65
66 67 68

SECTION C: COMMUNICATION STYLES, SKILLS AND NEEDS

1. Connectivity

The following statements reflect commonly held perceptions or judgments about Generation Y and technology in communication.

Please indicate your *AGREEMENT* or *DISAGREEMENT* with each statement by making a cross in the appropriate box, using the following response scale:

1=Strongly disagree 2=Disagree 3= Agree somewhat 4= Strongly agree

	Regarding Generation Y and constant connectivity:		
1.1	I use social networking (e.g. Facebook) almost daily	1 2 3 4	69
1.2	It is important to be constantly connected to the digital environment	1 2 3 4	70
1.3	I am digitally literate	1 2 3 4	71
1.4	The internet is more than technology; it is a way of life	1 2 3 4	72
1.5	Constant connectivity, e.g. through browsing, downloading or instant messaging, is an everyday practice	1 2 3 4	73
1.6	I cannot imagine a world without technology, e.g. cell (mobile) phones, internet access or instant messaging	1 2 3 4	74
1.7	I have no fear of technology	1 2 3 4	75
1.8	Connecting to the internet is a better source of information than using a textbook	1 2 3 4	76
1.9	I have access to the latest technology	1 2 3 4	77
1.10	I am better at communicating with technology than with personal interaction	1 2 3 4	78
1.11	I prefer the anonymous, open online environment	1 2 3 4	79
1.12	All class materials should be available online	1 2 3 4	80

1.13 **Please use this box for any additional comments regarding connectivity in the communication style of Generation Y students**

1 2 3 4 5 6 7 8 9

2. Social contact

The following section refers to issues regarding social contact of Generation Y. Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what *EXTENT* is each of the following statements in line with your own views?		
2.1	It is difficult to communicate with older generations	1 2 3 4	10
2.2	Friendships make life worthwhile	1 2 3 4	11
2.3	I want to be surrounded by bright, creative, fun-loving people	1 2 3 4	12
2.4	I am a good communicator	1 2 3 4	13
2.5	I am not afraid of challenging authority	1 2 3 4	14
2.6	My leisure time is spent socializing	1 2 3 4	15
2.7	I communicate well with people from diverse cultures	1 2 3 4	16
2.8	I prefer text messaging to face-to-face contact	1 2 3 4	17
2.9	I maintain close connectivity to my parents	1 2 3 4	18
2.10	Social networking makes it possible to have multiple friendship relationships	1 2 3 4	19
2.11	I can maintain close, personal relationships	1 2 3 4	20
2.12	Older generations don't understand how to communicate with us	1 2 3 4	21
2.13	I prefer casual forms of communication	1 2 3 4	22
2.14	Online relationships are often superficial	1 2 3 4	23

2.15 **Please use this box for any additional comments regarding social contact of Generation Y students**

24 25 26

27 28 29

30 31 32

3. Feedback

The following section refers to the feedback needs of Generation Y as students. Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what *EXTENT* is each of the following statements in line with your own views?		
3.1	Lecturers should give each student individual feedback on a regular basis	1 2 3 4	33
3.2	I need guided supervision, preferably by an older Mentor	1 2 3 4	34
3.3	I prefer positive feedback because negative feedback is destructive	1 2 3 4	35
3.4	I function best in a structured, organised environment	1 2 3 4	36
3.5	Authorityarian figures have limited influence on me	1 2 3 4	37
3.6	I prefer empathetic role models	1 2 3 4	38
3.7	I want immediate, personal access to lecturers whenever it suits me	1 2 3 4	39
3.8	Frequent rewards and incentives motivate me	1 2 3 4	40
3.9	I only learn work that I think is worthwhile to improve my marks	1 2 3 4	41
3.10	Structured supervision is frustrating	1 2 3 4	42
3.11	I prefer to work independently	1 2 3 4	43
3.12	If a lecturer gives me negative feedback, they have to explain or justify it	1 2 3 4	44

3.13 **Please use this box for any additional comments regarding the feedback needs of Generation Y students**

45 46 47

48 49 50

51 52 53

SECTION D: LEARNING STYLES AND NEEDS

This section deals with aspects of the teaching and learning environment applicable to Generation Y.

1. Learning styles

The following statements address the perceptions about the learning behaviours and activities of Generation Y students. Indicate your agreement with each of the following statements, where 1 = *STRONGLY DISAGREE* and 4 = *STRONGLY AGREE*. In the next set of blocks indicate the importance of each of the statements about learning styles, where 1 = *NOT AT ALL IMPORTANT* and 4 = *VERY IMPORTANT*.

		AGREEMENT	*IMPORTANCE*		
1.1	"Doing" is better than "knowing"	1 2 3 4	1 2 3 4		54 55
1.2	I prefer group work	1 2 3 4	1 2 3 4		56 57
1.3	Experience is a better learning platform than lectures	1 2 3 4	1 2 3 4		58 59
1.4	I am an active learner	1 2 3 4	1 2 3 4		60 61
1.5	Being "smart" is "cool"	1 2 3 4	1 2 3 4		62 63
1.6	Visuals are better than text	1 2 3 4	1 2 3 4		64 65
1.7	Learning is a social activity	1 2 3 4	1 2 3 4		66 67
1.8	I have good critical thinking skills	1 2 3 4	1 2 3 4		68 69
1.9	I can multi-task	1 2 3 4	1 2 3 4		70 71
1.10	My thought processes are fast and random, yet logical	1 2 3 4	1 2 3 4		72 73
1.11	I struggle with deep learning	1 2 3 4	1 2 3 4		74 75
1.12	I take responsibility for my own learning	1 2 3 4	1 2 3 4		76 77
1.13	Learning is about discovery and exploration	1 2 3 4	1 2 3 4		78 79
1.14	It is important to incorporate my own experiences in my learning	1 2 3 4	1 2 3 4		80 1
1.15	It is difficult to manage large volumes of written information	1 2 3 4	1 2 3 4		2 3
1.16	Learning content should be intellectually challenging	1 2 3 4	1 2 3 4		4 5
1.17	I work well in a team environment	1 2 3 4	1 2 3 4		6 7
1.18	I learn only what is necessary to pass assessments	1 2 3 4	1 2 3 4		8 9

1.19 **Please use this box for any additional comments regarding Generation Y students learning styles**

10 11 12 13 14 15 16 17 18

2. Learning needs

The following statements address the learning environment preferred by Generation Y students. Indicate to what extent the following statements are in line with your own views, where 1 = *TO NO EXTENT AT ALL* and 4 = *TO A LARGE EXTENT*. In the next set of blocks indicate the importance of each of the statements about learning needs, where 1 = *NOT AT ALL IMPORTANT* and 4 = *VERY IMPORTANT*.

		EXTENT	*IMPORTANCE*		
2.1	Real-life simulations are valuable to learn new skills	1 2 3 4	1 2 3 4		19 20
2.2	Traditional lectures are outdated	1 2 3 4	1 2 3 4		21 22
2.3	The learning environment should change constantly	1 2 3 4	1 2 3 4		23 24
2.4	Technology is essential	1 2 3 4	1 2 3 4		25 26
2.5	Students should collaborate on subject content decisions	1 2 3 4	1 2 3 4		27 28
2.6	Interactive experiential activities are more valuable than lectures	1 2 3 4	1 2 3 4		29 30
2.7	Visuals are better than text to explain subject content	1 2 3 4	1 2 3 4		31 32
2.8	Learning depends on the lecturer's effort	1 2 3 4	1 2 3 4		33 34
2.9	Face-to-face contact with the lecturer is essential to understand the subject	1 2 3 4	1 2 3 4		35 36
2.10	Actively participating in a group is a key element of learning	1 2 3 4	1 2 3 4		37 38
2.11	Lectures should be varied in style	1 2 3 4	1 2 3 4		39 40
2.12	Classes should be informal	1 2 3 4	1 2 3 4		41 42
2.13	Learning content should be interesting	1 2 3 4	1 2 3 4		43 44
2.14	I need motivational leadership	1 2 3 4	1 2 3 4		45 46
2.15	E-learning is better than face-to-face contact	1 2 3 4	1 2 3 4		47 48
2.16	Learning should be tailored with options to suit each individual	1 2 3 4	1 2 3 4		49 50

2.17 **Please use this box for any additional comments regarding Generation Y learning needs**

52 53 54

5 56 57

58 59 60

SECTION E: ENVIRONMENT AND SHAPING EVENTS

1. Environment

The following statements refer to factors that are thought to influence the environment and therefore the attitudes and actions of Generation Y (born 1981 – 2000).
Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what extent is each of the following statements in line with your own views?		
1.1	Generation Y is the most educated generation ever	1 2 3 4	61
1.2	I grew up in a digital world with unlimited access to technology	1 2 3 4	62
1.3	I am a global citizen because I can reach across boundaries through technology	1 2 3 4	63
1.4	Because of the ethnically diverse environment, people are more tolerant of differences than before	1 2 3 4	64
1.5	There is a decreased sense of community in society	1 2 3 4	65
1.6	We are more socially aware than our parents	1 2 3 4	66
1.7	Diversity (e.g. cultural or ethnic) leads to increased conflict	1 2 3 4	67
1.8	We are more emotionally open than older people	1 2 3 4	68
1.9	The world is more respectful of diversity than previously	1 2 3 4	69
1.10	After 9/11 terrorism has become a global threat	1 2 3 4	70
1.11	Environmental issues like ethical consumption are important	1 2 3 4	71
1.12	I am involved in voluntary community service	1 2 3 4	72
1.13	The world is overloaded with entertainment media	1 2 3 4	73
1.14	I grew up in a structured, organised environment	1 2 3 4	74
1.15	I am used to following rules	1 2 3 4	75
1.16	During my school years, I participated in extensive activities which meant I had little free time	1 2 3 4	76
1.17	My parents were highly involved, managing every detail of my life at school	1 2 3 4	77
1.18	Nowadays, it is accepted that just taking part already makes you a winner	1 2 3 4	78

1.19 **Please use this box for any additional comments regarding the environment and shaping events of Generation Y**

79 80 1
2 3 4
5 6 7

2. Access to technology

The following section refers to your own environment. Be assured that the questionnaire is anonymous. Please make a cross in the appropriate box marked *YES* or *NO*:

2.1	Do you have your own cell (mobile) phone?	YES	NO	8
2.2	Do you have your own computer?	YES	NO	9
2.3	Do you have access to a computer where you live?	YES	NO	10
2.4	Do you have access to the internet where you live?	YES	NO	11
2.5	Do you have access to a television where you live?	YES	NO	12
2.6	Do you think the internet is a trustworthy source of information?	YES	NO	13

2.7 Motivate your answer in 2.6.

14 15 16

17 18 19

20 21 22

3. Use of technology

Indicate your use of the following technology by selecting any / all that apply to you. Please indicate the frequency of use, where 1 = *NOT AT ALL* and 5 = *DAILY*.

3.1	Instant messaging	1	2	3	4	5	23
3.2	Music downloads	1	2	3	4	5	24
3.3	Podcast	1	2	3	4	5	25
3.4	Wikis	1	2	3	4	5	26
3.5	Flickr	1	2	3	4	5	27
3.6	YouTube	1	2	3	4	5	28
3.7	Facebook	1	2	3	4	5	29
3.8	Twitter	1	2	3	4	5	30
3.9	Blogging	1	2	3	4	5	31
3.10	Presentation software (e.g. PowerPoint)	1	2	3	4	5	32
3.11	Secondlife	1	2	3	4	5	33
3.12	E-learning	1	2	3	4	5	34
3.13	Other (specify)	1	2	3	4	5	35

36 37 38

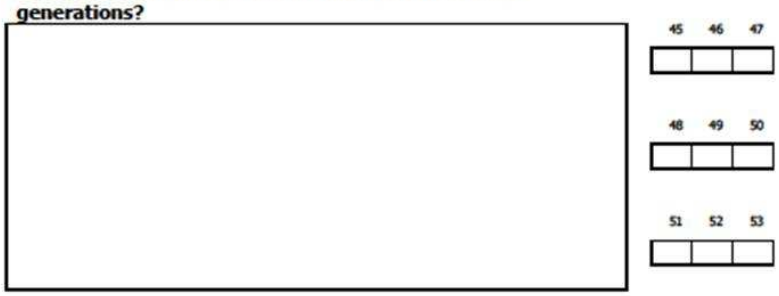
39 40 41

42 43 44

4. Personal comments

Please complete the following comment boxes in your own words.

4.1 **How are Generation Y students different from older generations?**



4.2 **What are the biggest challenges that Generation Y students face?**



Thank you very much!

Your co-operation in completing this questionnaire is greatly appreciated.

APPENDIX A2

VRAELYS VIR

VOORGRAADSE STUDENTE (AFRIKAANS)

[QUESTIONNAIRE FOR UNDERGRADUATE STUDENTS (AFRIKAANS)]

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

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences
Departement Basiese Mediese Wetenskappe / Department of Basic Medical Sciences

VRAELYS AAN STUDENTE: AFRIKAANS

Tel: 051-4053107 **Faks: 051-4441198**

Maart 2010

Geagte Meneer/Dame

Ek is besig met navorsing om die persepsies aangaande die houdings, kenmerke, voorkeure en verwagtinge te bepaal van die sogenaamde **Generasie Y-studente** (ook bekend as "Millenials" of "Net Generation", gebore 1981 - 2000) verbonde aan die Fakulteit Gesondheidswetenskappe aan die Universiteit van die Vrystaat. U samewerking met die invul van hierdie vraelys word vriendelik versoek. Daar is geen risiko verbonde aan die studie nie. Die voordele sluit in dat die data uit hierdie projek sal bydra tot **die skep van bewustheid en insig** rondom studente sodat 'n opvoedkundige benadering gevolg kan word om 'n **optimale onderrig- en leeromgewing** in die Fakulteit Gesondheidswetenskappe te fasiliteer. Die data sal aan die Dagbestuur van die Fakulteit Gesondheidswetenskappe beskikbaar gemaak word.

U deelname is vrywillig en anoniem, en indien u besluit om nie deel te neem nie, sal u geensins gepenaliseer word of enige voordele verbeur waarvoor u andersins in aanmerking sou kom nie. U persoonlike inligting sal vertroulik gehou word, en sou slegs bekend gemaak word indien die wet dit vereis.

U samewerking word hoog op prys gestel. Enige vrae aangaande die navorsing mag gerig word aan my of die Sekretariaat van die Etiekkomitee van die Fakulteit Gesondheidswetenskappe, UV, by telefoonnommer 051-4052812.

Deur die vraelys te voltooi, gee u toestemming dat die inligting gebruik mag word vir my navorsing. Die aangehegte definisies sal u help om die vraelys te voltooi. Dit staan u vry om hierdie bladsy te verwyder wanneer u die vraelys aan die einde van die sessie indien. Dit sal u nie langer as 20 minute neem om die vraelys te voltooi nie.

Baie dankie by voorbaat vir u hulp in hierdie verband.

Die uwe

Dr. Lynette van der Merwe

DEFINISIES

Generasieteorie	Gedrag, houdings en verwagtinge gedeel deur mense wat dieselfde tyd in die geskiedenis gebore is *(Codrington 2008: Aanlyn, Borges, Manuel, Elam & Jones, 2006: 571)*
Generasie Y *(Millenials / Nexters / Net generasie / Echo Boomers / Google generasie)*	Individue gebore ongeveer 1981 – 2000, met sekere kenmerke, waardes en persepsies *(Billings & Kowalski 2004: 104, Clausing, Kurtz, Prendeville & Walt 2003: 373, Howell, Servis & Bonham, 2005: 528)*
Ander generasies	Generasie X (gebore ongeveer 1961 – 1980) *Baby Boomers* (gebore ongeveer 1941 – 1960) Stil generasie (gebore voor 1940)
Studente	Voorgraadse studente wat ingeskryf is by 'n hoër-onderwysinstelling met die doel om 'n kwalifikasie te behaal
Dosente	Akademiese personeellede verantwoordelik vir onderrig / fasilitering van leer en/of assessering van studente by 'n hoer-onderwysinstelling

Verwysings:

Borges, N.J., Manuel,R.S., Elam, C.L., Jones, B.J. 2006. Comparing Millenial and Generation X medical students at one medical school. *Academic Medicine*, 81(6):571-576.

Clausing ,S.L., Kurtz, D.L., Prendeville, J., Walt J.L. 2003. Generational diversity – The Nexters. *AORN Journal* 78 (3):373-379.

Codrington, G. 2008. *Detailed Introduction to Generational Theory.*

http://www.tomorrowtoday.ul.com/articles/pdf/TomorrowToday_detailed_intro_to_Generations.pdf

Retrieved on 15 June, 2009

Howell ,L.P., Servis, G., Bonham, A. 2005. Multigenerational challenges in academic medicine: UCDavis's responses. *Academic Medicine*, 80 (6: 527-532.



FAKULTEIT GESONDHEIDSWETENSKAPPE

Vraelys aan studente

'n Opvoedkundige benadering vir die generasieprofiel van voorgraadse studente in die Fakulteit Gesondheidswetenskappe, Universiteit van die Vrystaat

Slegs kantoor	vir gebruik

1	2	3

U is gevra om deel te neem aan 'n navorsingsprojek. Let asseblief op dat deur die vraelys te voltooi, u vrywillig toestemming verleen tot deelname aan hierdie navorsingsprojek. U sal anoniem bly en u inligting sal te alle tye vertroulik hanteer word. U mag u deelname op enige stadium onttrek tydens die invul van die vraelys. Daar is vyf (5) afdelings wat ingevul moet word. Instruksies sal voorsien word by elke groep vrae. U samewerking word hoog op prys gestel.

AFDELING A: DEMOGRAFIESE INLIGTING

In die volgende afdeling, word demografiese inligting versoek. Maak asseblief 'n kruisie (X) in die toepaslike blokkie vir elke item:

1	**Voorbeeld: Geslag**	
1.1	Manlik	1
1.2	Vroulik →	X

1.	**Geslag**		4
1.1	Manlik	1	
1.2	Vroulik	2	
2.	**In watter skool in die Fakulteit Gesondheidswetenskappe is u geregistreer?**		5
2.1	Skool vir Geneeskunde	1	
2.2	Skool vir Aanvullende Gesondheidsberoepe	2	
2.3	Skool vir Verpleegkunde	3	
3.	**Vir watter graadkursus het u geregistreer?**		6
3.1	B.Med.Sc. (Stralingswetenskap)	1	
3.2	M.B., Ch.B. (Voorgraadse mediese program)	2	
3.3	B.Sc. Voeding en Dieetkunde	3	
3.4	B. Arbeidsterapie	4	
3.5	B. Optometrie	5	
3.6	B.Sc. Fisioterapie	6	
3.7	B.Soc.Sc. (Verpleging)	7	

4. Wat is u huidige studiejaar? (Let asseblief op dat dit na u akademiese jaar verwys, en nie die duur van u studie nie) [ ] 7

4.1	Eerstejaar	1
4.2	Tweedejaar	2
4.3	Derdejaar	3
4.4	Vierdejaar	4
4.5	Vyfdejaar (slegs vir M.B., Ch.B. program)	5

5. Hoe lank is u reeds 'n student in die Fakulteit Gesondheidswetenskappe? [ ] 8

5.1	0-2 jaar	1
5.2	3-4 jaar	2
5.3	5-6 jaar	3
5.4	Meer as 6 jaar	4

6. Huistaal [ ] 9

6.1	Afrikaans	1
6.2	Engels	2
6.3	Sotho	3
6.4	Zulu	4
6.5	Xhosa	5
6.6	Ander	6

7. Etnisiteit [ ] 10

7.1	Swart	1
7.2	Blank	2
7.3	Kleurling	3
7.4	Indiër	4
7.5	Asiër	5
7.6	Ander	6

8. Geboortedatum (Voltooi asseblief net die jaar) [ ][ ] 11 12

19[ ][ ]

9. Wat is u hoogste opvoedkundige kwalifikasie? [ ] 13

9.1	Graad 12	1
9.2	Post-matriek diploma of sertifikaat	2
9.3	Baccalaureusgraad/grade	3
9.4	Nagraadse kwalifikasie(s)	4

AFDELING B: WAARDES EN OPTREDES

1. Sienswyses *("Attitudes")*

Die volgende stellings verwys na algemene perspesies of oordele oor die waardes en optredes van Generasie Y (gebore 1981 – 2000).
Dui asseblief aan of u SAAMSTEM of NIE SAAMSTEM met elke stelling deur 'n kruisie in die toepaslike blokkie te maak en deur gebruik te maak van die volgende responsskaal:

1=Stem glad nie saam nie 2=Stem nie saam nie 3= Stem saam 4= Stem definitief saam

Ek, as 'n lid van Generasie Y,

1.1	is optimisties oor die toekoms	1 2 3 4	14
1.2	kan beskryf word as vriendelik en aangenaam	1 2 3 4	15
1.3	toon tipies positiewe, assertiewe gedrag	1 2 3 4	16
1.4	het 'n informele benadering wat mag voorkom as onprofessioneel	1 2 3 4	17
1.5	mag arrogant voorkom	1 2 3 4	18
1.6	is self-gesentreerd	1 2 3 4	19
1.7	voel dat ek geregtig is op voordele wat ek nog nie verdien het nie	1 2 3 4	20
1.8	sal die wêreld verander	1 2 3 4	21
1.9	is ambisieus	1 2 3 4	22
1.10	kom vol selfvertroue voor	1 2 3 4	23
1.11	sal die toekoms verbeter met innoverende idees	1 2 3 4	24
1.12	het hoë verwagtinge van sukses	1 2 3 4	25
1.13	wil onmiddellike beloning hê en is nie bereid om te wag vir uitgestelde vergoeding nie	1 2 3 4	26
1.14	het hoë self-waarde	1 2 3 4	27
1.15	is 'n gemaklike individu wat van pret hou	1 2 3 4	28
1.16	dink ek is geregtig op alles wat ek wil hê	1 2 3 4	29
1.17	word nie maklik beïndruk nie	1 2 3 4	30
1.18	steur my nie veel aan propaganda deur ouer mense in gesagsposisies nie	1 2 3 4	31
1.19	is 'n straat-slim, handelsmerk-bewuste verbruiker	1 2 3 4	32
1.20	dink die lewe gaan oor meer as werk	1 2 3 4	33
1.21	word deur die media beïnvloed (internet, TV)	1 2 3 4	34
1.22	verkies aanvaarding van portuurgroepe bo ouers	1 2 3 4	35
1.23	word verveel deur roetine	1 2 3 4	36

1.24 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente (gebore 1981 – 2000)se sienswyses**

37 38 39
40 41 42
43 44 45

2. Doelwitte en ideale

Die volgende afdeling verwys na die doelwitte en ideale wat vir Generasie Y studente belangrik is. Voltooi asseblief hierdie gedeelte van die vraelys deur 'n kruisie te maak in die toepaslike blokkie volgens die volgende responsskaal:

1 = Glad nie 2 = Tot 'n mindere mate 3 = Tot 'n sekere mate 4 = Tot 'n groot mate

	Tot watter mate is elk van die volgende stellings in lyn met u eie siening?		
2.1	Ek wil balans bereik met my werk en lewe	1 2 3 4	46
2.2	Ek is gemotiveerd om suksesvol te wees	1 2 3 4	47
2.3	Werk gaan oor meer as geld	1 2 3 4	48
2.4	Sukses by die werk beteken niks sonder sukses in jou persoonlike lewe nie	1 2 3 4	49
2.5	Dit is belangrik om die regte beeld te hê, insluitend klere, motors, bykomstighede, speelgoed	1 2 3 4	50
2.6	'n Mens moet beheer oor jou eie tyd hê	1 2 3 4	51
2.7	Dit is belangrik om 'n morele lewe te lei	1 2 3 4	52
2.8	Familieverhoudings is waardevol	1 2 3 4	53
2.9	Dit is baie belangrik om deur jou portuurgroep aanvaar te word	1 2 3 4	54
2.10	Geld kan nie passie of toewyding koop nie	1 2 3 4	55
2.11	Werk moet betekenisvol wees	1 2 3 4	56
2.12	Ek is bewus van maatskaplike sake	1 2 3 4	57
2.13	Werk moet genoeg geld voorsien om die lewe te geniet	1 2 3 4	58
2.14	Jou lewe maak saak want wat jy doen as individu kan die wêreld 'n beter plek maak	1 2 3 4	59

2.15 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se doelwitte en ideale**

60 61 62

63 64 65

66 67 68

AFDELING C: KOMMUNIKASIESTYLE, VERMOËNS EN BEHOEFTES

1. Aanlyn-bewustheid (*"connectivity"*)

Die volgende stellings verwys na algemene persepsies of vooroordele oor Generasie Y en tegnologie in kommunikasie.
Dui asseblief aan of u SAAMSTEM of NIE SAAMSTEM met elke stelling deur 'n kruisie te maak in die toepaslike blokkie deur van die volgende responsskaal gebruik te maak:

1=Stem glad nie saam nie 2=Stem nie saam nie 3= Stem saam 4= Stem definitief saam

	Betreffende Generasie Y en aanlyn-bewustheid:		
1.1	Ek gebruik sosiale netwerke (bv. Facebook) byna daagliks	1 2 3 4	69
1.2	Dit is belangrik om konstant met die digitale omgewing in kontak te wees	1 2 3 4	70
1.3	Ek is op hoogte met digitale tegnologie	1 2 3 4	71
1.4	Die internet is meer as tegnologie, dis 'n lewenswyse	1 2 3 4	72
1.5	Om aanhoudend aanlyn te wees, deur bv. soek of aflaai van inligting of boodskappe, is daaglikse praktyke	1 2 3 4	73
1.6	Ek kan my nie 'n wêreld sonder tegnologie, bv. sel-fone, internettoegang of boodskap-kommunikasie, voorstel nie	1 2 3 4	74
1.7	Ek het geen vrees vir tegnologie nie	1 2 3 4	75
1.8	Deur aanlyn te gaan met die internet is 'n beter bron van inligting as om 'n handboek te gebruik	1 2 3 4	76
1.9	Ek het toegang tot die nuutste tegnologie	1 2 3 4	77
1.10	Ek kommunikeer beter met tegnologie as met persoonlike interaksie	1 2 3 4	78
1.11	Ek verkies die oop, aanlyn omgewing	1 2 3 4	79
1.12	Alle klasnotas behoort aanlyn beskikbaar te wees	1 2 3 4	80

1.13 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se aanlyn-bewustheid**

1	2	3
4	5	6
7	8	9

2. Sosiale kontak

Die volgende afdeling verwys na aangeleenthede rondom die sosiale kontak van Generasie Y. Voltooi asseblief hierdie gedeelte van die vraelys deur 'n kruisie te maak in die toepaslike blokkie volgens die responsskaal hieronder:

1 = Glad nie 2 = Tot 'n mindere mate 3 = Tot 'n sekere mate 4 = Tot 'n groot mate

Tot watter mate stem elk van die volgende stellings met u eie siening ooreen?

2.1	Dit is moeilik om met ouer generasies te kommunikeer	1 2 3 4	10
2.2	Vriendskap maak die lewe die moeite werd	1 2 3 4	11
2.3	Ek wil omring word met vrolike, kreatiewe, pret-mense	1 2 3 4	12
2.4	Ek is 'n goeie kommunikeerder	1 2 3 4	13
2.5	Ek is nie bang om gesag uit te daag nie	1 2 3 4	14
2.6	Ek sosialiseer tydens my ontspanningstyd	1 2 3 4	15
2.7	Ek kommunikeer goed met mense van verskillende kulture	1 2 3 4	16
2.8	Ek verkies teksboodskappe bo persoonlike kontak	1 2 3 4	17
2.9	Ek handhaaf noue kontak met my ouers	1 2 3 4	18
2.10	Sosiale netwerke maak dit moontlik om veelvuldige vriendskapsverhoudings te hê	1 2 3 4	19
2.11	Ek is in staat om noue, persoonlike verhoudings te handhaaf	1 2 3 4	20
2.12	Ouer generasies verstaan nie hoe om met ons te kommunikeer nie	1 2 3 4	21
2.13	Ek verkies informele vorms van kommunikasie	1 2 3 4	22
2.14	Aanlynverhoudings is dikwels oppervlakkig	1 2 3 4	23

2.15 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se sosiale kontak**

24	25	26
27	28	29
30	31	32

3. Terugvoering

Die volgende afdeling handel oor die terugvoeringbehoeftes van Generasie Y studente. Voltooi asseblief hierdie gedeelte van die vraelys deur 'n kruisie te maak in die toepaslike blokkie volgens die responsskaal hieronder:

1 = Glad nie 2 = Tot 'n mindere mate 3 = Tot 'n sekere mate 4 = Tot 'n groot mate

Tot watter mate stem elk van die volgende stellings met u eie siening ooreen?

3.1	Dosente behoort aan elke student individuele terug-voer op 'n gereelde basis te gee	1 2 3 4	33
3.2	Ek het leidende toesig nodig, verkieslik deur 'n ouer mentor	1 2 3 4	34
3.3	Ek verkies positiewe terugvoering want negatiewe terugvoering is destruktief	1 2 3 4	35
3.4	Ek funksioneer die beste in 'n gestruktureerde, georganiseerde omgewing	1 2 3 4	36
3.5	Gesagsfigure het beperkte invloed op my	1 2 3 4	37
3.6	Ek verkies empatiese rolmodelle	1 2 3 4	38
3.7	Ek wil onmidellike, persoonlike toegang tot dosente hê wanneer dit my pas	1 2 3 4	39
3.8	Gereelde belonings en insentiewe motiveer my	1 2 3 4	40
3.9	Ek leer net dit wat ek dink die moeite werd is om my punte te verbeter	1 2 3 4	41
3.10	Struktuur en kontrole is frustrerend	1 2 3 4	42
3.11	Ek verkies om onafhanklik te werk	1 2 3 4	43
3.12	Indien 'n dosent vir my negatiewe terugvoering gee, moet hy/sy dit verduidelik of regverdig	1 2 3 4	44

3.13 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se terugvoeringsbehoeftes**

45	46	47
48	49	50
51	52	53

AFDELING D: LEERSTYLE EN -BEHOEFTES

Hierdie afdeling handel oor aspekte van die onderrig- en leeromgewing van toepassing op Generasie Y.

1. Leerstyle

Die volgende stellings spreek die persepsies aan oor die leergedrag en aktiwiteit van Generasie Y studente. Dui asseblief aan of u saamstem met elk van die volgende stellings, 1 = *STEM GLAD NIE SAAM NIE en* 4 = *STEM DEFINITIEF SAAM.* In die volgende stel blokkies, dui asseblief aan hoe belangrik elkeen van die stellings oor leerstyle is, waar 1 = *GLAD NIE BELANGRIK NIE* en 4 = *BAIE BELANGRIK.*

		STEM SAAM	*BELANG*		
1.1	"Doen" is beter as "weet"	1 2 3 4	1 2 3 4		54 55
1.2	Ek verkies groepwerk	1 2 3 4	1 2 3 4		56 57
1.3	Ervaring is 'n beter platform vir leer as lesings	1 2 3 4	1 2 3 4		58 59
1.4	Ek is 'n aktiewe leerder	1 2 3 4	1 2 3 4		60 61
1.5	Dit is "cool" om slim te wees	1 2 3 4	1 2 3 4		62 63
1.6	Visuele inhoud is beter as teks	1 2 3 4	1 2 3 4		64 65
1.7	Leer is 'n sosiale aktiwiteit	1 2 3 4	1 2 3 4		66 67
1.8	Ek het goeie kritiese denkvaardigheede	1 2 3 4	1 2 3 4		68 69
1.9	Ek kan meer as een taak gelyk doen	1 2 3 4	1 2 3 4		70 71
1.10	My gedagteprosesse is vinnig en lukraak, maar tog logies	1 2 3 4	1 2 3 4		72 73
1.11	Ek sukkel met diep leer	1 2 3 4	1 2 3 4		74 75
1.12	Ek neem verantwoordelikheid vir my eie leer	1 2 3 4	1 2 3 4		76 77
1.13	Leer gaan oor ondersoek en ontdekking	1 2 3 4	1 2 3 4		78 79
1.14	Dit is belangrik om my eie sienings in my leer te inkorporeer	1 2 3 4	1 2 3 4		80 1
1.15	Dit is moeilik om groot volumes skriftelike inligting te hanteer	1 2 3 4	1 2 3 4		2 3
1.16	Leerinhoud behoort intellektueel uitdagend te wees	1 2 3 4	1 2 3 4		4 5
1.17	Ek werk goed in 'n spanopset	1 2 3 4	1 2 3 4		6 7
1.18	Ek leer net wat nodig is om asseserings deur te kom	1 2 3 4	1 2 3 4		8 9

1.19 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se leerstyl**

10 11 12 | 13 14 15 | 16 17 18

2. Leerbehoeftes

Die volgende stellings spreek die leeromgewing aan wat verkies word deur Generasie Y studente. Dui aan tot watter mate die volgende stellings ooreenstem met u eie sienings, waar 1 = *TOT GEEN MATE NIE* en 4 = *TOT 'N GROOT MATE*. In die volgende stel blokkies, dui asseblief aan hoe belangrik elkeen van die stellings oor leerstyle is, waar 1 = *GLAD NIE BELANGRIK* en 4 = *BAIE BELANGRIK* is.

		OOREENSTEM	*BELANG*		
2.1	Simulasies van werklike situasies help om nuwe vaardighede te leer	1 2 3 4	1 2 3 4		19 20
2.2	Tradisionele lesings is outyds	1 2 3 4	1 2 3 4		21 22
2.3	Die leeromgewing behoort heeltyd te verander	1 2 3 4	1 2 3 4		23 24
2.4	Tegnologie is noodsaaklik	1 2 3 4	1 2 3 4		25 26
2.5	Studente moet gekonsulteer word in besluitneming oor vakinhoud	1 2 3 4	1 2 3 4		27 28
2.6	Interaktiewe ervaringsaktiwiteite is meer waardevol as lesings	1 2 3 4	1 2 3 4		29 30
2.7	Visuele inhoud is beter as teks om die vak te verduidelik	1 2 3 4	1 2 3 4		31 32
2.8	Leer hang af van hoeveel moeite die dosent doen	1 2 3 4	1 2 3 4		33 34
2.9	Direkte kontak met die dosent is noodsaaklik om vakinhoud te verstaan	1 2 3 4	1 2 3 4		35 36
2.10	Aktiewe deelname in 'n groep is 'n kernelement van leer	1 2 3 4	1 2 3 4		37 38
2.11	Lesings moet varieer in styl	1 2 3 4	1 2 3 4		39 40
2.12	Klasse moet informeel wees	1 2 3 4	1 2 3 4		41 42
2.13	Leerinhoud behoort interessant te wees	1 2 3 4	1 2 3 4		43 44
2.14	Ek het motiverende leierskap nodig	1 2 3 4	1 2 3 4		45 46
2.15	E-leer is beter as persoonlike kontak met die dosent	1 2 3 4	1 2 3 4		47 48
2.16	Leer moet aangepas word om by individuele behoeftes te pas	1 2 3 4	1 2 3 4		49 50

2.17 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se leerbehoeftes**

51 52 54
55 56 57
58 59 60

AFDELING E: OMGEWING EN VORMENDE GEBEURTENISSE

1. Omgewing

Die volgende stellings verwys na die faktore wat beskou word as invloede op die omgewing en dus die houdings en gedrag van Generasie Y (gebore 1981 – 2000).
Voltooi asseblief hierdie gedeelte van die vraelys deur 'n kruisie te maak in die toepaslike blokkie volgens die volgende responsskaal:

1 = Glad nie 2 = Tot 'n mindere mate 3 = Tot 'n sekere mate 4 = Tot 'n groot mate

	Tot watter mate stem elk van die volgende stellings met u eie siening ooreen?		
1.1	Generasie Y is die mees opgevoede generasie ooit	1 2 3 4	61
1.2	Ek het grootgeword in 'n digitale wêreld met onbeperkte toegang tot tegnologie	1 2 3 4	62
1.3	Ek is 'n wêreldburger omdat ek oor grense heen kan uitreik deur tegnologie	1 2 3 4	63
1.4	Vanweë die etnies diverse omgewing, is mense meer verdraagsaam oor verskille as tevore	1 2 3 4	64
1.5	Die samelewing is minder gemeenskapsbewus	1 2 3 4	65
1.6	Ek is meer sosiaal bewus as my ouers	1 2 3 4	66
1.7	Diversiteit (bv. kultureel of etnies) lei tot verhoogde konflik	1 2 3 4	67
1.8	Ek is meer emosioneel oop as ouer mense	1 2 3 4	68
1.9	Die wêreld toon meer respek vir diversiteit as voorheen	1 2 3 4	69
1.10	Na 9/11 is terrorisme 'n wêreldwye bedreiging	1 2 3 4	70
1.11	Omgewingsake, soos om 'n etiesverantwoordelike verbruiker te wees, is belangrik	1 2 3 4	71
1.12	Ek is betrokke by vrywillige gemeenskapsdiens	1 2 3 4	72
1.13	Die wêreld is oorlaai met vermaak-media	1 2 3 4	73
1.14	Ek het grootgeword in 'n gestruktureerde omgewing	1 2 3 4	74
1.15	Ek is gewoond daaraan om reëls na te kom	1 2 3 4	75
1.16	Tydens my skooljare het ek deelgeneem aan baie aktiwiteite en het dus min vrye tyd gehad	1 2 3 4	76
1.17	My ouers was baie betrokke, en het elke detail van my lewe op skool bestuur	1 2 3 4	77
1.18	Deesdae maak die blote feit dat jy deelneem jou reeds 'n wenner	1 2 3 4	78

1.19 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se omgewing en vormende gebeurtenisse**

79 80 1 | 2 3 4 | 5 6 7

2. Toegang tot tegnologie

Die volgende afdeling verwys na u eie omgewing. Wees verseker dat die vraelys anoniem is. Maak asseblief 'n kruisie in die toepaslike blokkie gemerk *JA* of *NEE*:

2.1	Het u 'n eie selfoon?	JA	NEE	8
2.2	Het u 'n eie rekenaar?	JA	NEE	9
2.3	Het u toegang tot 'n rekenaar waar u woon?	JA	NEE	10
2.4	Het u toegang tot die internet waar u woon?	JA	NEE	11
2.5	Het u toegang tot 'n televisie waar u woon?	JA	NEE	12
2.6	Dink u die internet is 'n betroubare bron van inligting?	JA	NEE	13

2.7 Motiveer u antwoord in 2.6.

14	15	16
17	18	19
20	21	22

3. Gebruik van tegnologie

Dui u gebruik van tegnologie in die volgende afdeling aan deur al die opsies te kies wat op u van toepassing is. Dui asseblief ook aan hoe gereeld u dit gebruik, waar 1 = *GLAD NIE* en 5 = *DAAGLIKS*.

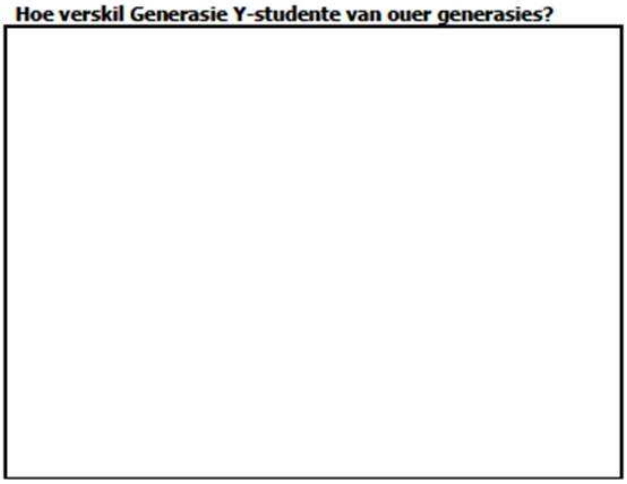
3.1	Kitsboodskappe	1	2	3	4	5	23
3.2	Musiek aflaai	1	2	3	4	5	24
3.3	Podcast	1	2	3	4	5	25
3.4	Wikis	1	2	3	4	5	26
3.5	Flickr	1	2	3	4	5	27
3.6	YouTube	1	2	3	4	5	28
3.7	Facebook	1	2	3	4	5	29
3.8	Twitter	1	2	3	4	5	30
3.9	Blogging	1	2	3	4	5	31
3.10	Voordrag sagteware (bv. "PowerPoint")	1	2	3	4	5	32
3.11	Secondlife	1	2	3	4	5	33
3.12	E-leer	1	2	3	4	5	34
3.13	Ander (spesifiseer)	1	2	3	4	5	35

36	37	38
39	40	41
42	43	45

Persoonlike kommentaar

Voltooi asseblief die volgende in u eie woorde.

4.1 **Hoe verskil Generasie Y-studente van ouer generasies?**

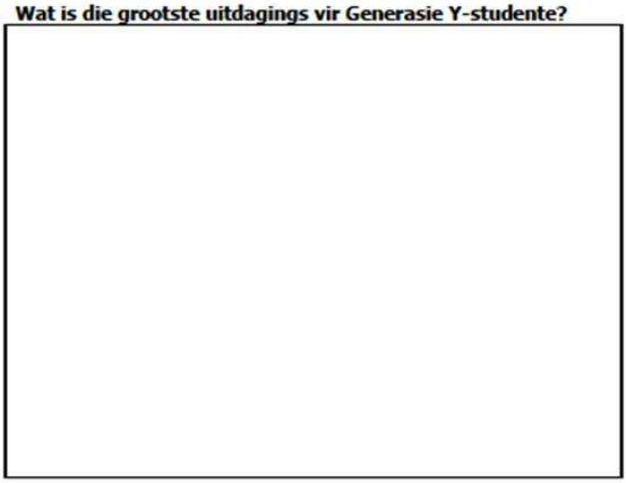


46 47 48

49 50 51

52 53 54

4.2 **Wat is die grootste uitdagings vir Generasie Y-studente?**



55 56 57

58 59 60

61 62 63

Baie dankie!

U samewerking met die invul van hierdie vraelys word hoog op prys gestel.

APPENDIX A3

QUESTIONNAIRE FOR

ACADEMIC STAFF MEMBERS (ENGLISH)

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

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences
Departement Basiese Mediese Wetenskappe / Department of Basic Medical Sciences

QUESTIONNAIRE TO STAFF: ENGLISH

Tel: 051-4053107 **Fax: 051-4441198**

February 2010

Dear Colleague

I am conducting research to determine the perceptions regarding the attitudes, characteristics, preferences and expectations of the so-called **Generation Y students** (a.k.a. Millenials, Net Generation, born 1981 - 2000) enrolled in the Faculty of Health Sciences at the University of the Free State. Your co-operation in completing this questionnaire is kindly requested. There is no risk involved in the study. The benefits include that the data from this project will contribute to **creating awareness and understanding** of students in order to adopt an educational approach that facilitates an **optimal teaching and learning environment** in the Faculty of Health Sciences. The data will be made available to the Faculty of health Sciences Management Board.

Your participation is voluntary and anonymous, and you will not be penalized or lose benefits to which you are otherwise entitled should you decide not to participate. Every effort will be made to keep personal information confidential. Personal information may only be disclosed if required by law.

Your co-operation is greatly appreciated. Any questions about the research may be addressed to me or the Secretariat of the Ethics Committee of the Faculty of Health Sciences, UFS, at telephone number 051-4052812.

By completing this questionnaire, you are giving informed consent that the information may be used for my research. The attached page with definitions will assist you in completing the questionnaire. It will take you a maximum of 20 minutes to complete the questionnaire.

Thank you in advance for your assistance.

Yours sincerely

Dr. Lynette van der Merwe

DEFINITIONS

Generational theory	Shared behaviours, attitudes and expectations in people born during the same time in history *(Codrington 2008: Online, Borges, Manuel, Elam & Jones, 2006: 571)*
Generation Y *(Millenials/Nexters/Net Generation/Echo Boomers/Google Generation)*	Individuals born approximately from 1981 – 2000, with certain characteristics, values and perceptions *(Billings & Kowalski 2004: 104, Clausing, Kurtz, Prendeville & Walt 2003: 373, Howell, Servis & Bonham, 2005: 528)*
Other generations	Generation X (born approximately 1961 – 1980) Baby Boomers (born approximately 1941 – 1960) Silent Generation (born before 1940)
Students	Undergraduate students (learners) enrolled in a higher education institution to attain a qualification
Lecturers	Academic staff members responsible for teaching and/or facilitating learning and/or assessment of students at a higher education institution

References:

Borges N.J., Manuel R.S., Elam C.L., Jones B.J. 2006. Comparing Millenial and Generation X medical students at one medical school. *Academic Medicine*, 81(6), 571-576.

Clausing S.L., Kurtz D.L., Prendeville J., Walt J.L. 2003. Generational diversity – The Nexters. *AORN Journal* 78 (3), 373-379.

Codrington G. 2008. *Detailed Introduction to Generational Theory*. [Online]. Available from: http://www.tomorrowtoday.uk.com/articles/pdf/TomorrowToday_detailed_intro_to_Generations.pdf [Accessed 15 June, 2009]

Howell L.P., Servis G., Bonham A. 2005. Multigenerational challenges in academic medicine: UCDavis's responses. *Academic Medicine*, 80 (6), 527-532.



FACULTY OF HEALTH SCIENCES

Questionnaire for Staff

An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State

For office use only		
	☐	1
	☐	2 3

You have been asked to participate in a research study. Please note that by completing this questionnaire you are voluntarily agreeing to participate in this research study. You will remain anonymous and your data will be treated confidentially at all times. You may withdraw from this study at any time during the completion of the questionnaire. There will be 5 (five) sections to be completed. Instructions will be supplied with each group of questions. Your co-operation is greatly appreciated.

SECTION A: DEMOGRAPHIC INFORMATION

In the following section, demographic information is requested. Please make a cross (X) in the appropriate box for each item.

1	**Example: Gender**	
a.	Male	1
b.	Female →	X

1.	**Gender**		☐ 4
1.1	Male	1	
1.2	Female	2	
2.	**Which school are you employed in within the Faculty of Health Sciences as a permanent academic staff member?**		☐ 5
2.1	School of Medicine	1	
2.2	School of Allied Health	2	
2.3	School of Nursing	3	
2.4	Please indicate if you do not have a permanent position (e.g. session appointment)	4	
			6 7 ☐☐
3.	**To which undergraduate students in the Faculty of Health Sciences do you lecture? (Please indicate all groups)**		
3.1	B.Med.Sc. (Radiation Science)	1	☐ 8
3.2	M.B., Ch.B. (Undergraduate medical programme)	2	☐ 9
3.3	B.Sc. Nutrition and Dietetics	3	☐ 10
3.4	B. Occupational Therapy	4	☐ 11
3.5	B. Optometry	5	☐ 12
3.6	B.Sc. Physiotherapy	6	☐ 13
3.7	B.Soc.Sc. (Nursing)	7	☐ 14

4. How long have you been lecturing in the Faculty of Health Sciences? 15

4.1	0-2 years	1
4.2	3-5 years	2
4.3	6-10 years	3
4.4	11-15 years	4
4.5	More than 15 years	5

5. Home language 16

5.1	Afrikaans	1
5.2	English	2
5.3	Sotho	3
5.4	Zulu	4
5.5	Xhosa	5
5.6	Other	6

6. Ethnicity 17

6.1	Black	1
6.2	White	2
6.3	Coloured	3
6.4	Indian	4
6.5	Asian	5
6.6	Other	6

8. Birthdate (Please complete the year only) 18 19

19 ☐☐

9. What is your highest educational qualification? 20

9.1	Post-matric diploma or certificate	1
9.2	Baccalaureate degree(s)	2
9.3	Post-graduate degree(s)	3
9.4	Doctorate (Ph.D./M.D.)	4

SECTION B: VALUES AND BEHAVIOURS

1. Attitudes

The following statements reflect commonly held perceptions or judgments about the values and behaviours of Generation Y (born 1981 – 2000).

Please indicate your *AGREEMENT* or *DISAGREEMENT* with each statement by making a cross in the appropriate box, using the following response scale:

1=Strongly disagree 2=Disagree 3= Agree 4= Strongly agree

	Generation Y		
1.1	are optimistic about the future	1 2 3 4	21
1.2	can be described as friendly and pleasant	1 2 3 4	22
1.3	typically display positive, assertive behaviour	1 2 3 4	23
1.4	have a casual approach that may appear to lack professionalism	1 2 3 4	24
1.5	seem arrogant	1 2 3 4	25
1.6	are self-centred	1 2 3 4	26
1.7	feel entitled to benefits they've not yet earned	1 2 3 4	27
1.8	will change the world	1 2 3 4	28
1.9	are ambitious	1 2 3 4	29
1.10	appear confident	1 2 3 4	30
1.11	will improve the future with innovative ideas	1 2 3 4	31
1.12	have high expectations of success	1 2 3 4	32
1.13	want instant gratification and are not willing to wait for delayed rewards	1 2 3 4	33
1.14	have high self-esteem	1 2 3 4	34
1.15	are fun-seeking, easy-going individuals	1 2 3 4	35
1.16	think they are entitled to everything they want	1 2 3 4	36
1.17	are not easily impressed	1 2 3 4	37
1.18	don't pay much attention to propaganda by older people in positions of authority	1 2 3 4	38
1.19	are street-smart, brand-conscious consumers	1 2 3 4	39
1.20	think life is not just about work	1 2 3 4	40
1.21	are influenced by the media (internet, TV)	1 2 3 4	41
1.22	prefer acceptance from peers more than parents	1 2 3 4	42
1.23	are bored by routine	1 2 3 4	43

1.24 **Please use this box for any additional comments regarding the attitudes of Generation Y students**

44 45 46
47 48 49
50 51 52

2. Goals and Ideals

The following section refers to the goals and ideals that are important to Generation Y students. Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what *EXTENT* is each of the following statements in line with your own views about Generation Y?		
2.1	They aim to achieve work-life balance	1 2 3 4	47
2.2	They are motivated to achieve success	1 2 3 4	48
2.3	Work is about more than money	1 2 3 4	49
2.4	Success at work means nothing without success in your personal life	1 2 3 4	50
2.5	It is important to them to have the right image including clothes, accessories, cars and toys	1 2 3 4	51
2.6	They want control over their own time	1 2 3 4	52
2.7	It is important to live a moral life	1 2 3 4	53
2.8	Family relationships are valuable	1 2 3 4	54
2.9	Peer acceptance is very important	1 2 3 4	55
2.10	Money can't buy passion or commitment	1 2 3 4	56
2.11	Work should have meaning	1 2 3 4	57
2.12	They are socially conscious	1 2 3 4	58
2.13	Work should provide enough money to enjoy life	1 2 3 4	59
2.14	One's life matters because what you do as an individual can make the world a better place	1 2 3 4	60

2.15 **Please use this box for any additional comments regarding the goals and ideals of Generation Y students**

61	62	63
64	65	66
67	68	69

SECTION C: COMMUNICATION STYLES, SKILLS AND NEEDS

1. Connectivity

The following statements reflect commonly held perceptions or judgments about Generation Y and technology in communication.

Please indicate your *AGREEMENT* or *DISAGREEMENT* with each statement by making a cross in the appropriate box, using the following response scale:

1=Strongly disagree 2=Disagree 3= Agree 4= Strongly agree

	Regarding Generation Y and constant connectivity:		
1.1	Social networking (e.g. Facebook) is used almost daily	1 2 3 4	70
1.2	It is important to be constantly connected to the digital environment	1 2 3 4	71
1.3	They are digitally literate	1 2 3 4	72
1.4	The internet is more than technology; it is a way of life	1 2 3 4	73
1.5	Constant connectivity, e.g. through browsing, downloading or instant messaging, is an everyday practice	1 2 3 4	74
1.6	They cannot imagine a world without technology, e.g. cell (mobile) phones, internet access or instant messaging	1 2 3 4	75
1.7	They have no fear of technology	1 2 3 4	76
1.8	They think connecting to the internet is a better source of information than using a textbook	1 2 3 4	77
1.9	They have access to the latest technology	1 2 3 4	78
1.10	They are better at communicating with technology than with personal interaction	1 2 3 4	79
1.11	They prefer the anonymous, open online environment	1 2 3 4	80
1.12	They prefer that all class materials should be available online	1 2 3 4	1

1.13 **Please use this box for any additional comments regarding connectivity in the communication style of Generation Y students**

		2 3 4
		5 6 7
		8 9 10

2. Social contact

The following section refers to issues regarding social contact of Generation Y. Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what *EXTENT* is each of the following statements in line with your own views? Generation Y		
2.1	find it difficult to communicate with older generations	1 2 3 4	11
2.2	think friendships make life worthwhile	1 2 3 4	12
2.3	want to be surrounded by bright, creative, fun-loving people	1 2 3 4	13
2.4	are good communicators (verbal/non-verbal)	1 2 3 4	14
2.5	are not afraid of challenging authority	1 2 3 4	15
2.6	spend leisure time socializing	1 2 3 4	16
2.7	communicate well with people from diverse cultures	1 2 3 4	17
2.8	prefer text messaging to face-to-face contact	1 2 3 4	18
2.9	maintain close connectivity to parents	1 2 3 4	19
2.10	have multiple friendship relationships due to social networking	1 2 3 4	20
2.11	can maintain close, personal relationships	1 2 3 4	21
2.12	think that older generations misunderstand them	1 2 3 4	22
2.13	prefer casual forms of communication	1 2 3 4	23
2.14	have superficial online relationships	1 2 3 4	24

2.15 **Please use this box for any additional comments regarding social contact of Generation Y students**

25	26	27
28	29	30
31	32	33

3. Feedback

The following section refers to the feedback needs of Generation Y as students. Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what *EXTENT* is each of the following statements in line with your own views? Generation Y		
3.1	want lecturers to give each student individual feedback on a regular basis	1 2 3 4	34
3.2	need guided supervision, preferably by an older mentor	1 2 3 4	35
3.3	prefer positive feedback because negative feedback is seen as destructive	1 2 3 4	36
3.4	function best in a structured, organised environment	1 2 3 4	37
3.5	aren't influenced by authoritarian figures	1 2 3 4	38
3.6	prefer empathetic role models	1 2 3 4	39
3.7	want immediate, personal access to lecturers whenever it suits them	1 2 3 4	40
3.8	are motivated by frequent rewards and incentives	1 2 3 4	41
3.9	only learn work that they think is worthwhile to improve marks	1 2 3 4	42
3.10	find structure and supervision frustrating	1 2 3 4	43
3.11	prefer to work independently	1 2 3 4	44
3.12	expect a lecturer to explain or justify negative feedback	1 2 3 4	45

3.13 **Please use this box for any additional comments regarding the feedback needs of Generation Y students**

46 47 48

49 50 51

52 53 54

SECTION D: LEARNING STYLES AND NEEDS

This section deals with aspects of the teaching and learning environment applicable to Generation Y.

1. Learning styles

The following statements address the perceptions about the learning behaviours and activities of Generation Y students. Indicate your agreement with each of the following statements, where 1 = *STRONGLY DISAGREE* and 4 = *STRONGLY AGREE*. In the next set of blocks indicate the importance of each of the statements about learning styles, where 1 = *NOT AT ALL IMPORTANT* and 4 = *VERY IMPORTANT*.

		AGREEMENT	*IMPORTANCE*		
1.1	"Doing" is better than "knowing"	1 2 3 4	1 2 3 4		55 56
1.2	Students prefer group work	1 2 3 4	1 2 3 4		57 58
1.3	Experience is a better learning platform than lectures	1 2 3 4	1 2 3 4		59 60
1.4	Generation Y are active learners	1 2 3 4	1 2 3 4		61 62
1.5	Being "smart" is "cool"	1 2 3 4	1 2 3 4		64 64
1.6	Visuals are better than text	1 2 3 4	1 2 3 4		65 66
1.7	Learning is a social activity	1 2 3 4	1 2 3 4		67 68
1.8	Students have good critical thinking skills	1 2 3 4	1 2 3 4		69 70
1.9	Generation Y can multi-task	1 2 3 4	1 2 3 4		71 72
1.10	Their thought processes are fast and random, yet logical	1 2 3 4	1 2 3 4		73 74
1.11	Deep learning is problematic	1 2 3 4	1 2 3 4		75 76
1.12	Few take responsibility for their own learning	1 2 3 4	1 2 3 4		77 78
1.13	Their learning is about discovery and exploration	1 2 3 4	1 2 3 4		79 80
1.14	It is important to incorporate their own experiences in learning	1 2 3 4	1 2 3 4		1 2
1.15	Difficulty is experienced in managing large volumes of written information	1 2 3 4	1 2 3 4		3 4
1.16	Learning content should be intellectually challenging	1 2 3 4	1 2 3 4		5 6
1.17	A team environment is optimal	1 2 3 4	1 2 3 4		7 8
1.18	Students learn only what is necessary to pass assessments	1 2 3 4	1 2 3 4		9 10

1.19 **Please use this box for any additional comments regarding Generation Y students' learning Styles**

11 12 13 | 14 15 16 | 17 18 19

2. Learning needs

The following statements address the learning environment preferred by Generation Y students. Indicate to what extent the following statements are in line with your own views, where 1 = *TO NO EXTENT AT ALL* and 4 = *TO A LARGE EXTENT*. In the next set of blocks indicate the importance of each of the statements about learning needs, where 1 = *NOT AT ALL IMPORTANT* and 4 = *VERY IMPORTANT*.

		EXTENT	*IMPORTANCE*	
2.1	Real-life simulations are valuable to learn new skills	1 2 3 4	1 2 3 4	20 21
2.2	Traditional lectures are out-dated	1 2 3 4	1 2 3 4	22 23
2.3	The learning environment should change constantly	1 2 3 4	1 2 3 4	24 25
2.4	Technology is essential	1 2 3 4	1 2 3 4	26 27
2.5	Students should collaborate on subject content decisions	1 2 3 4	1 2 3 4	28 29
2.6	Interactive experiential activities are more valuable than lectures	1 2 3 4	1 2 3 4	30 31
2.7	Visuals are better than text to explain subject content	1 2 3 4	1 2 3 4	32 33
2.8	Learning depends on the lecturer's effort	1 2 3 4	1 2 3 4	34 35
2.9	Face-to-face contact with the lecturer is essential to understand the subject	1 2 3 4	1 2 3 4	36 37
2.10	Actively participating in a group is a key element of learning	1 2 3 4	1 2 3 4	38 39
2.11	Lectures should be varied in style	1 2 3 4	1 2 3 4	40 41
2.12	Classes should be informal	1 2 3 4	1 2 3 4	42 43
2.13	Learning content should be interesting	1 2 3 4	1 2 3 4	44 45
2.14	Students need motivational leadership	1 2 3 4	1 2 3 4	46 47
2.15	E-learning is better than face-to-face contact	1 2 3 4	1 2 3 4	48 49
2.16	Learning should be tailored with options to suit each individual	1 2 3 4	1 2 3 4	50 51

2.17 **Please use this box for any additional comments regarding Generation Y students' learning needs**

52 53 54

55 56 57

58 59 60

SECTION E: ENVIRONMENT AND SHAPING EVENTS

1. Environment

The following statements refer to factors that are thought to influence the environment and therefore the attitudes and actions of Generation Y (born 1981 – 2000).
Please complete this part of the questionnaire by indicating with a cross in the appropriate box according to the response scale below:

1 = Not at all 2 = To a lesser extent 3 = To some extent 4 = To a great extent

	To what extent is each of the following statements in line with your own views ? Generation Y students		
1.1	are the most educated generation ever	1 2 3 4	61
1.2	grew up in a digital world with unlimited access to technology	1 2 3 4	62
1.3	are global citizens because technology reaches across boundaries	1 2 3 4	63
1.4	are more tolerant of differences because of their ethnically diverse environment	1 2 3 4	64
1.5	experience a decreased sense of community in society	1 2 3 4	65
1.6	are more socially aware than their parents	1 2 3 4	66
1.7	experience increased conflict due to diversity (e.g. cultural or ethnic)	1 2 3 4	67
1.8	are more emotionally open than older people	1 2 3 4	68
1.9	live in a world more respectful of diversity than previously	1 2 3 4	69
1.10	experience terrorism as a global threat after 9/11	1 2 3 4	70
1.11	are sensitive to environmental issues like ethical consumption	1 2 3 4	71
1.12	are involved in voluntary community service	1 2 3 4	72
1.13	are overloaded with entertainment media	1 2 3 4	73
1.14	grew up in a structured, organised environment	1 2 3 4	74
1.15	are used to following rules	1 2 3 4	75
1.16	participated in extensive activities during school years which meant they had little free time	1 2 3 4	76
1.17	parents were highly involved, managing every detail of their lives at school	1 2 3 4	77
1.18	think that just taking part makes you a winner	1 2 3 4	78

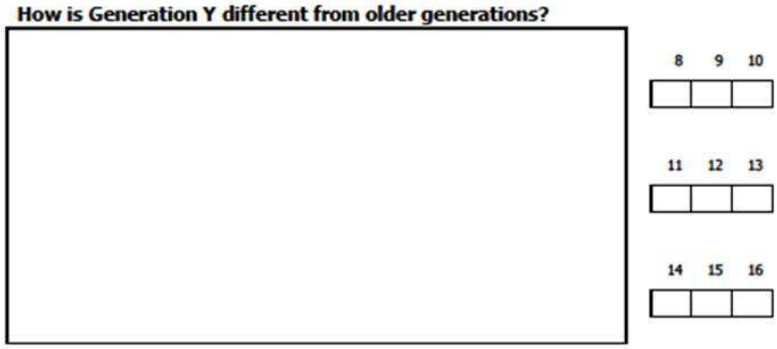
1.19 **Please use this box for any additional comments regarding the environment and shaping events of Generation Y students**

79 80 1
2 3 4
5 6 7

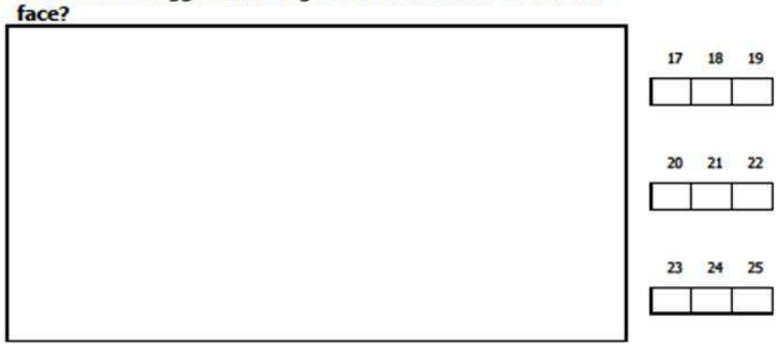
2. Personal comments

Please complete the following comment boxes in your own words.

2.1 **How is Generation Y different from older generations?**



2.2 **What are the biggest challenges that Generation Y students face?**



Thank you very much!

Your co-operation in completing this questionnaire is greatly appreciated.

APPENDIX A4

VRAELYS VIR

AKADEMIESE PERSONEEL (AFRIKAANS)

[QUESTIONNAIRE FOR

ACADEMIC STAFF MEMBERS (AFRIKAANS)]

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

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences
Departement Basiese Mediese Wetenskappe / Department of Basic Medical Sciences

VRAELYS AAN PERSONEEL: AFRIKAANS

Tel: 051-4053107 **Faks: 051-4441198**

Februarie 2010

Geagte Kollega

Ek is besig met navorsing om die persepsies te bepaal aangaande die houdings, kenmerke, voorkeure en verwagtinge van die sogenaamde **Generasie Y-studente** (ook bekend as "Millenials" of "Net Generation", gebore 1981 – 2000) verbonde aan die Fakulteit Gesondheidswetenskappe aan die Universiteit van die Vrystaat. U samewerking met die invul van hierdie vraelys word vriendelik versoek. Daar is geen risiko verbonde aan die studie nie. Die voordele sluit in dat die data uit hierdie projek sal bydra tot **die skep van bewustheid en insig** betreffende studente sodat 'n opvoedkundige benadering gevolg kan word om 'n **optimale onderrig- en leeromgewing** in die Fakulteit Gesondheidswetenskappe te fasiliteer. Die data sal aan die Dagbestuur van die Fakulteit Gesondheidswetenskappe beskikbaar gemaak word.

U deelname is vrywillig en anoniem, en indien u besluit om nie deel te neem nie, sal u geensins gepenaliseer word of enige voordele verbeur waarvoor u andersins in aanmerking sou kom nie. U persoonlike inligting sal vertroulik gehou word, en sou slegs bekend gemaak word indien die wet dit vereis.

U samewerking word hoog op prys gestel. Enige vrae aangaande die navorsing mag gerig word aan my of die Sekretariaat van die Etiekkomitee van die Fakulteit Gesondheidswetenskappe, UV, by telefoonnommer 051-4052812.

Deur die vraelys te voltooi, gee u toestemming dat die inligting gebruik mag word vir my navorsing. Die aangehegte definisies sal u help om die vraelys in te vul. Dit sal u nie langer as 20 minute neem om die vraelys in te vul nie.

Baie dankie by voorbaat vir u hulp in hierdie verband.

Die uwe

Dr. Lynette van der Merwe

DEFINISIES

Generasieteorie	Gedrag, houdings en verwagtinge gedeel deur mense wat dieselfde tyd in die geskiedenis gebore is *(Codrington 2008: Aanlyn, Borges, Manuel, Elam & Jones, 2006: 571)*
Generasie Y *(Millenials/Nexters/Net generasie/Echo Boomers/Google generasie)*	Individue gebore ongeveer 1981 – 2000, met sekere kenmerke, waardes en persepsies *(Billings & Kowalski 2004: 104, Clausing, Kurtz, Prendeville & Walt 2003: 373, Howell, Servis & Bonham, 2005: 528)*
Ander generasies	Generasie X (gebore ongeveer 1961 – 1980) *Baby Boomers* (gebore ongeveer 1941 – 1960) Stil generasie (gebore voor 1940)
Studente	Voorgraadse studente wat ingeskryf is by 'n hoër-onderwysinstelling met die doel om 'n kwalifikasie te behaal
Dosente	Akademiese personeellede verantwoordelik vir onderrig/fasilitering van leer en/of assessering van studente by 'n hoër-onderwysinstelling

Verwysings:

Borges N.J., Manuel R.S., Elam C.L., Jones B.J. 2006. Comparing Millenial and Generation X medical students at one medical school. *Academic Medicine*, 81(6), 571-576.

Clausing S.L., Kurtz D.L., Prendeville J., Walt J.L. 2003. Generational diversity – The Nexters. *AORN Journal* 78 (3), 373-379.

Codrington G. 2008. *Detailed Introduction to Generational Theory*. [Online]. Available from: http://www.tomorrowtoday.uk.com/articles/pdf/TomorrowToday_detailed_intro_to_Generations.pdf [Accessed 15 June, 2009]

Howell L.P., Servis G., Bonham A. 2005. Multigenerational challenges in academic medicine: UCDavis's responses. *Academic Medicine*, 80 (6), 527-532.



FAKULTEIT GESONDHEIDSWETENSKAPPE

Vraelys aan personeel

'n Opvoedkundige benadering vir die generasieprofiel van voorgraadse studente in die Fakulteit Gesondheidswetenskappe, Universiteit van die Vrystaat

Slegs vir kantoor gebruik			1
		2	3

U is gevra om deel te neem aan 'n navorsingsprojek. Let asseblief op dat deur die vraelys in te vul, u vrywillig toestemming verleen tot deelname aan hierdie navorsingsprojek. U sal anoniem bly en u inligting sal te alle tye vertroulik hanteer word. U mag u deelname in enige stadium onttrek tydens die invul van die vraelys. Daar is vyf (5) afdelings wat ingevul moet word. Instruksies sal voorsien word by elke groep vrae. U samewerking word hoog op prys gestel.

AFDELING A: DEMOGRAFIESE INLIGTING

In die volgende afdeling word demografiese inligting versoek. Maak asseblief 'n kruisie (X) in die toepaslike blokkie vir elke item:

1	**Voorbeeld: Geslag**		
a.	Manlik	1	
b.	Vroulik	X	
1.	**Geslag**		4
1.1	Manlik	1	
1.2	Vroulik	2	
2.	**In watter skool in die Fakulteit Gesondheidswetenskappe is u aangestel as permanente akademiese personeellid?**		5
2.1	Skool vir Geneeskunde	1	
2.2	Skool vir Aanvullende Gesondheidsberoepe	2	
2.3	Skool vir Verpleegkunde	3	
2.4	Dui asseblief aan indien u nie 'n permanente aanstelling het nie (bv. sessie-aanstelling).	4	6 7
3.	**Vir watter voorgraadse studente in die Fakulteit Gesondheidswetenskappe gee u lesings? (Dui asb. alle groepe aan)**		
3.1	B.Med.Sc. (Stralingswetenskap)	1	8
3.2	M.B., Ch.B. (Voorgraadse mediese program)	2	9
3.3	B.Sc. Voeding & Dieetkunde	3	10
3.4	B. Arbeidsterapie	4	11
3.5	B. Optometrie	5	12
3.6	B.Sc. Fisioterapie	6	13
3.7	B.Soc.Sc. (Verpleging)	7	14

4. Hoe lank doseer u reeds in die Fakulteit Gesondheids-wetenskappe? [15]

4.1	0-2 jaar	1
4.2	3-5 jaar	2
4.3	6-10 jaar	3
4.4	11-15 jaar	4
4.5	Meer as 15 jaar	5

5. Huistaal [16]

5.1	Afrikaans	1
5.2	Engels	2
5.3	Sotho	3
5.4	Zulu	4
5.5	Xhosa	5
5.6	Ander	6

6. Etnisiteit [17]

6.1	Swart	1
6.2	Blank	2
6.3	Kleurling	3
6.4	Indiër	4
6.5	Asiër	5
6.6	Ander	6

8. Geboortedatum (Voltooi asseblief net die jaar) [18] [19]

19 [ ][ ]

9. Wat is u hoogste opvoedkundige kwalifikasie? [20]

9.1	Post-matriek diploma of -sertifikaat	1
9.2	Baccalaureusgraad/grade	2
9.3	Nagraadse kwalifikasie(s)	3
9.4	Doktorsgraad (Ph.D./M.D.)	4

AFDELING B: WAARDES EN OPTREDES

1. Sienswyses (*"Attitudes"*)

Die volgende stellings verwys na algemene persepsies of oordele oor die waardes en optredes van Generasie Y (gebore 1981 – 2000).
Dui asseblief aan of u SAAMSTEM of NIE SAAMSTEM met elke stelling deur 'n kruisie in die toepaslike blokkie te maak, deur gebruik te maak van die volgende responsskaal:

1=Stem glad nie saam nie 2=Stem nie saam nie 3= Stem saam 4= Stem definitief saam

Generasie Y

1.1	is optimisties oor die toekoms	1 2 3 4	21
1.2	kan beskryf word as vriendelik en aangenaam	1 2 3 4	22
1.3	toon tipies positiewe, assertiewe gedrag	1 2 3 4	23
1.4	het 'n informele benadering wat as onprofessioneel mag voorkom	1 2 3 4	24
1.5	kom arrogant voor	1 2 3 4	25
1.6	is selfgesentreerd	1 2 3 4	26
1.7	voel dat hulle geregtig is op voordele wat hulle nog nie verdien het nie	1 2 3 4	27
1.8	sal die wêreld verander	1 2 3 4	28
1.9	is ambisieus	1 2 3 4	29
1.10	kom vol selfvertroue voor	1 2 3 4	30
1.11	sal die toekoms verbeter met innoverende idees	1 2 3 4	31
1.12	het hoë verwagtinge van sukses	1 2 3 4	32
1.13	wil onmiddellike beloning hê en is nie bereid om te wag vir uitgestelde vergoeding nie	1 2 3 4	33
1.14	het hoë self-waarde	1 2 3 4	34
1.15	is gemaklike individue wat van pret hou	1 2 3 4	35
1.16	dink hulle is geregtig op alles wat hulle wil hê	1 2 3 4	36
1.17	word nie maklik beïndruk nie	1 2 3 4	37
1.18	steur hulle nie veel aan propaganda deur ouer		
1.19	mense in gesagsposisies nie	1 2 3 4	38
1.20	is straat-slim, handelsmerk-bewuste verbruikers	1 2 3 4	39
1.21	dink die lewe gaan oor meer as werk	1 2 3 4	40
1.22	word deur die media beïnvloed (internet, TV)	1 2 3 4	41
1.23	verkies aanvaarding van portuurgroepe bo ouers	1 2 3 4	42
1.24	word verveel deur roetine	1 2 3 4	43

1.25 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se sienswyses**

44 45 46
47 48 49
50 51 52

2. Doelwitte en Ideale

Die volgende afdeling verwys na die doelwitte en ideale wat vir Generasie Y-studente belangrik is. Voltooi asseblief hierdie gedeelte van die vraelys deur 'n kruisie te maak in die toepaslike blokkie volgens die volgende responsskaal:

1 = Glad nie 2 = Tot 'n mindere mate 3 = Tot 'n sekere mate 4 = Tot 'n groot mate

	Tot watter mate is elk van die volgende stellings in ooreenstemming met u eie siening van Generasie Y-studente?		
2.1	Balans tussen werk en lewe is 'n belangrike doel	1 2 3 4	53
2.2	Hulle is gemotiveerd om sukses te behaal	1 2 3 4	54
2.3	Werk gaan nie net oor geld nie	1 2 3 4	55
2.4	Sukses by die werk beteken niks sonder sukses in jou persoonlike lewe nie	1 2 3 4	56
2.5	Dit is belangrik om die regte beeld te hê, insluitend klere, motors, speelgoed, bykomstighede	1 2 3 4	57
2.6	Beheer oor eie tyd is prioriteit	1 2 3 4	58
2.7	Dit is belangrik om 'n morele lewe te lei	1 2 3 4	59
2.8	Familieverhoudings is belangrik	1 2 3 4	60
2.9	Portuurgroep-aanvaarding is baie belangrik	1 2 3 4	61
2.10	Geld kan nie passie of toewyding koop nie	1 2 3 4	62
2.11	Werk moet betekenisvol wees	1 2 3 4	63
2.12	Hulle is bewus van maatskaplike sake	1 2 3 4	64
2.13	Werk moet genoeg geld voorsien om gemaklik te kan lewe	1 2 3 4	65
2.14	'n Mens se lewe maak saak omdat wat jy doen as 'n individu die wêreld 'n beter plek kan maak	1 2 3 4	66

2.15 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se doelwitte en ideale**

67 68 69

70 71 72

73 74 75

AFDELING C: KOMMUNIKASIESTYLE, VERMOËNS EN BEHOEFTES

1. Aanlyn-bewustheid (*"Connectivity"*)

Die volgende stellings verwys na algemene persepsies of vooroordele oor Generasie Y en die tegnologie in kommunikasie.

Dui asseblief aan of u SAAMSTEM of NIE SAAMSTEM met elke stelling deur 'n kruisie te maak in die toepaslike blokkie deur van die volgende responsskaal gebruik te maak:

1=Stem glad nie saam nie 2=Stem nie saam nie 3= Stem saam 4= Stem definitief saam

Aangaande Generasie Y-studente en aanlyn-bewustheid:

1.1	Sosiale netwerke (bv. Facebook) word byna daagliks gebruik	1 2 3 4	76
1.2	Dit is belangrik om konstant met die digitale omgewing in kontak te wees	1 2 3 4	77
1.3	Hulle is op hoogte met digitale tegnologie	1 2 3 4	78
1.4	Die internet is meer as tegnologie, dis 'n lewenswyse	1 2 3 4	79
1.5	Om aanhoudend aanlyn te wees, deur bv. soek of aflaai van inligting of boodskappe, is daaglikse praktyke	1 2 3 4	80
1.6	Hulle kan nie 'n wêreld sonder tegnologie, bv. selfone, internettoegang of boodskapkommunikasie voorstel nie	1 2 3 4	1
1.7	Hulle het geen vrees vir tegnologie nie	1 2 3 4	2
1.8	Deur aanlyn te gaan met die internet is 'n beter bron van inligting as om 'n handboek te gebruik	1 2 3 4	3
1.9	Hulle het toegang tot die nuutste tegnologie	1 2 3 4	4
1.10	Hulle kommunikeer beter met tegnologie as met persoonlike interaksie	1 2 3 4	5
1.11	Hulle verkies die oop, aanlyn-omgewing	1 2 3 4	6
1.12	Hulle verkies dat alle klasnotas aanlyn beskikbaar is	1 2 3 4	7

1.13 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se aanlyn-bewustheid**

8 9 10 | 11 12 13 | 14 15 16

2. Sosiale kontak

Die volgende afdeling verwys na aangeleenthede rakende die sosiale kontak van Generasie Y. Vul asseblief hierdie gedeelte van die vraelys in deur 'n kruisie te maak in die toepaslike blokkie volgens die responsskaal hieronder:

1 = Glad nie 2 = Tot 'n mindere mate 3 = Tot 'n sekere mate 4 = Tot 'n groot mate

	Tot watter mate stem elk van die volgende stellings met u eie siening ooreen? Generasie Y-studente		
2.1	vind dit moeilik om met ouer generasies te kommunikeer	1 2 3 4	17
2.2	dink vriendskap maak die lewe die moeite werd	1 2 3 4	18
2.3	wil omring word deur vrolike, kreatiewe, pret-mense	1 2 3 4	19
2.4	is goeie kommunikeerders (verbaal/nie-verbaal)	1 2 3 4	20
2.5	is nie bang om gesag uit te daag nie	1 2 3 4	21
2.6	gebruik ontspanningstyd om te sosialiseer	1 2 3 4	22
2.7	kommunikeer goed met mense van diverse kulture	1 2 3 4	23
2.8	verkies teksboodskappe bo persoonlike kontak	1 2 3 4	24
2.9	handhaaf noue kontak met ouers	1 2 3 4	25
2.10	het veelvuldige vriendskapsverhoudings vanweë sosiale netwerke	1 2 3 4	26
2.11	is in staat om noue, persoonlike verhoudings te handhaaf	1 2 3 4	27
2.12	ervaar dat ouer generasies hulle misverstaan	1 2 3 4	28
2.13	verkies informele vorms van kommunikasie	1 2 3 4	29
2.14	het dikwels oppervlakkige aanlynverhoudings	1 2 3 4	30

2.15 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se sosiale kontak**

31	32	33
34	35	35
36	37	38

3. Terugvoering

Die volgende afdeling handel oor die terugvoerbehoeftes van Generasie Y-studente. Voltooi asseblief hierdie gedeelte van die vraelys deur 'n kruisie te maak in die toepaslike blokkie volgens die responsskaal hieronder:

1 = Glad nie 2 = Tot 'n mindere mate 3 = Tot 'n sekere mate 4 = Tot 'n groot mate

	Tot watter mate stem elk van die volgende stellings ooreen met u eie siening? Generasie Y-studente		
3.1	verwag dat dosente aan elke student individuele terugvoering moet gee op 'n gereelde basis	1 2 3 4	39
3.2	het toesighoudende leiding nodig, verkieslik deur 'n ouer mentor	1 2 3 4	40
3.3	verkies positiewe terugvoering omdat negatiewe terugvoering as destruktief gesien word	1 2 3 4	41
3.4	funksioneer die beste in 'n gestruktureerde, georganiseerde omgewing	1 2 3 4	42
3.5	word min deur gesagsfigure beïnvloed	1 2 3 4	43
3.6	verkies rolmodelle wat empatie toon	1 2 3 4	44
3.7	wil onmiddellike, persoonlike toegang hê tot dosente wanneer dit hulle pas	1 2 3 4	45
3.8	word gemotiveer deur gereelde belonings en insentiewe	1 2 3 4	46
3.9	leer net wat hulle dink die moeite werd is om hulle punte te verbeter	1 2 3 4	47
3.10	ervaar struktuur en toesig as frustrerend	1 2 3 4	48
3.11	verkies om onafhanklik te werk	1 2 3 4	49
3.12	verwag dat 'n dosent negatiewe terugvoering moet verduidelik of regverdig	1 2 3 4	50

3.13 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se terugvoeringsbehoeftes**

51	52	53
54	55	56
57	58	59

AFDELING D: LEERSTYLE EN -BEHOEFTES

Hierdie afdeling handel oor aspekte van die onderrig- en leeromgewing van toepassing op Generasie Y.

1. Leerstyle

Die volgende stellings roer die persepsies aan oor die leergedrag en -aktiwiteit van Generasie Y-studente. Dui asseblief aan of u saamstem met elk van die volgende stellings, 1 = *STEM GLAD NIE SAAM NIE en* 4 = *STEM DEFINITIEF SAAM.* In die volgende stel blokkies, dui asseblief aan hoe belangrik elkeen van die stellings oor leerstyle is, waar 1 = *GLAD NIE BELANGRIK NIE* en 4 = *BAIE BELANGRIK.*

		STEM SAAM	*BELANG*		
	Generasie Y-studente				
1.1	glo "doen" is beter as "weet"	1 2 3 4	1 2 3 4		60 61
1.2	verkies groepwerk	1 2 3 4	1 2 3 4		62 63
1.3	dink ervaring is 'n beter platform vir leer as lesings	1 2 3 4	1 2 3 4		64 65
1.4	is aktiewe leerders	1 2 3 4	1 2 3 4		66 67
1.5	dink dit is "cool" om slim te wees	1 2 3 4	1 2 3 4		68 69
1.6	verkies visuele inhoud bo teks	1 2 3 4	1 2 3 4		70 71
1.7	glo leer is 'n sosiale aktiwiteit	1 2 3 4	1 2 3 4		72 73
1.8	het goeie kritiese denkvaardighede	1 2 3 4	1 2 3 4		74 75
1.9	kan meer as een taak gelyk doen	1 2 3 4	1 2 3 4		76 77
1.10	se denkprosesse is vinnig en lukraak, maar tog logies	1 2 3 4	1 2 3 4		78 79
1.11	sukkel met diep leer	1 2 3 4	1 2 3 4		80 1
1.12	neem verantwoordelikheid vir eie leer	1 2 3 4	1 2 3 4		2 3
1.13	glo leer gaan oor ondersoek en ontdekking	1 2 3 4	1 2 3 4		4 5
1.14	glo dit is belangrik om eie sienings in leer te inkorporeer	1 2 3 4	1 2 3 4		6 7
1.15	vind dit moeilik om groot volumes skriftelike inligting te hanteer	1 2 3 4	1 2 3 4		8 9
1.16	voel leerinhoud behoort intellektueel uitdagend te wees	1 2 3 4	1 2 3 4		10 11
1.17	werk goed in 'n spanopset	1 2 3 4	1 2 3 4		12 13
1.18	leer net wat nodig is om assesserings deur te kom	1 2 3 4	1 2 3 4		14 15

1.19 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se leerstyl**

16 17 18 | 19 20 21 | 22 23 24

2. Leerbehoeftes

Die volgende stellings roer die leeromgewing aan wat deur Generasie Y-studente verkies word. Dui aan tot watter mate die volgende stellings ooreenstem met u eie sienings, waar 1 = *TOT GEEN MATE* en 4 =*TOT 'N GROOT MATE*. In die volgende stel blokkies, dui asseblief aan hoe belangrik elkeen van die stellings oor leerstyle is, waar 1 = *GLAD NIE BELANGRIK* en 4 = *BAIE BELANGRIK*.

		EXTENT	*IMPORTANCE*		
2.1	Simulasies van werklike situasies help om nuwe vaardighede te leer	1 2 3 4	1 2 3 4		25 26
2.2	Tradisionele lesings is outyds	1 2 3 4	1 2 3 4		27 28
2.3	Die leeromgewing behoort heeltyd te verander	1 2 3 4	1 2 3 4		29 30
2.4	Tegnologie is noodsaaklik	1 2 3 4	1 2 3 4		31 32
2.5	Studente moet in besluitneming oor vakinhoud gekonsulteer word	1 2 3 4	1 2 3 4		33 34
2.6	Interaktiewe ervaringsaktiwiteite is meer waardevol as lesings	1 2 3 4	1 2 3 4		35 36
2.7	Visuele inhoud is beter as teks om die vak te verduidelik	1 2 3 4	1 2 3 4		37 38
2.8	Leer hang af van hoeveel moeite die dosent doen	1 2 3 4	1 2 3 4		39 40
2.9	Direkte kontak met die dosent is noodsaaklik om die vakinhoud te verstaan	1 2 3 4	1 2 3 4		41 42
2.10	Aktiewe deelname in 'n groep is 'n kernelement van leer	1 2 3 4	1 2 3 4		43 44
2.11	Lesings moet varieer in styl	1 2 3 4	1 2 3 4		45 46
2.12	Klasse moet informeel wees	1 2 3 4	1 2 3 4		47 48
2.13	Leerinhoud behoort interessant te wees	1 2 3 4	1 2 3 4		49 50
2.14	Motiverende leierskap is nodig	1 2 3 4	1 2 3 4		51 52
2.15	E-leer is beter as persoonlike kontak met die dosent	1 2 3 4	1 2 3 4		53 54
2.16	Leer moet aangepas word om by individuele behoeftes aan te pas	1 2 3 4	1 2 3 4		55 56

2.17 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y-studente se leerbehoeftes**

57	58	59
60	61	62
63	64	65

AFDELING E: OMGEWING EN VORMENDE GEBEURTENISSE

1. Omgewing

Die volgende stellings verwys na die faktore wat beskou word as invloede op die omgewing en dus die houdings en gedrag van Generasie Y (gebore 1981 – 2000).
Vul asseblief hierdie gedeelte van die vraelys in deur 'n kruisie te maak in die toepaslike blokkie volgens die volgende responsskaal:

	Tot watter mate stem elk van die volgende stellings ooreen met u eie siening? Generasie Y-studente		
1.1	is die mees opgevoede generasie ooit	1 2 3 4	66
1.2	het grootgeword in 'n digitale wêreld met onbeperkte toegang tot tegnologie	1 2 3 4	67
1.3	is wêreldburgers omdat hulle deur tegnologie oor grense heen kan uitreik	1 2 3 4	68
1.4	is meer verdraagsaam rakende verskille as tevore, vanweë die etnies diverse omgewing	1 2 3 4	69
1.5	leef in 'n samelewing wat minder gemeenskapsbewus is	1 2 3 4	70
1.6	is meer sosiaal bewus as hulle ouers	1 2 3 4	71
1.7	ervaar meer konflik vanweë diversiteit (bv. kultureel of etnies)	1 2 3 4	72
1.8	is meer emosioneel oop as ouer mense	1 2 3 4	73
1.9	leef in 'n wêreld wat meer respek toon vir diversiteit as voorheen	1 2 3 4	74
1.10	ervaar terrorisme as 'n wêreldwye bedreiging na 9/11	1 2 3 4	75
1.11	is sensitief vir omgewingsake soos om 'n etiese verbruiker te wees	1 2 3 4	76
1.12	is by vrywillige gemeenskapsdiens betrokke	1 2 3 4	77
1.13	word met vermaak-media oorlaai	1 2 3 4	78
1.14	het in 'n gestruktureerde omgewing grootgeword	1 2 3 4	79
1.15	is daaraan gewoond om reëls na te kom	1 2 3 4	80
1.16	het tydens hulle skooljare aan baie aktiwiteite deelgeneem en het dus min vrye tyd gehad	1 2 3 4	1
1.17	se ouers was baie betrokke, en het elke detail van hulle lewe op skool bestuur	1 2 3 4	2
1.18	leef in 'n omgewing waar die blote feit dat jy deelneem reeds van jou 'n wenner maak	1 2 3 4	3

1.19 **Gebruik asseblief hierdie spasie vir enige addisionele opmerkings oor Generasie Y se omgewing en vormende gebeurtenisse**

4	5	6
7	8	9
10	11	12

2. Persoonlike kommentaar

Vul asseblief die volgende in u eie woorde in.

2.1 Hoe verskil Generasie Y van ouer generasies?

248	249	250
251	252	253
254	255	256

2.2 Wat is die grootste uitdagings aan Generasie Y?

257	258	259
260	261	262
263	264	265

Baie dankie!

U samewerking met die invul van hierdie vraelys word hoog op prys gestel.

APPENDIX B

POWERPOINT© PRESENTATION USED TO INTRODUCE QUESTIONNAIRE SURVEY TO STUDENTS

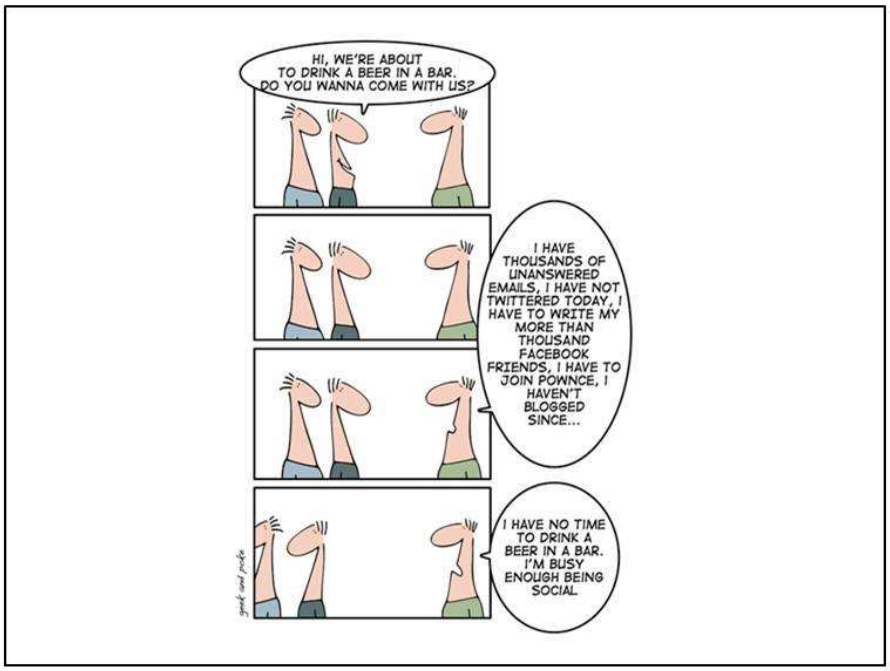


Good morning/afternoon

I am here today to request your voluntary and anonymous participation in a research project on Generation Y – the term used to describe those born from 1981 – 2000.

Goeiemôre/middag

Ek is vandag hier om u vrywillige en anonieme deelname te versoek in 'n navorsings-projek oor Generasie Y – die term wat gebruik word om diegene gebore vanaf 1981 – 2000 te beskryf.



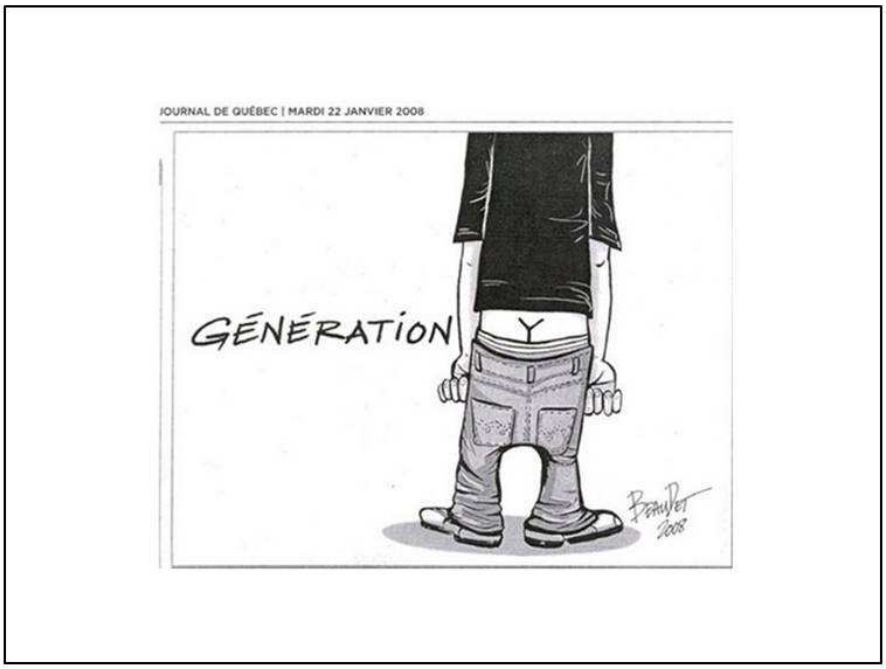
I think you would agree that there are marked differences in the way people act in society nowadays....

Ek dink u sou saamstem dat daar definitiewe verskille is in die manier waarop mense deesdae in die samelewing optree.....



Some of these differences are really obvious!

Sommige van hierdie verskille is baie duidelik!



If you were wondering where the name Generation Y comes from, this will make it clear.

Indien u sou wonder waar die naam Generasie Y vandaan kom, sou hierdie dit duidelik maak.



On a more serious note, this research aims to gain understanding of students' perspectives as members of the so-called Generation Y, on their own peer group members' values, behaviours, communication preferences, learning behaviour and environment and shaping events. Your participation is therefore requested in the completion of this questionnaire which should take about 20 minutes to complete. Be assured that your participation is entirely voluntary and anonymous. Thank you very much for your invaluable contribution towards enhancing our knowledge so that we can optimise the teaching and learning environment at the Faculty of Health Sciences.

Op 'n meer ernstige noot, hierdie navorsing het ten doel om beter insig te bekom oor studente se perspektief as lede van die sogenaamde Generasie Y, van hulle eie portuurgroeplede se waardes, gedrag, kommunikasie voorkeure, leergedrag en omgewing en vormende gebeure. U deelname word dus versoek in die voltooiing van hierdie vraelys wat ongeveer 20 minute behoort te neem. Wees verseker dat u deelname algeheel vrywillig en anoniem is. Baie dankie vir u waardevolle bydrae tot die bevordering van ons kennis sodat ons die onderrig-leer omgewing in die Fakultetit Gesondheidswetenskappe kan optimaliseer.

APPENDIX C

FOCUS GROUP

INFORMATION DOCUMENT, INFORMED CONSENT

AND AGENDA

APPENDIX C1

FOCUS GROUP AGENDA

FOR PARTICIPANTS

PARTICIPANT AGENDA FOR FOCUS GROUP INTERVIEW (FGI)
DEELNEMER AGENDA VIR FOKUSGROEP-ONDERHOUD (FGI)

MAIN RESEARCH QUESTION:

TO DEVELOP AN EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE. (ETOVS 205/09)

QUESTIONS FOR PARTICIPANTS
VRAE VIR DEELNEMERS

A. INTRODUCTION / *INLEIDING* (10 MIN)

B. FGI AREA 1 - INITIATING THE SESSION / *INISIËRING VAN DIE SESSIE* (10 MIN)

1. What is the value of considering the generational characteristics of undergraduate students in the approach to the teaching and learning environment?
   Wat is die waarde daarvan om voorgraadse studente se generasiekenmerke in ag te neem in die benadering tot die onderrig- en leeromgewing?

C. FGI AREA 2 – SPECIFIC AREAS OF INTEREST / *SPESIFIEKE AREAS VAN BELANG*

GOALS AND IDEALS*/DOELWITTE EN IDEALE *(15 MIN)

2. How can we harness the optimism, ambition, confidence and assertive behaviour of Generation Y perceived by both staff and students, to improve learning?
   Hoe kan ons die optimisme, ambisie, self-vertroue en selfhandhawende gedrag van Generasie Y wat deur sowel personeel as studente waargeneem word, inspan om leer te verbeter?
3. In what way can we address the contrasting perceptions between staff and students (re. arrogance, self-centeredness, demands for instant gratification, media and peer influence, unprofessionalism seen in casual dress and behaviour and immorality) to improve our ability to interact with students?

Op watter maniere kan ons die kontrasterende persepsies tussen personeel en student (re. arrogansie, self-gesentreerdheid, eise vir onmiddellike bevrediging, media en portuurgroepinvloede, onprofessionaliteit gesien in informele klerestyl en gedrag, asook immoraliteit) aanroer om ons interaksie met studente te verbeter?

COMMUNICATION STYLES, SKILLS AND NEEDS*/KOMMUNIKASIESTYLE, VAARDIGHEDE EN BEHOEFTES** ***(20 MIN)

4. How can interpersonal communication skills and communication between staff and students be improved?
   Hoe kan interpersoonlikekommunikasievaardighede asook kommunikaise tussen personeel en studente verbeter word?
5. In what ways can students' need for direct access to and feedback from lecturers be incorporated in the teaching and learning environment?
   Op watter maniere kan studente se behoefte aan direkte toegang tot en terugvoering vanaf dosente in die onderrig- en leer-omgewing geïnkorporeer word?

LEARNING STYLES AND NEEDS*/LEERSTYLE EN –BEHOEFTES** ***(25 MIN)

6. Staff and students disagree that students are capable of deep or active learning, taking responsibility for their learning or critical thinking. How can contrasting perceptions regarding learning skills be aligned to encourage and facilitate students to achieve successful learning?
   Personeel en studente stem nie saam dat studente die vermoë het tot diep of aktiewe leer nie, of om verantwoordelikheid te neem vir hulle eie leer of kritieke denke nie. Hoe kan kontrasterende persepsies aangaande leervaardighede in ooreenstemming gebring word om studente aan te spoor en te help om suksesvolle leer te bereik?
7. Group work is problematic to most students, yet an important part of the learning environment. What methods can be put into place to ensure its efficacy?
   Groepwerk is problematies vir meeste studente, en tog is dit 'n belangrike deel van die leeromgewing. Watter metodes kan in plek geplaas word om die effektiwiteit daarvan te verseker?

8. Should students be involved in decisions regarding subject content? If so, how?

   Behoort studente betrokke te wees by besluite aangaande vakinhoud? Indien wel, hoe?

9. How can visual stimulation, technology and the need to learn by discovery and exploration be incorporated to a greater extent in teaching, without discarding personal, face-to-face contact with the lecturer?

   Hoe kan visuele stimulasie, tegnologie en die behoefte aan leer deur ontdekking en ondersoek geïnkorporeer word tot 'n groter mate in onderrig, sonder om persoonlike, direkte kontak met die dosent af te skeep?

TEA AND REFRESHMENTS

TEE EN VERVERSINGS

(20 MIN)

ENVIRONMENT AND SHAPING EVENTS*/OMGEWING EN VORMENDE GEBEURE** ***(20 MIN)

10. In what ways can students' need for a structured, organized environment be met?

    Op watter maniere kan in studente se behoefte aan 'n gestruktureerde, georganiseerde omgewing voorsien word?

11. Students express a desire for mentoring by empathetic role-models. What are staff members' responsibilities in this regard?

    Studente dui 'n behoefte aan om gementor te word deur empatiese rolmodelle. Wat is personeellede se verantwoordelikhede in hierdie opsig?

12. Both students and staff members agree that Generation Y grow up in a world with complex moral issues, excessive peer pressure and socio-political challenges. How can students be supported in the academic environment to cope and grow as professionals?

    Sowel studente as personeellede stem saam dat GenerasieY grootword in 'n wêreld met komplekse morele sake, oormatige portuurgroepdruk, en sosio-politiese uitdagings. Hoe kan studente ondersteun word in die akademiese omgewing om te oorleef en te groei as professionele persone?

D. FGI AREA 3 – SUGGESTED EDUCATIONAL APPROACH / *VOORGESTELDE ONDERWYSBENADERING* (10 MIN)

13. What are the key elements that should be included in an educational approach to undergraduate students' generation profile?
    Wat is die kernelemente wat ingesluit behoort te word in 'n onderwysbenadering tot voorgraadse studente se generasieprofiel?
14. Are there any additional important points you would like to mention?
    Is daar enige addisionele punte van belang wat u wil noem?

E. CONCLUSION/*AFSLUITING* (5 MIN)

APPENDIX C2

FOCUS GROUP AGENDA

FOR FACILITATOR

AGENDA FOR FOCUS GROUP INTERVIEW

05 October 2010

MAIN RESEARCH QUESTION:

TO DEVELOP AN EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE. (ETOVS 205/09)

QUESTIONS FOR PARTICIPANTS:

A. INTRODUCTION:

NR	QUESTION	PRIORITY	TIME FRAME
	FACILITATOR: Introduction and explanation of the focus group discussions & process (See Appendix)*	*NA*	*5 – 10 min*
			10 min

B. FOCUS GROUP INTERVIEW AREA 1 - INITIATING THE SESSION:

1	**What is the value of considering the generational characteristics of undergraduate students in the approach to the teaching and learning environment?**	1	10 min

PROBING QUESTION: Is it useful to educationists to know what our students are like as a generation? Explain your answer.

GUIDING BULLETS:

- Differences in generations cause misunderstandings
- Students today different from before
- Technology has changed everything (e.g. cellphones, Internet)
- Get to know them to understand them
- Communicate on their level
- Alternatives to approach them

10 min

C. FOCUS GROUP INTERVIEW AREA 2 – SPECIFIC AREAS OF INTEREST:

GOALS AND IDEALS			
NR	**QUESTION**	**PRIORITY**	**TIME FRAME**
2	**How can we harness the optimism, ambition, confidence and assertive behaviour of Generation Y perceived by both staff and students, to improve learning?**	3	5 min
PROBING QUESTION: What can we do to make use of the positive attributes of Gen Y, for example their optimism, confidence, ambition? **GUIDING BULLETS:** • Positive reinforcement • Challenges • Innovative/different activities			
3	**In what way can we address the contrasting perceptions between staff and students (re: arrogance, self-centeredness, demands for instant gratification, media and peer influence, unprofessionalism seen in casual dress and behaviour and immorality) to improve our ability to interact with students?**	2	10 min
PROBING QUESTION: Staff see students as arrogant, demanding, unprofessional; students see themselves as achievers who will change the world – how can we bridge the gap? **GUIDING BULLETS:** • Improve their self-knowledge • Interaction guidelines • Code of conduct useful? • Guidance/example from staff			
COMMUNICATION STYLES, SKILLS AND NEEDS			
4	**How can interpersonal communication skills and communication between staff and students be improved?**	2	10 min
PROBING QUESTION: In what ways can we better communicate in the teaching/learning environment (e.g. class, ward rounds) NOT referring to patient interaction? **GUIDING BULLETS:** • Different forms of communication than question & answer sessions • Feedback from students • Use of social media, e.g. e-mail, chat-rooms, SMS			

NR	QUESTION	PRIORITY	TIME FRAME
5	In what ways can students' need for direct access to and feedback from lecturers be incorporated in the teaching and learning environment?	3	10 min
PROBING QUESTION: What can we do to give students feedback in ways that they want/need? **GUIDING BULLETS:** • Regular, personal appointments: when and where, optional or forced? • "Talk to me"/open sessions • Use of personal e-mail			
LEARNING STYLES AND NEEDS			
6	Staff and students disagree that students are capable of deep or active learning, taking responsibility for their learning or critical thinking. How can contrasting perceptions regarding learning skills be aligned to encourage and facilitate students to achieve successful learning?	2	5 min
PROBING QUESTION: What should we do to make sure that students take responsibility for their own learning AND learn actively AND become critical thinkers? **GUIDING BULLETS:** • Raise standards? • Give more support • Do work in smaller sections • More regular assessments – should they all count? • Different assessment methods (e.g. orals, writing reports, peer review)?			
7	Should students be involved in decisions regarding subject content? If so, how?	3	5 min
PROBING QUESTION: Students want to have a direct input into what they learn – how can we address this? (DO NOT ALLOW TOO MUCH DISCUSSION) **GUIDING BULLETS:** • Incorporate feedback from e.g. senior students, community service year • Interactive open sessions about core content • Compare content with other institutions			

NR	QUESTION	PRIORITY	TIME FRAME
8	Group work is problematic to most students, yet an important part of the learning environment. What methods can be put into place to ensure its efficacy?	3	5 min
PROBING QUESTION: What can we do to make sure group work is more effective? (NO DETAIL) **GUIDING BULLETS:** • Choose own groups • Rotate groups • Anonymous "complaints" about parasitic group members • Peer review of groups • Coach how to work in groups			
9	How can visual stimulation, technology and the need to learn by discovery and exploration be incorporated to a greater extent in teaching, without discarding personal, face-to-face contact with the lecturer?	1	10 min
PROBING QUESTION: Already making use of various methods to include technology / visual stimulation more – what is practical BUT importantly without losing personal interaction with lecturers? **GUIDING BULLETS:** • E-learning place? • Time and available technology • Fear of/inexperience with technology • Guidelines for lecturing in "new" environment • Practical implications			
			70 min
END OF FIRST SECTION			**80 MIN**

Tea and refreshments 20 min

ENVIRONMENT AND SHAPING EVENTS			
NR	**QUESTION**	**PRIORITY**	**TIME FRAME**
10	**In what ways can students' need for a structured, organised environment be met?**	2	5 min
PROBING QUESTION: Come from structured school environment; suddenly left to themselves with time management, responsibility to study, living on their own, etc – what should be put in place to assist them? **GUIDING BULLETS:** • Tutors/mentors with regular, obligatory sessions • Guard against spoon feeding • Training in life orientation (maturity, emotional intelligence) • Physical support (e.g. financial, social, emotional)			
11	**Students express a desire for mentoring by empathetic role-models. What are staff members' responsibilities in this regard?**	1	10 min
PROBING QUESTION: What can be done to meet students' need for mentoring? **GUIDING BULLETS:** • What is a good role model? (Different cultures, sexes, races) • Increased responsibility of staff to act/speak with integrity & empathy • Support/training for especially junior staff • Decrease distance between senior staff and students • Staff are too busy to interact with students?			
12	**Both students and staff members agree that Generation Y grow up in a world with complex moral issues, excessive peer pressure and socio-political challenges. How can students be supported in the academic environment to cope and grow as professionals?**	1	5 min
PROBING QUESTION: The world we live in is challenging to young, inexperienced people – what services should be rendered to help them? **GUIDING BULLETS:** • Structured mentoring programmes (possible/practical)? • Motivational guidance • Personal/Departmental/Faculty/University responsibility?			
			20min

D. FOCUS GROUP INTERVIEW AREA 3 – SUGGESTED EDUCATIONAL APPROACH:

13	**What are the <u>key elements</u> that should be included in an educational approach to undergraduate students' generation profile?**	1	10 min
PROBING QUESTION: What are the <u>most important things</u> we should address in the Faculty regarding teaching and learning for Generation Y? (MORE THAN JUST TECHNOLOGY) **GUIDING BULLETS**: • Technology • Communication • Inter-generational differences • Mentoring/motivation/guidance • Attitudes/Professionalism?			
14	**Are there any additional important points you would like to mention?**	3	5 min
PROBING QUESTION: Anything else you think is important? **GUIDING BULLETS**: • What do you mean? • How is that possible in practice?			
			15 min

E. CONCLUSION:

	*FACILITATOR: Wrap up session * (See Appendix)* *OBSERVER/RESEARCHER: Thank and greet participants, way forward*	*NA*	*5 min*
			5 min
	END OF SECOND SECTION		**<u>40 MIN</u>**

Total time needed for focus groups interview:
140 min (2 hours 20 minutes)

***APPENDIX TO AGENDA: FOCUS GROUP INTERVIEW**

A. INTRODUCTION:

Introduction and explanation of the focus group discussions & process

- Thank the participants for agreeing to participate in the focus group interview.
- Allow each participant to introduce themselves.
- Introduce the main aim of the research, and the purpose of the focus group interview.

The FGI is a research method aimed at using a group discussion between selected interviewees (based on their expertise/contribution to the field being researched) with preset topics and questions aimed at providing an in-depth exploration of a topic.

The value of the FGI in this context is to gather information that will facilitate the development of an optimal teaching and learning environment suited to the generation profile of undergraduate students in the Faculty of Health Sciences, based on data from the literature as well as questionnaire surveys amongst students and staff members.

- Confirm confidentiality and anonymity.
- Explain procedures, e.g. recording of the session; refreshments break.

Assure participants that the research is approved by the Ethics Committee of the Faculty of Health Sciences, and ensure that all have signed the Informed Consent form.

The discussion will be conducted in two sessions. There will be a refreshment break at the end of session 1 (from 11:00 – 11:20). The discussion will end at 12:30 promptly. The session will be audio-recorded, and the observer will take field notes. The facilitator will make use of the allocated numbers of the participants, to ensure anonymity and confidentiality. Each participant will receive a small gift as token of appreciation for their time, effort and expertise.

E. CONCLUSION:

Thank and greet participants

- Thank participants for their valuable contribution and time.
- Give gifts of appreciation.
- Reaffirm confidentiality and anonymity.
- Way forward: verbatim transcription sent to each for confirmation; field notes and the latter to facilitator; final analysis to facilitator and promoters.

APPENDIX C3

INFORMATION DOCUMENT AND INFORMED CONSENT DOCUMENT

(ENGLISH)

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

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences
Departement Basiese Mediese Wetenskappe / Department of Basic Medical Sciences

18 August 2010

Dear Colleague

RE: REQUEST FOR PARTICIPATION IN FOCUS GROUP INTERVIEW AS PART OF A RESEARCH PROJECT

Study title:

An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State (Etovs 205/09)

I am doing research to determine the perceptions regarding the attitudes, characteristics, preferences and expectations of the so-called Generation Y students (a.k.a. Millennials, Net Generation; born 1981 - 2000) enrolled in the Faculty of Health Sciences at the University of the Free State. I request your participation in this research study as a member of a panel of participants for a focus group interview.

The focus group interview is a means of gathering qualitative data that will be used in the abovementioned study. Participants are selected because they have been identified to be skilled in the topic under discussion or make a meaningful contribution towards it. The focus group interview will be led by an interviewer skilled in group communication and will last for a maximum of 120 minutes.

During the interview, you will be asked to participate in a group environment responding to a pre-set list of questions. The purpose is to stimulate in depth discussion based on findings of both student and staff perceptions of Generation Y as determined from

questionnaires in order to generate data that can be used to improve teaching and learning in the Faculty of Health Sciences. The members of the group will consist of colleagues from the Faculty of Health Sciences.

The Faculty Board as well as the heads of the Schools of Medicine, Allied Health Professions and Nursing have already given permission for the study. There is no risk in being involved in the study. The benefits include that the data from this project will contribute to creating awareness and understanding of students in order to adopt an educational approach that facilitates an optimal teaching and learning environment in the Faculty of Health Sciences.

Participation is voluntary, and refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. Every effort will be made to keep personal information confidential, and the data will be used for research purposes only. For example, you will be allocated a number during the discussion that will be used to identify your input, so that your name will not be mentioned in the study results, and to ensure that all information is treated with strict confidentiality. Only the researcher will have access to the names and corresponding numbers of the participants of the focus group interview. Absolute confidentiality cannot, however, be guaranteed, as personal information may be disclosed if required by law. Should such information be required, for example by the Ethics Committee for Medical Research, these requests will be handled with set procedural guidelines. This will be for the sole purpose of quality assurance and data analysis.

The results of the study will be made available to the Faculty Board of the Faculty of Health Sciences, and the researcher will present the data at appropriate forums for health sciences education.

The focus group interview is scheduled for the following possible dates and times.

- ☐ Friday 17 September 2010; 10:00 – 12:30
- ☐ Monday 20 September 2010; 10:00 – 12:30
- ☐ Tuesday 21 September 2010; 10:00 – 12:30

Please indicate which of these dates and times will be most convenient for you. I will be in contact with you by 25 August 2010 to make final arrangements for the focus group interview. Tea and refreshments will be served during the session.

Please note that the study has been approved by the Ethics Committee of the Faculty of Health Sciences (ETOVS 205/09). Should you be willing to participate, a consent form will be made available to you. I sincerely hope that you will favourably consider my request, and reply at your earliest convenience, but no later than Wednesday 25 August 2010. Please contact me should you have any queries in this regard.

Thank you very much for your attention.

Yours sincerely

Lynette van der Merwe

Contact details: Dr L.J. van der Merwe
Telephone: (051) 4053107
E-mail: merweli.md@ufs.ac.za
Contact details: Promotor: Prof. G.J. van Zyl
Telephone: (051) 4053012
E-mail: vanzylgj@ufs.ac.za
Contact details: Co-promotor: Prof. M.M. Nel
Telephone: (051) 4053092
E-mail: nelmm@ufs.ac.za
Contact details: Secretariat (Ethics Committee): Me. H Strauss
Telephone: (051) 4052812

CONSENT TO PARTICIPATE IN RESEARCH: FOCUS GROUP INTERVIEW

You have been asked to participate in a research study, as a member of a focus group. The title of the research study is:

An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State (ETOVS 205/09)

You may contact Dr L.J. van der Merwe at telephone number (051) 4053107 or merweli@ufs.ac.za, or the promoter, Prof. G.J. van Zyl at telephone number (051) 4053012, or co-promoter, Prof. M.M. Nel at telephone number (051) 4053092 at any time if you have questions about the research. You may contact the Secretariat of the Ethics Committee of the Faculty of Health Sciences, UFS at telephone number (051) 4052812 if you have questions about your rights as a research subject.

Your participation in this research is voluntary, and you will not be penalised or lose benefits if you refuse to participate or decide to terminate participation. If you agree to participate in the focus group interview, you will be given a signed copy of this document as well as the participant information sheet, which is a written summary of the research.

To be completed if you are going to participate:

I have been informed about the study by Dr L.J. van der Merwe. The date and time for the focus group interview is scheduled for _____.
The research study, including the above information has been described to me. I understand what my involvement in the study means and I voluntarily agree to participate in the focus group interview.*

Full names: _____

Signature of participant: _____

Date: _____

Contact tel. no.: _____

E-mail address: _____

*This form may be returned on the day of the focus group interview.

APPENDIX C4

INLIGTINGSDOKUMENT EN INGELIGTE TOESTEMMINGSDOKUMENT (AFRIKAANS)

[INFORMATION DOCUMENT AND INFORMED CONSENT DOCUMENT

(AFRIKAANS)]

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

Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences
Departement Basiese Mediese Wetenskappe / Department of Basic Medical Sciences

18 Augustus 2010

Geagte kollega

RE: VERSOEK OM DEELNAME IN FOKUSGROEPONDERHOUD AS DEEL VAN NAVORSINGSPROJEK

Studietitel:

An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State (ETOVS 205/09)

Ek is besig met navorsing om die persepsies te bepaal aangaande die houdings, kenmerke, voorkeure en verwagtinge van die sogenaamde Generasie Y-studente (ook bekend as "Millenials" of "Net Generation", gebore 1981 – 2000) verbonde aan die Fakulteit Gesondheidswetenskappe aan die Universiteit van die Vrystaat. U deelname in hierdie navorsingstudie as 'n lid van 'n paneel deelnemers vir 'n fokus-groeponderhoud word versoek.

Die fokus-groeponderhoud is 'n metode om kwalitatiewe data in te samel wat gebruik sal word in bogenoemde studie. Lede word geselekteer omdat hul geïdentifiseer is om vaardighede te hê in verband met die onderwerp onder bespreking of omdat hulle 'n betekenisvolle bydrae daartoe mag lewer. Die fokus-groeponderhoud sal gelei word deur 'n onderhoudvoerder wat vaardig is in groepkommunikasie, en sal duur vir 'n maksimum van 120 minute. Gedurende die onderhoud sal u gevra word om deel te neem in 'n groep-omgewing met response op 'n vooraf bepaalde lys vrae. Die doel is om in diepte bespreking te stimuleer wat gebaseer is op bevindinge van sowel studente as personeel se persepsies van Generasie Y soos bepaal vanaf vraelyste, met die doel om data te genereer wat gebruik kan word om onderrig en leer in die

Fakulteit Gesondheidswetenskappe te verbeter. Die lede van die groep sal bestaan uit kollegas uit die Fakulteit Gesondheidswetenskappe.

Die Fakulteitsraad sowel as die hoofde van die Skole vir Geneeskunde, Aanvullende Gesondheidsberoepe en Verpleging het reeds toestemming verleen vir die studie. Daar is geen risiko verbonde aan u betrokkenheid by die studie nie. Die voordele sluit in dat die data uit hierdie projek sal bydra tot die skep van bewustheid en insig aangaande studente sodat 'n opvoedkundige benadering gevolg kan word om 'n optimale onderrig- en leeromgewing in die Fakulteit Gesondheidswetenskappe te fasiliteer.

U deelname is vrywillig en anoniem, en indien u besluit om nie deel te neem nie, sal u geensins gepenaliseer word of enige voordele verbeur waarvoor u andersins in aanmerking sou kom nie. U persoonlike inligting sal sover moontlik vertroulik gehou word, en die data sal slegs vir navorsingsdoeleindes gebruik word. U sal byvoorbeeld tydens die bespreking 'n nommer ontvang wat gebruik sal word om u insette te identifiseer, sodat u naam nie genoem sal word in die studieresultate nie, en om te verseker dat alle inligting met streng vertroulikheid hanteer sal word. Slegs die navorser sal toegang hê tot die name en ooreenkomstige nommers van die deelnemers aan die fokusgroep onderhoud. Algehele vertroulikheid kan egter nie gewaarborg word nie, omdat persoonlike inligting bekend gemaak mag word indien die wet dit vereis. Sou sulke inligting egter versoek word, byvoorbeeld deur die Etiekkomitee vir Mediese Navorsing, sal hierdie versoeke hanteer word binne voorafgestelde prosedures en riglyne. Dit sal alleenlik vir die doel van gehalteversekering of data-analise wees.

Die resultate van die studie sal beskikbaar gemaak word aan die Fakulteitsraad van die Fakulteit Gesondheidswetenskappe, en die navorser sal die data by toepaslike forums vir gesondheidsberoepe onderwys voordra.

Die fokusgroep-onderhoud word geskeduleer vir die volgende moontlike datums en tye:

- Vrydag 17 September 2010; 10:00 – 12:30
- Maandag 20 September 2010; 10:00 – 12:30
- Dinsdag 21 September 2010; 10:00 – 12:30

Dui asseblief aan watter van hierdie datums en tye die mees gerieflike vir u sal wees. Ek sal u kontak teen 25 Augustus 2010 om die finale reëlings te tref vir die fokusgroep-onderhoud. Tee en verversings sal tydens die sessie bedien word.

Let asseblief daarop dat die studie deur die Etiekkomitee van die Fakulteit Gesondheidswetenskappe (ETOVS 205/09) goedgekeur is. Sou u gewillig wees om deel te neem, sal 'n toestemmingsvorm aan u voorsien word. Ek vertrou opreg dat u my versoek gunstig sal oorweeg, en dat u sal antwoord so gou as wat dit vir u moontlik is, maar nie later nie as Woensdag 25 Augustus 2010. Kontak my gerus sou u enige verdere navrae in hierdie verband hê.

Baie dankie vir u aandag.

Die uwe

Lynette van der Merwe

Kontakbesonderhede:	Dr L.J. van der Merwe
Telefoon:	(051) 4053107
e-pos:	merwelj.md@ufs.ac.za
Kontakbesonderhede:	Promotor: Prof. G.J. van Zyl
Telefoon;	(051) 4053012
e-pos:	vanzylgj@ufs.ac.za
Kontakbesonderhede:	Mede-promotor: Prof. M.M. Nel
Telefoon:	(051) 4053092
e-pos:	nelmm@ufs.ac.za
Kontakbesonderhede:	Sekretariaat (Etiekkomitee): Me. H Strauss
Telefoon:	(051) 4052812

TOESTEMMING TOT DEELNAME AAN NAVORSING

U is versoek om aan 'n navorsingstudie deel te neem, as lid van 'n fokusgroep. Dit titel van die navorsingstudie is:

An educational approach for the generation profile of undergraduate students in the Faculty of Health Sciences, University of the Free State (ETOVS 205/09)

U mag dr. L.J. van der Merwe by telefoonnommer (051) 4053107 of merwelj@ufs.ac.za , of die promotor, prof. G.J. van Zyl by telefoonnommer (051)4053012 of die mede-promotor, prof. M.M. Nel by telefoonnommer (051) 4053092, te enige tyd kontak indien u navrae het oor die navorsing. U mag die Sekretariaat van die Etiekkomitee van die Fakulteit Gesondheidswetenskappe, UV by telefoonnomer (051) 4042812 kontak indien u enige vrae het oor u regte as proefpersoon.

U deelname aan hierdie navorsing is vrywillig, en u sal nie gepenaliseer word of voordele verbeur as u weier om deel te neem of besluit om deelname te staak nie. Indien u instem om deel te neem aan die fokusgroep-onderhoud, sal 'n ondertekende kopie van hierdie dokument sowel as die deelnemerinligtingsblad, wat 'n geskrewe opsomming van die navorsing is, aan u gegee word .

Vul asseblief in indien u gaan deelneem:

Ek is deur dr. L.J. van der Merwe oor die studie ingelig. Die datum en tyd vir die fokusgroep onderhoud is geskeduleer vir _____.
Die navorsingstudie, insluitend die bogenoemde inligting, is aan my beskryf. Ek begryp wat my betrokkenheid by die studie beteken en ek stem vrywillig in om deel te neem aan die fokusgroep-onderhoud.*

Volle name: _____

Handtekening van deelnemer: _____

Datum: _____

Kontaktelefoonnommer: _____

E-posadres: _____

*Hierdie vorm mag terugbesorg word op die dag van die fokusgroep-onderhoud.

APPENDIX D

GENERAL GUIDELINES BY THE ETHICS COMMITTEE,

FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE

EC4 ENG
Des 2010

THE UNIVERSITY OF THE FREE STATE

ETHICS COMMITTEE OF THE FACULTY OF HEALTH SCIENCES

GENERAL GUIDELINES

A. GENERAL INFORMATION

1. All studies must be approved by the Ethics Committee of the Faculty of Health Sciences, University of the Free State.

2. Proposed "experiments" submitted to the Ethics committee for approval, can be defined as follows:

   "Any proposed, conscious action (therapeutic, non-therapeutic, diagnostic or non-diagnostic) that is aimed at changing or manipulating a person or an animal in such a way that it is medically-scientifically relevant."

3. CONTACT DETAILS

   THE CHAIRPERSON: ETHICS COMMITTEE
   FOR ATTENTION: MS H STRAUSS
   BLOCK D, ROOM 108,
   FRANCOIS RETIEF BUILDING
   PO BOX 339 (G40)
   NELSON MANDELA DRIVE
   FACULTY OF HEALTH SCIENCES
   UNIVERSITY OF THE FREE STATE
   BLOEMFONTEIN
   9300

   TEL: (051) 4052812
   FAX: (051) 4444359
   E-MAIL: StraussHS@ufs.ac.za

4. Application forms and protocols must be submitted to the Ethics Committee not later than the deadline dates for 2011 listed below:

SUBMISSION	MEETING
04 JAN	25 JAN
25 JAN	08 FEB
22 FEB	08 MARCH
07 MARCH	12 APRIL
19 APRIL	24 MAY
18 MAY	07 JUNE
12 JULY	26 JULY
28 JULY	16 AUG
23 AUG	20 SEPT
27 SEPT	20 OCT
26 OCT	08 NOV
15 NOV	29 NOV

Kindly note that the December meeting will be held only with regard to approval of research studies to be conducted in January of the following year.

B. PRE-APPROVAL SUBMISSION REQUIREMENTS:

5. Submit **TWO COPIES** of the following:

5.1 **APPLICATION FORM:**

- Signed by the Study Leader/Head of Department/Principal Investigator,
- Must be completed for each study and submitted to the Secretary of the Ethics Committee (Block D, Room 108, Dean's Division, Faculty of Health Sciences, Francois Retief Building) in view of preparing the Agenda.
- Applications are sent to two members of the Committee beforehand for evaluation, after which it is included in the Agenda for final consideration by the Committee.
- Applications **must be submitted 14 days prior to a scheduled Ethics Committee meeting** for pre-evaluation.
- All applications must be typed or printed in black ink on the prescribed form (available on the network: i:/algemeen/navorsing-research/etiekkomitees.doc; also on stiffy).
- **INCOMPLETE AND LATE APPLICATIONS WILL NOT BE ACCEPTED!**

5.2 **PROTOCOL** compiled in accordance with the Protocol Planning available on the network at i:/algemeen/navorsing-research/etiekkomitees/research manual – *See pages 16-22.*

5.3 **INSURANCE CERTIFICATE** (in case of contract research).

5.4 **INVESTIGATOR'S BROCHURE** (in case of contract research).

5.5.1 CLINICAL PROJECTS: **PROOF OF REGISTRATION NHREC** (National Health Research Ethics Committee). (Contact the Secretariat of the Ethics Committee for further information.)

5.5.2. CONTRACT RESEARCH: **THE AMOUNTS WITH REGARD TO CONTRACT RESEARCH STUDIES AND AMENDMENTS FOR APPROVAL BY THE ETHICS COMMITTEE AND RESEARCH DONE OUTSIDE THE FACULTY ARE LISTED BELOW, PAYABLE WHEN SUBMITTED TO THE ETHICS COMMITTEE. NO PROTOCOL/AMENDMENT WILL BE ACCEPTED/PROCESSED WITHOUT PAYMENT. (In case of payment in an account, a copy of the deposit slip** *(indicating the name/number of the study together with the company name)* **must be faxed to fax number 051-4444359 and attached to the protocol for the attention of Ms H Strauss, Secretariat: Ethics Committee.**

Banking details:
ABSA BANK (Brandwag)
Branch Code: 632005
Account number: 1570850071
Name of account: University of the Free State

Bank address: *PO Box 323*
BLOEMFONTEIN
Deposit reference: 66593+Company name
Swift code ABSAZAJJA (for overseas deposits)

Cheques must be in favour of the University of the Free State.

PRE-APPROVALS		
ITEM DESCRIPTION	**Price excl. VAT**	**Price incl. VAT**
CONTRACT RESEARCH PROTOCOLS	**R5 323,68**	**R6 069,00**
POST APPROVALS		
Amendments Protocol - Major	**R1 040,35**	**R1 186,00**
Amendments Protocol – Minor	**R 623,68**	**R 711,00**
Administrative changes	**R 297,37**	**R 339,00**

****Annual increase of 10%***

5.6 a) **CV** of everyone involved in decision-making in the study; b) Good Clinical Practice **(GCP) certificate**

5.7 **QUESTIONNAIRE/DATASHEET:** No personal information allowed on these two documents.

5.8 **EXAMPLES OF LETTERS REQUESTING PERMISSION TO CONDUCT A PROJECT/TRIAL/STUDY** addressed to the Clinical Head, Universitas Hospital; Head of Department and Clinic, Laboratory, Institution, ward, section (if applicable) must be attached to the protocol. Feedback on a letterhead of the institution must be submitted to the Ethics Committee Administration Division for record purposes. [When studies are performed in other hospitals, consent must be obtained from the Chief Executive Officer of the hospital concerned].

The following must be mentioned in the letter:

- Project/trial/study title
- Name and contact details of the researcher/investigator
- Brief description of the project/trial/study
- The relevant department/ward and whether patients and/or files are involved
- Number of patients, records/files, samples involved
- Time the participant has to give up to participate in the study
- Whether the results of the project will be published and/or presented at a meeting/congress.

5.9 SURVEYS DONE AMONG STUDENTS, LECTURERS OR OTHER ROLE PLAYERS ON THE CAMPUS OF THE UFS also need to be approved by Prof Driekie Hay, Vice-Rector: Academic Planning, Main Building, Room 39. **(Attach a copy of the protocol to the cover letter)**. When QUESTIONNAIRES are distributed in University hostels, permission has to be obtained from Dr KC Makhetha, Dean: Student Services, Room 4, Thakaneng Bridge. **(Attach a copy of the protocol to the cover letter).**

5.10 BUDGET (Detailed exposition).

5.11 **LETTER FROM CUT RESEARCH COMMITTEE AS WELL AS FROM THE BIOSTATISTICIAN** has to be included stating that the protocol has been approved.

5.12 If your **PROJECT IS BEING DONE AT A SCHOOL**, consent/permission has to be obtained from the following:

- Department of Education, Private Bag 20565, Bloemfontein, Fax number 4048160
- Principal and Teacher
- Parent/guardian
- Learners

5.13 For **PROJECTS DONE AT PROVINCIAL/PUBLIC HEALTH CARE INSTITUTIONS,** permission has to be obtained from the Prof P Ramela, Head of the Dept of Health, Bloemfontein, Fax number 051-4081058

5.14 **A WRITTEN MOTIVATION** with regard to PLACEBO-CONTROLLED studies to substantiate the use of a placebo should be included in the protocol.

5.15 **A SUMMARY OF THE RESEARCH PROTOCOL IN LAY TERMS** as an addendum to the protocol on a separate page and included on a stiffy or forwarded by e-mail as an attachment to StraussHS@ufs.ac.za. ***Kindly note that this summary has to be a short version of the Information Leaflet to the participant. It should include the following information:***

Where the study will be conducted

- ***What population will be included in the study***
- ***What method will be used***
- ***What treatment will be administered to participants***
- ***What control method will be used***
- ***Risk and adverse effects of participating in the study***
- ***Expected outcome of the research.***

5.16. An **ADVERTISEMENT** to recruit subjects/patients must contain the following:

- the statement "this will be done in collaboration with your general practitioner"
- that remuneration for transport and discomfort is under discussion
- contact number and name of contact person
- duration of the study
- purpose of study/lecture
- explanation of what type of participants is sought
- age of the participants
- name of the institution seeking participants.

The advertisement in both (Afrikaans and English) languages must be submitted for approval before being published. Advertisement guidelines can be obtained from the Secretary, Ethics Committee.

5.17 The **INFORMATION LEAFLET AND INFORMED CONSENT FORMS** in Afrikaans and English and in lay terms must be submitted with the protocol. (Example on the network i:/algemeen/navorsing-research/etiekkomitees).

KINDLY NOTE: When children participate in research studies, an Assent Form together with an Information Leaflet (with the above information explained at the level of the children involved) must be available.

5.17.1 **However, the Informed Consent Form should always be available in the language the trial person/patient prefers and each page is to be initialled by both the patient/trial person and the doctor.**

5.15.2 ***KINDLY INCLUDE the following introductory wording into questionnaires where anonymous participation in a study is relevant.*** "You have been asked to participate in a research study. Please note that by completing this questionnaire you are voluntarily agreeing to participate in this research study. You will remain anonymous and your data will be treated confidentially at all times. You may withdraw from this study at any given moment during the completion of the questionnaire. The results of the study may be published."

In such cases signing an Informed Consent Form is not required but an Information Leaflet must still be available.

5.15.3 *The following information must be included in the document:*

- Purpose of the study (explanation in lay terms)
- Potential advantages of the study for the patient and the other persons
- Risks and foreseeable discomfort for the patient/subject
- That the patient/subject may withdraw from the study at any time
- That participation is voluntary

- Alternative methods for treatment available?
- Nature of preparations (+ placebo) in use
- That information obtained will be treated as confidential
- That insurance has been taken out to protect subjects
- The name of the contact person is mentioned
- Indicate in the Informed Consent the reversibility or irreversibility of side-effects
- Number of studies that have so far been conducted with this substance on animals and also the number of persons that have been exposed to it
- Serious adverse effects have to be clearly separated and stipulated
- Dotted line for signature and date
- That results may be published and/or presented at a meeting/congress
- That no costs will be payable by the participant
- Remuneration for patient/participant?
- Each page of the Informed Consent form must be initialled by the patient/trial person and the doctor.
- Time that participant will have to give up to participate in the study
- Whether the product will be made available to participants on completion of the study and if so, whether there are any cost implications for the participant.

6. **APPROVAL BY BIOSTATISTICIAN:**

6.1 ***Prospective Studies***: Please note the following when the Dept of Biostatistics on campus (Prof Gina Joubert Tel. 4013117, Ms Riëtte Nel Tel. 4013116, Mr C van Rooyen Tel. 4013114), CR de Wet Building, UFS will be assisting you with the protocol:

6.1.1 In cases where protocols are submitted **for the first time**, these should be handed in at the Dept of Biostatistics one month prior to the submission date of the Ethics Committee.

6.1.2 Protocols already verified by the Dept of Biostatistics and which only need to be **finally approved** must be submitted to the Dept of Biostatistics 2 weeks before the submission date of the Ethics Committee.

6.2 ***Retrospective Studies***: Please note that if the Dept of Biostatistics, UFS is involved in analysing data, ***a letter of approval issued by the Dept of Biostatistics must be attached to the protocol for submission to the Ethics Committee.***

C. POST-APPROVAL SUBMISSION REQUIREMENTS:

7. CASE STUDIES: Informed Consent as well as Ethics Committee approval must be obtained. [Approval from the Dept of Biostatistics is not required]. (*Guidelines regarding the procedure for case studies are available on the network i:/algemeen/navorsing-research/etiekkomitees.doc and from the Secretariat of the Ethics Committee*)

8. CLINICAL AUDITS are regarded as research and require Ethics Committee approval.

9. A study THAT WAS INITIATED without Ethics Committee approval cannot be approved retrospectively. THE ETHICS COMMITTEE CAN MERELY TAKE NOTE OF IT. IN SUCH A CASE THE RESULTS MAY NOT BE PUBLISHED.

10. Researchers/investigators must see to it that research protocols are submitted timeously to the Ethics Committee to allow for amendments that need to be made and approved at a subsequent meeting.

11. INVESTIGATOR(S) MAY BE INVITED TO ATTEND CERTAIN MEETINGS IN ORDER TO EXPLAIN THEIR PROTOCOLS.

12. After discussion at a meeting, LETTERS OF APPROVAL ARE ISSUED WITHIN THE FOLLOWING WEEK.

13. In terms of Chapter 3 of the Human Tissue Act 65 of 1983 a permit must be obtained from the Department of Health to EXPORT BLOOD AND/OR TISSUE. The application form can be obtained from the Secretariat.

14. All studies for a MASTER'S OR DOCTORAL DEGREE must be approved by the Evaluation Committee before it is submitted to the Ethics Committee for approval.

15. The researcher must keep his protocol for at least 15 years in case of queries.

16. **AMENDMENTS AND ADDITIONS**: A letter, signed by the Principal Investigator/Study leader and addressed to the Chairperson, Ethics Committee clearly stating the reason(s) for amending the original documentation. The changes must be indicated in the original text (for example highlighted) and must also be submitted. Amendments may still be submitted until 4 days before the scheduled Ethics Committee meeting.

17. **EXTENSIONS** to the original protocol must be explained in a cover letter with all the necessary details and submitted together with a revised protocol (if applicable) at least 4 days before a scheduled meeting.

18. **CANCELLATION OR TERMINATION** of studies must be reported to the Chairperson of the Ethics Committee in a letter stating the reasons for such actions.

19. **SERIOUS ADVERSE EVENTS**: It is the responsibility of the Principal Investigator to submit a monthly summary of all Serious Adverse events according to the document "Reporting of Serious adverse events" and policy available on the network. If necessary, the Committee will report it to the Medicines Control Council. Researchers/Sponsors are requested to highlight the side-effects reported in studies conducted/performed in South Africa.

20. In the case of projects that take longer than a year, a **PROGRESS REPORT** must be submitted to the Committee within one year after approval, and a final report on completion of the study. Upon application for re-approval for a study to proceed, a progress report must accompany the letter of application.
A progress report should include:
    - *Progress to date or outcome in the case of completed research*
    - *Number of subjects entered*
    - *Summary of subjects experiences*
    - *Number of withdrawals*
    - *Number of Serious Adverse Events*
    - *Risk/benefit assessment*
    - *Unforeseen events that might affect continued ethical acceptability of the project.*

CONSENT TO PARTICIPATE IN RESEARCH

You have been asked to participate in a research study.

You have been informed about the study by ..... .

You may contact ..... at ..... any time if you have questions about the research or if you are injured as a result of the research.

You may contact the Secretariat of the Ethics Committee of the Faculty of Health Sciences, UFS at telephone number (051) 4052812 if you have questions about your rights as a research subject.

Your participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to terminate participation.

If you agree to participate, you will be given a signed copy of this document as well as the participant information sheet, which is a written summary of the research.

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

_____ _____

Signature of Participant Date

INFORMATION DOCUMENT

Study title:

Greeting:

Introduction:
[Example] We, ..., are doing research on ..... . Research is just the process to learn the answer to a question. In this study we want to learn ..... (*Include information that this is a study involving research and not routine care and why the study is being done).*

Invitation to participate: We are asking/inviting you to participate in a research study *(or asking for your permission to include your child in a research study).*

What is involved in the study – study design; what the participant's involvement in the study would entail, and how long the participant is expected to be in the study; standard procedures being done in the study; procedures that are being tested in the study; how many people will take part in the study; and if all from SA or other countries as well.

Risks of being involved in the study: A description of the procedures for handling adverse events and what arrangements have been made for compensation.

Benefits of being in the study.

Alternative procedures or courses of treatment that might benefit the subject.

The subject will be given pertinent information on the study while involved in the project and after the results are available.

Participation is voluntary, and refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled; the subject may discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled.

Reimbursements for "out of pocket" expenses.

Confidentiality: Efforts will be made to keep personal information confidential. Absolute confidentiality cannot be guaranteed. Personal information may be disclosed if required by law.

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the Ethics Committee for Medical Research and the Medicines Control Council *(where appropriate)*.

If results are published, this may lead to individual/cohort identification.

Contact details of researcher(s) – for further information/reporting of study-related adverse events.

Contact details of REC Secretariat and Chair – for reporting of complaints/problems.

The following must be included in the consent form when applicable:

a. A statement that the particular treatment or procedure may involve risks to the subject that are currently unforeseeable *(or to the embryo or foetus, if the subject is or may become pregnant)*.

b. Anticipated circumstances under which the subject's participation may be terminated by the investigator without the subject's consent.

c. Any additional costs to the subject that may result from participation in the research.

d. The consequences of a subject's decision to withdraw from the research and procedures for orderly termination of participation by the subject.

e. A statement will be provided to the subject that significant new findings developed during the course of the research which may relate to the subject's willingness to continue participation.

f. Where genetic tests are to be performed, a separate information sheet and consent form will be made available.

g. A statement that specimens will be stored for future research pertaining to the specific research question being studied. Specify how long specimens will be stored for, where they will be stored, and whether these will be made anonymous. If stored for future genetic testing, a further consent form will be signed.

APPENDIX E

SOURCE DOCUMENTS USED IN QUALITATIVE DATA ANALYSIS OF QUESTIONNAIRE SURVEYS

APPENDIX E1

SOURCE DOCUMENTS FOR QUALITATIVE FINDINGS OF UNDERGRADUATE STUDENT QUESTIONNAIRE SURVEY REGARDING

VALUES AND BEHAVIOURS

RESPONSES TO OPEN QUESTIONS REGARDING GENERATION Y STUDENTS' VALUES AND BEHAVIOURS BY UNDERGRADUATE STUDENTS IN THE SoM, SoAH and SoN.

Please note that these responses are quoted verbatim, without changes to spelling or grammar. Cf. Table 3.5 (p.102) for an explanation of the key concepts, thematic categories and codes used for data analysis of responses to open questions. Responses quoted in Chapter 4, ***Results and discussion of questionnaire survey*** (cf. p. 110-254), are indicated in *italics*.

SoM

ATTITUDES	GOALS AND IDEALS
Positive / friendly / pleasant / enthusiasm / optimism *More positive about life* *Know how to have fun* *Enjoy life* Meer gemaklik met mense en omgewingsaspekte Meer verdraagsaam teenoor ander rasse Minder kultuur gebonde, minder rassisties (minder verwantskap aan apartheid) Meer gemaklik met verskillende rasse Less conflicts due to differences, e.g. race, sex Meer verdraagsaam teenoor ander rasse Focus on one thing at a time; enjoying what they do Simple view on life *See endless possibilities* *More "enthusiasm"* Soek opwinding *Nie verveeld te raak met roetine nie* Meer positief Meer sosiaal	**Challenges:** *Leef soos 'n kind van God* Behou goeie geloof Finding themselves in a lost generation Making decisions with positive or negative impact; maintaining a Christ-centred lifestyle Vas te hou and goeie Christelike en morele waardes *Rassegeskille* *Keeping up with the rat race and maintaining moral values* Steeds goeie waarde van verlede te behou *Nie behep raak met oppervlakkige, vinniger, duurder, nuwer – deel wees van wat regtig saak maak* Om by beginsels te bly en dit te behou *Pad te vind in uitdagende, veranderende wereld sonder mentors (het nie grootgeword in tyd soos ons s'n nie)* Respect Because of sacrifice strive to pick up where they left off *Hoë waardes behou* Hou by wat reg is

ATTITUDES	GOALS AND IDEALS
Geniet die lewe	*Morele en sosiale kwessies*
Waardeer meer	Moraliteit
More light-hearted	*Morele waardes behou ten spyte van slegte in wêreld*
More lively, not serious about the future, live stress free lives, short-term thinking, carelessness	Morele waardes en standaarde handhaaf in samelewing waar respek kwyn
Meer bedag op sukses en prêt, minder aktief	Morele waardes toepas
Show emotions, more physical contact (hugs)	Hoe morele waardes toe te pas
Younger	Behou waardes
Jonger	To live moral & valuable life
Later gebore	Sex before marriage
Lewensstyle minder konkreet	Submission to God's will
	Voorhuwelikse seks vermy
Self-esteem / self-centred:	Onetiese gebruike
Honesty	How to appreciate different people in spite of people being closed-minded regarding religion / spirituality
Bravery	*Om uit te styg, om verskil te maak in wêreld*
Steeds individue – behoort nie gestigmatiseer te word nie	Drome en ideale te verwesenlik en uit te leef
Self-esteem	Hoop vir toekoms behou
Self-centred, think the world revolves around them	*Moreel te lewe, bv. rook, seks voor huwelik, ens*
Fokus meer op self; huwelike, verhoudings minder belangrik	Being yourself in the face of peer pressure
Low self-esteem	*Positiewe, hoopvolle uitkyk te behou tsv wêreld van wreedheid/siekte*
Less wise	*Make own decisions on own beliefs*
Meer self-gesentreerd	Groepsdruk
Meer bewus van regte, voorregte, verantwoordelikhede	Peer pressure, Peer pressure, Peer pressure
Kan vir hulself dink en opstaan	Peer pressure
Mense raak al meer "complacent"	Peer -pressure, lack of self control, alcoholism
Self-destructive	*Need for acceptance by peers*
Arrogant, bully, like fighting	Ernstig opneem
Nie self-gesentreerd	Aanvaarding
Self-centred personalities, not good interaction skills, hence more stressed	As gelykes in samelewing te verkeer
Elke persoon sien om na eie beswil	*Trying to fit in society*
Care less about others (selfish)	*Competition to improve oneself; pressure to succeed*

ATTITUDES	GOALS AND IDEALS
Stresvlakke hoer as vroeër	*Wil anders wees maar moet goue middeweg vind*
Minder ingestel op medemens	Tevrede te wees met wie en wat jy is
Minder tradisioneel, meer onafhanklik, dames meer ingestel op hulle regte	Geleenthede ten volle te benut
Lewe minder konserwatief, beroepsvroue meer algemeen	Uitstaan in moeilike situasies
Live at a faster pace	Verwagtinge van ander
Use tools at our "exposal" to make our lives better	*Goedkeuring van ouers en veral vriende te kry*
Aanvaar jy is verkeerd	*Acceptance in a group*
Think they know better	*Acceptance by older generation*
Bepaal beperkinge; bly binne limiete	*Keeping up to social expectations*
Bevraagteken v reëls wat onlogies is en nie sin maak nie (bv. dragkodes)	Vir ouer mense te wys in ons dade dat ons 'n sukses kan maak
Gemaklik met gesag	Not to rebel against rules, obtain reasons and decide for self what values are true and valuable and follow these
Ouer generasies beter vaardighede met huishouding	Dealing with failure
More talented and hardworking	Nie kyk na rassekaart
More independent, learn to do things on their own earlier	*Foute van verlede regstel*
Meer selfvertroue	Nie terugval in etniese mure tussen kulture nie
Meer objektief	*Hantering van daaglikse konfrontasies oor die verlede*
Can come up with innovative ideas	*Overcoming social and racial barriers encouraged by some parents*
Gebrek aan selfbeheersing en selfdissipline	Kulturele diversiteit,
Minder struktuur, slordig	Bybly met vooruitgang
More vulnerable to unhealthy sexual relationships	*Verskil te maak te midde van sosiale druk wat jou wil dwing om "don't-care" houding in te neem*
Selfgesentreerd	*Druk om sukses te behaal*
Think they know everything	Om sukses van lewe te maak
Don't care who will say what, not even parents	Om 'n sukses te maak van alles wat hulle aanpak
Think they know better	Om sukses te behaal
Not content with who they are	Sukses in samelewing
Experience stress differently, easily go onto antidepressants	Alles in lewe te balanseer
Not different	Prioriteite reg te he
They aren't (different)	Priorities in fitting in
Don't feel like belong in Gen Y era, relate better to older gen	Prioritisering
Weet nie	

ATTITUDES	GOALS AND IDEALS
Casual, open-minded, discipline, easy-going:	Om suksesvolle lewe te lei
More tolerant and open-minded to diversity	Balans te handhaaf
More open-minded	*Balanseerd te lewe*
More open-minded	Gemotiveerd te bly om jou plek in wêreld te vind, morele waardes behou
Meer oop vir ander kulture en godsdiens (open-minded)	*Nog steeds morele waardes hê en nie toegee aan groepsdruk nie*
Oop vir nuwe dinge	Nie toegee aan versoekings soos kitsoplossings
Meer oop vir verandering	*Meer geld nodig vir nuwe lewenswyses*
Meer oop vir veranderinge	Almal kan nie die beste wees nie
Meer oopkop oor diversiteit	Adapt to changing environments
Minder gedissiplineerd	Change
Meer verdraagsaam en oop vir verandering	Aan te pas by veranderende omgewings
"Geen stok in my hol nie"	Aanpassing by nuwe SA
More open to different opinions and lifestyles	Overcoming the past and creating a new future
Maklik aanpasbaar	Om by veranderende omgewing aan te pas
Meer divers	Om met beeld vd wereld aan te pas
Meer "flexible"	*Jouself te wees; nie omgee wat ander dink*
Meer "oop-kop" oor baie goed	Nie val onder druk nie
Nie bang vir verandering	Keeping up to date with changing world
More susceptible to change, diversity, racial integration	Coping with ever-changing world to be part of global world
More open-minded and exposed to things others only dreamt of	Knowing enough to keep the world running with more complex social systems (politics, banking, economy, etc.)
More "acceptable" to diversity and willing to try new things	Kultuurgrense te oorkom
Open to change	Om alles te geniet
More aware of surroundings, emotions	Dissipline handhaaf
More open, unconservative	Mense vertrou
Bevraagteken dinge meer	Acceptance of different cultures and practices
Dink meer buite die boks	Nie in eie wêreld vasgevang word nie en kontak met medemense verloor nie
Meer oopkop oor sekere goed	Integration of differente cultures
Meer oop vir meer dinge	Meer respek vir ander kulture en teenoorgestelde geslag
Oop vir verandering	Om ouer persone met respek te hanteer
Meer oop vir verandering	*Energie te bespaar, omgewing en natuur beskerm*
More open to change and doing things differently	

ATTITUDES	GOALS AND IDEALS
Oop vir verandering	Moraliteit, dissipline
Ouer generasies bang v verandering	Kulturele verskille
Beter aanpas by verandering	Bewaring van omgewing
Om by veranderinge aan te pas	Tyd
Pas makliker aan	Netheid
Adapt more easily	
Meer oop v diversiteit	**Environment**:
Beter ingelig, minder moreel agv media sienings anders as die Bybel – daarom sien die wêreld sy "gat"	Peer pressure has larger effects, causing problems like alcoholism
Meer oopkop oor die lewe	Nie altyd nodig om by groep in te val nie
Meer oop vir die nuwe en verandering, pas makliker aan, aanvaar makliker	*Nie alles aanvaar in media nie*
Meer open-minded	*Medias influence*
Meer oop vir nuwe idees en integrasie van rasse	*Nie verval in illusies deur media en regering geskep nie*
Minder morele waardes, onverantwoordelike optrede	More stressors in life
Meer modern	Lack of acceptance in terms of cultures and practices
More open to change and new things	*Lost roots because of taking privilege for granted*
Meer aanpasbaar by omgewing, meer verdraagsaam	Born into free, liberal world
More open and willing to experiment	Easy life
More questioning, don't just believe or follow everything told	Meer keuses
Open and wide minded	Better opportunities in a great context
Meer open-minded	Privileged, not many challenges
Meer liberaal en oop vir nuwe ervarings	Jong kinders besig met volwasse aktiwiteite
More open-minded	Easier access to everything
More diversity in behaviour, values, ideas	More diverse exposure
More liberal, open to change	More life opportunities
More emotionally active	More fast-paced, instant, comfortable society
More open about life issues	Think money and success is everything
More open to more things	Meer bewus v wêreld, meer kansvatters
More open-minded and accepting	Meer blootgestel, gedwing om "groot" te wees
More open minded, less cultural, more accepting of diverse people and different ideas	Meer blootgestel aan ander omstandighede
	Environmental changes
	Bolder to follow dreams and not conform to social expectations from parents,

ATTITUDES	GOALS AND IDEALS
Open to differences in cultures, race due to better and more diverse exposure More open-minded, liberal thinking, more accepting of different people (e.g. date outside of our race) More alert about what is them; open to change More tolerant More open-minded to different ideas; questioning out of the will to learn and understand *More tolerant of others* Open to new ways of learning and doing things Meer oop vir veranderinge, aanvaar verskille makliker Meer oop vir verandering en diversiteit Meer aanvaardende teenoor ander Goeie aanpasbaarheid Moreel minder ingeperk *Flexible in terms of lifestyle* Low morals More freedom of choice and access to a lot more *Lost morals and values, do things because they are "cool" not good* *Verval van morele waardes* Age, lifestyles, perception on life differs *Informal, more fun, lazier* *Less rule-following, inclined to explore new things* More flexible and easygoing More accepting of each other's diverse background Meer buigbaar en oop vir verandering, lui en verwag goed vanself Praat openlik oor sensitiewe sake Meer liberaal, minder tradisievas Meer oopkop Vinniger aanpasbaar met veranderinge Nie meer so geheg aan waardes Nie vasgevang in verlede	*etc.* More global outlook More global, international travel Fast-paced Tyd en gejaagdheid Vinnig ontwikkelende wereld Meer gedrewe en gejaag Meer veranderings Everything is not important, society is just a shelter Wêreld het te veel "red tape" Weg doen met konserwatiewe gestruktueerde werksopset en lewenstyl Samelewing is anders – veroorsaak ander siening op die lewe Meer vryheid van uitdrukking en diversiteit *Changed social environment re sexuality and spirituality* More bleak financial future Boundaries of acceptable behaviour expanded, perceptions changed *Moral perversion* *Lawlessness* *Lust* Beter insig in multikulturele samelewing Makliker tyd grootweword More exposed to more challenging, diverse, "gray" circumstances *Morals and beliefs constantly challenged* More affected by outside efforts, attitudes, threats, influences Meer gesonheidsbewus Meer diverse blootstelling *Minder fokus op klein goed soos deftigheid* High expectations from society pressurise us to want to perform beyond our abilities leading to depression Living in a diverse world, must succeed as an individual; "you are the one entitled to make your future a bright one"

ATTITUDES	GOALS AND IDEALS
More liberal, less morally inclined	
pen to changes, e.g. sexual orientation, new lifestyles	**Street-wise, brand-conscious, materialistic:**
Meer oop vir veranderinge	Meer blootgestel
Meer open-minded	*Geld is nie alles nie*
Meer open-minded	More conscious of the world
More emotionally open	More partying, alcohol consumption
More open about feelings and thoughts	*Ongelig oor dinge wat werklik saakmaak*
Meer "open-minded"	Groter spektrum van blootstelling
Meer oop vir diversiteit en nuwe idees, bv. meditasie	More activities apart from studies
Doen dinge nie altyd op tradisionele manier nie	Materialism
Nie bekommerd oor tradisionele manier van doen	*More materialistic*
Maniere	*They think life is all about money*
Meer aanpasbaar tot veranderinge	Meer ingestel op hoe iets aangebied word
Meer ontspanne, nie erg	Geen meer hegte waardes nie
Aanvaar nie net inligting nie: persoonlike ondervinding en ander se opinies beïnvloed ons denke	Geen goeie fondamente
	Meer wêreldwys as menswys
Meer ontspanne, min gepla oor werk en meer oor sosiaal	*Dink hulle is "streetwise" maar het nog nie gereis nie*
Meer ontspanne houding	*Consumed by the media*
Meer gemaklik, informeel, ontspanne, minder styf	**Work-life balance:**
Meer informeel, onprofessioneel	*Managing finances and time*
More desensitized	*Tyd met vriende en familie is NB*
Less appreciative of sentimental things, e.g. family, relationships	*Making success of career and relationship*
Less reality of family & community due to divorce and broken families	Suicidal behaviour
Meer bewus van omgewing en omsien daarna	
Meer informeel	**Responsibility:**
More wasteful of resources without considering consequences	Less aware of cost of life and morals
Selfish ("only look out for ourselves"), more laid back and open, less conservative about taboos, e.g. sex, racism	Reels nakom
	Reels nakom
Caught up in moral dilemmas: right vs. wrong; morally best vs. best for ourselves	Minder toegewyd
	Reels breek
Low standards of life ("disgusting"; "not human"); no values and principles	Aanvaarding van reels

ATTITUDES	GOALS AND IDEALS
Decreased morals Lowered values Moral deterioration, loss of sense of religion / belonging Less morals Don't care about morals Groot verval in morele waardes Tradisies word afgeskeep, geloof word 'n bysaak Nie sterk morele waardes Degraded morals Laer waardes Oordeel minder Meer tolerant v verskille Meer liberal Meer liberale siening Meer informeel Loss of moral values when diversity is accepted Meer informeel *More casual about life* Aanvaar ander vir wie hul is Aanvaar verskille Kyk minder na rasseverskille Etiese waardes verskil **Respect:** Steeds met respek op te tree Steeds respek te behou vanaf ouer generasies Respek, vriendelikheid, omgee Meer disrespekvol en onwys Respek optree *Minder morele waardes en respek vir gesag* Geen of min respek vir ouer persone	Weerhou van dwelms, seks, onverantwoordelikheid *Trying to deal with different aspects of life; balance of everything and everyone* *Understand decisions made today will influence tomorrow* Discipline and commitment to ensure bright future based on "discisions" made as students *Slap houding, sukkel om self verantwoordelikheid te neem* Meer huiheid Minder hardwerkend want baie trek aandag af Sense of "rights"; less responsibility Meer verantwoordelikheid om self te kies *Take initiative and responsibility for own lives* Responsibility Meer verantwoordelik tsv hoë druk en veranderende wêreld

ATTITUDES	GOALS AND IDEALS
Respek vir ouers wat baie ontbreek deesdae Minder respek en waardering Don't respect *Disrespectful in most instances* Disrespek v gesag Ouer persone te respekteer Meer minagtend teenoor ouer mense *Meer rebels teenoor gesag wat onvanpas of onkopabel is* Minder respek Minder respek vir gesag, minder morele waardes Socially versatile, do lack respect here and there Less respectful of elders *Less tolerant of patriarchal systems, less authority oriented* Respek vir ouer mense Minder ordentlikheid *Meer arrogant, min respek vir volwassenes* Meer ongeskik Maniere *Gesag en respek sal altyd NB bly in enige sosiale kring en beroep* *Min respek vir gesagsposisies* Lack respect *Respect and morality are what gives you dignity* *Culture, respect don't mean a lot* *Maintaining regard for older, wiser persons* **Ambitious, confident:** *"The world is ours for the taking"* *High expectations to achieve, search for success* Open and ambitious (very) More ambitious *More driven, ambitious, competitive* *Willing to challenge authority than accepting things as they are*	

ATTITUDES	GOALS AND IDEALS
Meer energiek, lewenslustig, groot drome vir toekoms Less patient for achievement of goals, more ambitious, higher expectations of self and others Meer druk om te presteer Very concerned with making a huge success of ourselves, careers come first, then marriage and kid Verwag meer van die wêreld en eie talente Meer beroepsgedrewe Meer bereid om te sê hoe ons voel en wat ons dink Free to voice opinions *Nie bang om ons mening te verdedig nie – mag disrespekvol voorkom vir ouer mense* Meer geneig om opinie te lig Steeds met respek op te tree Wil verskil maak en help Wil saamwerk vir beter toekoms *Want to make a difference* Meer gerig op prestasie, alles doen om bo uit te kom; meer moontlikhede *Om uit te styg, om verskil te maak in wêreld* Appreciating things for what they really are Have standards set to meet goals More goal oriented and motivated to achieve success *Word geleer om gesag uit te daag en gebruik dit as 'n verskoning dat hulle vir hulleself dink* Strukture te skep vir samewerking Sukses behaal Sukses en uitstaan bo ander baie belangrik To be the best in everything we do Vreesloos Meer avontuurlustig Kan meer werk in korter tyd doen	

ATTITUDES	GOALS AND IDEALS
Do things quickly Nie bang om kanse te vat nie Keen to try new things, not afraid of making mistakes Patient more literate about diseases Bolder to follow dreams and not conform to social expectations from parents, etc *More global outlook* Baklei om reg te wees No sense of purpose in life Om gemotiveerde te wees en iets te doen Ander doelwitte Ander siening van werk en doelwitte **Instant gratification, entitlement:** Expect things to happen without working for them Want things to be simplified and suit their own needs Expect everything to come to them *Glo kan kry sonder verdienste (maklik grootgeword)* Rede weet vir alles Less ambitious, expect more *Not prepared to work for what they want, e.g. teenage mothers expecting grants* Quick rewards *Don't wanna work hard* Immediate responses Want everything to be quick *Interested in taking easy way out* Accepting "defeit", accepting things cannot always be what they want them to be *More driven to achieve bigger and better things without compromising personally*	

ATTITUDES	GOALS AND IDEALS
Explanations why they should do certain things, don't just accept things the way they have always been done Nothing worthwhile is ever easy and nothing easy is ever worthwhile No patience for things to happen in time (e.g.abstinence before marriage) Nie bereid om te werk vir hulle saak *Dink hul moet als kry/he deur minste werk, lui* *Think that the world owes them something*	

SoAH

ATTITUDES	GOALS AND IDEALS
Positive / friendly / pleasant: Meer positief Positief te bly tsv wat in ons land gebeur Wil genot uit lewe put Meer positief oor die toekoms Ons is immers in die wêreld maar nie van die wêreld nie, ons is oppad na die hemel as finale tuiste *Positief te bly in 'n wêreld waar die bose dikwels seevier* **Self-esteem / self-centred:** *Kom meer selfversekerd voor* Doen meer wat ons wil, breek reels Houding Besef ons kan nog steeds by ouer generasies leer Meer selfstandig *Sukses en geld is baie belangrik;* Sukses van hul lewens te maak Being different – have more sources available to us	**Challenges:** Te doen wat voorgeskryf word en dinge aanvaar soos dit is *Mense te laat verstaan dat jy regtig goed wil doen en 'n verskil maak* Dat ons tradisies en goeie waardesisteme verlore sal gaan Om op hoogte te bly van al die veranderings By bly met al die daaglikse veranderings *Need to fit in and be part of society, In te pas by nuwe samelwing* *Om 'n sukses van ons lewe te maak* *To change people's perception of us* *Professionaliteit ten toon te stel* Jesus moet steeds die standaard wees! Diversiteit te bevoreder Morele waardes te behou Peer pressures Verantwoordelikheid Morele waardes Die toekoms of miskien Generasie Z *Keeping morals and ethical values as passed down from older gen*

ATTITUDES	GOALS AND IDEALS
Some misuse our opportunities	*Prove to be trustworthy*
Self-esteem	*Om uit te staan bo die res en baklei vir jou reg, vrees vir toekoms*
Gaan meer oor onsself en nie oop vir ouer manier van doen nie	*Om in te pas in 'n vinnig veranderende wêreld*
Egosentries en leef met 'n "die-wêreld-skuld-my-iets" houding	Finding life's purpose, achieving destiny
Meer opgevoed,	Volwasse word
Opwindend en gemotiveerd	*Meer omgewingsbewus te wees*
More informed	Rassediskriminasie, aanspreek van bewustheid daarom – nie net
Meer gemaklik wees met jouself en self ten volle uitleef anders raak jy weg in die groep	bevraagteken nie maar iets doen
Meer selfbewus en op voorkoms en status gerig	*Being forced to conform when all we want to do is break out of the box*
Reels is nie alles nie, verscrging van Lewe is	Maintaining positive morals
Weet meer wat aangaan in die wêreld	*Become successful in this lifetime due to peer pressure and bad things happening*
Meer ingelig oor verskeie sake	Nie waardes te verloor nie
Meer selfversekerd	*Fokus hou op God, dat Hy die belangrikste in die lewe moet bly*
Meer interaktief	Om hulleself te wees
Meer bewus van verandering	Nie deur alledaagse omgewing en samelewing negatief beïnvloed te word nie
Arrogant, geen respek	Steeds eties te kan optree
Gee nie regtig om	Ander mense ook in ag te neem
Meer bewus van selfbeeld	Om werk te kry
Meer bewus en geleerd van hedendaagse dinge	Ernstig opgeneem te word
Meer impulsief in besluitneming, morele waardes het afgeneem	Goeie morele lewenswyse handhaaf
Meer bewus van wat in wêreld aangaan	Sosiaal aanvaar te word
Meer vrywillig om wêreld te verken	*Om "in" te wees en nie "reject" te word deur mede studente nie*
Meer selfvertroue, voel hul het 'n stem en mening wat gehoor moet en mag word	Om nie reject te word deur ander mense nie
Fyn lyn tussen selfvertroue en arrogansie	Maintaining positive morals
Meer arrogant, maak asof beter as ander	*Uit te staan bo jou groep (alles is 'n gejaag na geld, sukses, mag)*
Meer inligting oor die wêreld(verskille, kultuur, geloof)	Diversiteit aan te gryp maar nie ware self vergeet nie
Minder konserwatief	Om werk te kry in die land, positief wees in korrupte wêrled
Meer gemaklik om "anders" te wees	"Vrou te kry wat haar sout werd is"
Meer onafhanklik, meer vryheid nodig	Selfdissipline
	Om sukses te behaal

ATTITUDES	GOALS AND IDEALS
Meer prakties geörienteerd *Emotionally stronger and can handle difficult situations* Very gullible (tend to believe and accept anything presented to us in an appealing way) Groepering te wyd. My ouers is heelwat ouer – daarom het ek meer verantwoordelikheid en pligsbesef. **Casual, open-minded, discipline:** *Meer informeel en ontspanne in voorkoms* Bevraagteken dinge meer; aanvaar nie net alles nie Meer "oop" vir verandering Bewus dat wêreld baie groter is as ruimte waarin ons leef Meer oop oor faktore soos kultuurverskille Meer oop, meer beïnvloedbaar, aanvaar ander makliker *Grown up to be open and not judge* *Minder waardes en slegter maniere* Meer verdraagsaam met verskillende groepe en kulture Meer en makliker aanpasbaar *Minder gedissiplineerd* Etniese verskille beter hanteerbaar Gee mekaar meer kans om eie opinie uit te druk; weet almal is nie perfek nie Meer aanpasbaar by omgewing *Meer wêreld bewus, oop vir veranderinge, pas maklik aan* Greting om nuwe dinge aan te leer Meer oopkop Lewe in 'n tyd wat verskillende kulture aanvaarbaar is, stem nie ooreen met ouers nie Meer oop vir gebeurtenisse wat ouer gen as abnormaal beskou Diversiteit meer algemeen aanvaar More comfortable with change and Meer oop vir ander kulture, sienswyses wat verskil	Om onafhanklik te kan wees Waardes handhaaf Fokus op wat belangrik is Gemotiveerd te wees om te werk vir wat hul graag wil hê Struktuur skep uit chaos Binne hulleself te lewe en te funksioneer "Live within our own means" Om hulself te aanvaar en tevrede te wees met hulself *Aanvaarding deur mede-studente* Frustrasie om te werk met mense wat my nie verstaan nie Om met mense te moet saamwerk van 'n ander kultuur ens tel waardes *Gegrond te bly in goeie morele waardes; op te staan vir geloof* *Ervaar meer druk om "in te pas", Groepsdruk* **Work-life balance:** *Obtaining balance* Konstruktiewe tydsbestuur Rekreasie wat rus verseker Focus op een ding (akademie/sport) Slegte tydsbestuur en oordeelsvermoë Soms terugkeer na "basics" *By te hou met druk van lewe en verwagtinge van wêreld mbt wat dit kos om suksesvol en gemaklik te leef* *Maintaining a balanced life* Om balans te handhaaf; Balans handhaaf Lewe meer gejaagde Balans te handhaaf; Besef lewe gaan nie net oor jol Om te oorleef Gebalanseerde lewe handhaaf, geleenthede aan te gryp en sukses te maak daarvan *Responsible for more than just own satisfaction* *To concentrate on more important things in life*

ATTITUDES	GOALS AND IDEALS
Share more feelings More willing to experiment *More open-minded esp towards the future and race* *More openminded to technology* More accepting of different cultures Deal with emotions and issues more Meer informeel en gemaklik Meer aanpasbaar in versk omstandighede *More open to change and more aware of reality of the world and life* *More open to new ideas* VerskIl tov waardes en morele standpunte More "excepting" to change and different people Meer liberal Meer "open-minded" Meer oop vir nuwe dinge *Wil net lewe en nie omgee hoe hulle lyk of wat baas van hulle dink nie* Have more fun Emotionally open; Meer oop oor gevoelens; ; Hanteer konflik en wêreld met meer verdraagsaamheid Meer openlik en uitdagend Minder rassisties Verdraagsaamheid Ongeduldig Onverantwoordelik Minder dissipline, *Meer informeel, Meer informeel en ongestruktureerd* *Minder waardes, soek meer vryheid, bevraagteken alles* Meer oopkop Stel meer belang oor hoe goed ontwikkel het en hoe dit werk Harde werk More open minded, anything goes	*Time management, working hard to achieve something* **Responsibility:** Hard te werk vir eie sukses (eie verantwoordelikheid) More responsibilities to keep up to date Versoekings weerstaan Meer aanpasbaar en hanteer meer inligting Om waardes te behou Lost values, especially relationships Meer bewus van omgewing *Meer sosiaal bewus* *Aan meer sosiale kwessies blootgestel* Om te staan by jou morele waardes *Nie van morele waardes en beginsels af te sien nie* Easily influenced by peers; Kompetisie; Groepsdruk Easily influenced Nie heeltemal anders / uit te hak nie, nog steeds bly by wat ouers hulle geleer het Om regte reg te gebruik (nie misbruik nie) Minder reels, moet daarom self die regte keuses maak *Weet niehoe om verantwoordelik op te tree nie* Nederig te wees *Taking orders from someone without being given a reason or explanation* **Environment**: Minder tradisioneel Spoiled by parents Inpas by samelewing *Gekonfronteer met "voorheen benadeelde kwessie"* Gaan oor wie jy ken en nie wie jy is nie *Minder verwag van ons; rassisme en misdaad meer bekend, politiek ontwrig*

ATTITUDES	GOALS AND IDEALS
More liberal (e.g. interracial relationships)	*ons lewe*
Meer informeel, bv. klere gemakliker	Meer stress
Meer informeel	*Meer omgewing en mens-bewus*
More open to experiencing new things;	Meer blootgestel aan konflik agv kultuur, ras, geslag
More open and less afraid of change	Lot more exposure to negatives in life
More accepting of others	*Meer interkulturele interaksie, daaglikse konfrontasie met diversiteit*
More expressive wrt emotions	Nie vou onder toenemende druk – academies of sosiaal
More "in touch" with global happenings	Brought up in a different manner
Don't fully understand commitment	increased peer pressure
Oop vir groter "input" van verskillende bronne	Peer pressure;
Meer oop vir nuwe dinge	Aanvaarding in peergroepe
Meer toeganklik, nie so reëlgebonde	Op 'n sekere manier grootgemaak
Dink meer buite die boks, skrik vir struktuur	Baie druk
Meer oop vir nuwe uitdagings	Pressure to fit in
Meer oop vir aanpassing en verandering	*Peer pressure to do what is not right*
Minder respekvol	Oorval deur menseregte en immoraliteit
Meer emosioneel ontvanklik	Word groot met minder struktuur, onsekerheie en onstabiliteit
Bereid om verandering te aanvaar	Morele struikelblokke
Ontvanklik vir ander tale, rasse, culture en tegnologie	*Grow up faster than we ought to*
More open-minded and accepting of others	More opportunities
Accept differences more easily	Given more privileges, less structured homes (less rules)
More modern outlook	Decreased values and morals leading to chaos and hurt in society
More open about emotional/social/cultural issues	Doen nie baie fisiese aktiwiteite nie, eet ongesond, meer gejaagd
More open to new ideas and challenges	Bederf meer deur ouers, bv. motor, blyplek
Nie so nougeset nie, meer oop vir ander culture, ens.	Standaarde verlaag
Meer bedrywig met verskeidenheid aktiwiteite	*Spandeer nie so baie tyd saam met familie en vriende nie*
Nie so gejaade deur die lewe te gaan nie	*Baie meer druk*
Hou nie vas aan tradisie	*Morele waardes min teenwoordig*
Meer aanpasbaar tot verskille	Al die druk te hanteer
Oop vir kultuurverskille	Geen werk beskikbaar
Meer oop, ervaar en geniet meer	Racial issues aren't the same

ATTITUDES	GOALS AND IDEALS
Voel nie so sterk oor waardes en reëls nie	Kan nie als doen sonder ouers wat dit moontlik gemaak het nie
Nie so konserwatief en doen alles volgens die boek nie	Bederf, of baie of niks geld nie, groot dromers
Manier van dinge doen verskil soos dag en nag van ouer gen	Baie divers (geloof, sienings), eksistemiste
Don't have high level of work ethic	Nie benadeel word deur ander se foute nie
See life as being more fun and relaxed, don't have so much priorities	Wêreld is meer "fast-paced"
Meer oop vir verandering	Meer "vry" om te kan doen wat ons wil
Meer "gerelax"	Meer geleentelide gebied
Meer kultureel bewus, meer individueel wil uniek wees	Om geleenthede aan te gryp en nie bang hoef te wees vir uitdagings en nuwe "dinge" nie
Not interested in history / past	Milieu het 'n invloed – bv. platteland vs. stad
Meer oop vir uitdagings, nie "close minded" nie	Meer uitgedaag om deel te neem aan gesprekke, redenasies en konflik wat eie denke bevorder en vrye keuse insluit
Meer aanpasbaar	Ons het als tot ons beskikking
Meer oop vir nuwe dinge/ervarings/idees	
Meer liberal en oopkop, almal word aanvaar	**Street-wise, brand-conscious, materialistic:**
Meer losbandig en uitgesproke	*Op jonger ouderdom blootgestel en meer ingelig oor "trends"*
Multikulturele samelewing	Aanvaar nie net alles nie, wil weet hoe en hoekom
Meer ontvanklik vir verandering	Meer opgevoed tov beroep
Opinions not set in black and white (grey shades)	Vra meer vrae oor feite en stellings
Leer nie om self te dink en eie sening te maak nie, besluite neem nie	Vinniger gereed vir die lewe
Meer oop oor alledaagse gebeure	*Sit klem op materiële goed*
Meer oop en gemaklik oor dinge en besprekings	More concerned with acceptance than own well-being
Meer oopkop van denke, pas vinniger aan	Knowing the difference between real and superficial becomes more difficult as time goes by
Meer sosiaal	*Meer bewus van "prestige" bv. duur klere ens*
Wyer denke tov sekere situasies	Meer bewus van die wêreld, goed en sleg
More open to experiences, less conservative	*Brandnames belangriker*
Meer oopkop, minder hardkoppig, verstaan ander makliker	*Word de veel deur media gemodifiseer*
Meer aanpasbaar	Finansieel sterk wees om wêreld te sien en geniet
Meer "liberated" ("Ek dink nie ek is so 'n tipiese Y-generasie student nie – ek is nogal konserwatief en nie baie tegnologies ingestel nie")	*Straatwys en uitgesproke, eiewys, verstaan nie hiërargiese samelewing nie*
Minder ingestel op reels en beginsels	Meer ingestel op hoe iets (bv. rekenaar) werk
Aanvaar verandering makliker	
Beter hantering van diversiteit en rassegeskille	

ATTITUDES	GOALS AND IDEALS
Meer gemaklik rondom mense van ander kulture/rasse, dink baie meer globaal – groter verwysingsraamwerk *Meer afgestomp tov geweld, moord en sulke vreeslike goed* More liberal wrt smoking, drinking, sex, gays/lesbians, etc – they don't "shock" as much More accepting of change, adapt to change **Ambitious, confident:** Beter hantering van diversiteit en rassegeskille Meer "neskuurig", bevraagteken gebeure *Laag gesag uit as ons voel dis nodig waar voorheen net aanvaar was wat gesê word, word gedoen* *Kan die wêreld verander – meer as genoeg talent* Moet die beste wees om sukses te kan maak Dink meer globaal Not afraid of change or conformity Kan meer dinge gelyktydig doen *Sien die wêreld nie as 'n bedreiging nie maar iets met baie potensiaal* Not afraid of change or conformity Will challenge authority *Think more independantly* Taught to fight for rights more *Want to live life to the fullest and enjoy experiences* Expect more in life Wees jouself en staan op vir waarin jy glo Realisties wees Suksesvol te wees Goeie werk te hê Nie verby jouself lewe nie *Uit te styg bo ander mense se sukses* Meer ingelig oor wêreldsake en gebeure (inligting maklik verkry) – beïnvloed	

ATTITUDES	GOALS AND IDEALS
deur persoonlikheid Dink meer vir onsself, aanvaar nie net nie *Strong opinions, but give others opportunity to have own opinions* Leef hulself meer uit Wil graag aanvaar word, goed wees in wat ons doen Meer gefokus op die toekoms Meer opgevoed, meer sosiaal Different experiences, viewpoints; Meer gefokus op regte as mens More educated More arrogant *Tend to want to enjoy the ride filled with fun and joy while attempting to succeed* Moeilik om baie geleenthede aan te gryp en suksesvol te maak Doen meer dinge self Baie nuuskierig en lus vir nuwe dinge Regtig hard werk om sukses te behaal Motivering Determinasie Gemotiveerd te bly *Ambisieloosheid, "lack" dryfkrag* Meer "windgat", lui Graad en goeie werk te kry Breër algemene kennis en honger na nuwe kennis Harde werk Meer toegeeflik vir toelating tot studierigting Kyk baie wyer en meer gemaklik na die wêreld Breek weg van konvensionele reels **Instant gratification, entitlement:** *Verwag dat dinge vinnig en onmiddelik sal gebeur*	

ATTITUDES	GOALS AND IDEALS
Expect to get better paid jobs with less qualifications Minder toegewyd *Meer "don't care"* *Dink alles most vir hulle gedoen word* Gewoond om dadelik behoeftes bevredig te hê, tydsame harde werk en belonings nie algemeen nie *Alles gaan oor vinnig en lekker, Als moet vinnig en nou gebeur* Alles moet vinniger gebeur Om te leer hoe om hard te werk vir 'n beloning nie noodwendig na wense Res van die wêreld skuld ons iets houding Expect this quicker, impatient *Expect everything to just be given to them, not work for it* Themselves – need to see life logically and critically – not just think the world owes them something *Think everything should be done for them* *Houding van "die wêreld skuld my iets" minder bereid om harder te werk om beter resultate* Werk vir sukses *Rebelsheid en luiheid – wil als met 'n teelepel hê* Lui en verwag dat alles in hul skoot moet val *Dinge nie net so maklik ontvang en minder moeite doen om goed in die hande te kry bv. inligting in gemak van eie huis* *Threat* of being given everything on a plate ito notes (summaries being given) Attitude toward what they deserve *Knowing you have to work hard to get somewhere in life or get what you want, Nothing's free or granted* Minder uithouvermoë, drang vir sukses Don't fully understand commitment *Bedarf en gewoond aan hakhand staan as iets wil hê*	

ATTITUDES	GOALS AND IDEALS
Respect: *Lack of respect for older individuals* Gesag aanvaar, Gesagsfigure respekteer Te doen wat voorgeskryf word en dinge aanvaar soos dit is Om respek te kry Minder respekvol Respek terug te bring *Verander sienings omdat dit "cool" is, minder respek vir self en ander* *Ouer generasies toon meer respek, weet waar waardes en normes is, staan vas by wat hulle glo* Om ouer generasies se maniere in ag te neem Gesag te aanvaar Nie respek vir ouer mense nie *Minder respek vir ouer mense* Minder respek vir ander (nie net ouer mense nie) – maar nie almal is so nie Minder respek, minder waardes Agnostic, sometimes disrespectful Minder dissipline en gemanierd *Ander ouer mense te konsidereer en oop te wees vir hulle ouer, meer formele siening* Respect for others Minder respek *Word met minder respek en gesag grootgemaak "lelik as 'n student lelik praat of dink hy's beter as sy ouers of 'n dosent"* Minder respek Minder respek en omgee Respek vir gesag Minder respek vir gesag Respecting authority	

SoN

ATTITUDES	GOALS AND IDEALS
Positive / friendly / pleasant *Dink baie positiewe planne uit* *Depression – lots of ppl have it and don't know it they cant handle it* *Antisocial behaviour* See life as challenging *Love life* *don't care about life* *Love the world and all the things in it* Om entosiasties/optomisties te wees oor die toekoms No difference, think we are still living in old SA but the changed concept is that we have discovered potential amongst our people and the way we doing things Greater knowledge regarding the rediscovery and changes **Self-esteem / self-centred:** *Think we are smart yet not* Received more info from everywhere in society, think more when making decisions Not patient Think we know more Ek verskil nie *Meer selfbewus en dra "maskers" – gee voor iets wat hul nie is nie* *Om "cool" te wees, om die perfekte lyf te hê* *Om te besef dit gaan nie oor die uiterlike nie* Bly spesiaal *Don't just follow any rules without understanding why* **Casual, open-minded, discipline:** Openness about everything *Minder gedisciplineerd*	**Challenges:** *How to survive in modern society* *Voete te vind in besige wêreld* *Nog steeds verby die "ras" kwessie te kom* *M die brug te wees tussen die volgende en vorige gen* *Moralitait te behou* Time management Suksesvol te wees Om 'n gelyke en bright future te hê (afhanklik van etnisiteit) *Te verstaan en aanvaar hoe dinge deesdae gebeur (ongelyke rasbehandeling al is dit 'n reg)* Om te lewe *Professionalism in work* Understand oreself more, make own decision **Environment** Want to live in a world without rules that do not make sense Meer inligting tot ons beskikking om ingeligte besluite te neem Meer kompetisie vir werk in die toekoms Peer pressure and others not taking wise decisions in life Peer pressure, dropping out of schools *Pressure because they are the upcoming leaders* *Peer pressure, too much socialising, risky behaviour* Lives is easy More opportunities to be educated *Drug abuse, peer pressure,* Being not informed on what is surrounding you Living in a democratic life where they have great privillage of making choices about life Gemakliker grootgeword

ATTITUDES	GOALS AND IDEALS
Om morele waardes te behou *Oop kop en meer liberaal* Meer oop vir verandering Meer oop oor gevoelens *More openly emotional and social* *Willing to accept others more readily* Accept new things We believe culture is what u create but as long as its healthy Open minded Minder beperking in hul sienswyse *Vorm soms mispersepsie van die lewe, want waardes, norme en prioriteite het verander* Meer emosioneel Minder konserwatief Meer sosiaal en informeel *Meer ongemanierd en ongedissiplineerd* **Ambitious, confident:** Live a better life than the older gen *Improve lives and make a success of studies* *Change the world to be a better place for us and future gen* Future oriented Soek meer geleenthede en maak meer gebruik daarvan Spring maklik in 'n situasie in Not secretive, just say what they think *Self-motivated* *Go getters* *Om so "cool" moontlik te wees* Vir ander generasies te wys hulle is nie "slapgatte" nie endat hulle die wêreld net so goed of beter sal kan bestuur *Voel meer vry om te sê hoe ons voel oor sekere dinge*	*Meer stress, minder tyd* *Tiener-groepsdruk* Meer gevare vandag wat jou van die regte pad kan aflei More opportunities to learn and explore **Street-wise, brand-conscious, materialistic** *Meer arrogant, wêreldwys* *Word vroeër groot want aan te veel goed blootgestel* Meer bewus van goed More access to a lot of things and opportunities doesn't make them any wiser or clever More likely to be killed / harmed as they don't listen much and drink and are into drug and funny/bad habits **Work-life balance** *Gebalanseerde mense te wees* *Om suksesvolle individue te wees in hule lewe: beroep, huwelik, christelike leefwyse* Om eendag 'n werk te kry en hul families te kan onderhou *Difficult to focus on thing we want as there are to many distraction* Negative effect of entertainment on our work life Balans te handhaaf tussen akademie, sosiaal en sport (te min ure in 'n dag) **Responsibility** Can we have a good life if we become indepanted and no more support from parents or relatives Om self, sonder ouers, te werk te gaan en keuses te maak Trapping out of school because of financial problems which means you will go back to where *Glo nie dat elke aksie 'n reaksie het nie* *Like to act on social things and only think about the consequence later*

ATTITUDES	GOALS AND IDEALS
Nie bang om op te staan vir wat reg is nie (ouer mense dink dis arrogant) Genoeg selfvertroue te hê om deel te neem in die lewe Meer bewus van onsself en talente en vaardighede Fast and dangerous life *More intelligent and fast in learning because of available resources* *Different in the way they think, see things, goals and ambitions* Failer to a great success **Instant gratification, entitlement** *Luier vir werk, glo die wereld en al die mense skuld ons iets* *Want things to happen as they wish* *Dat wêreld ons moet aanvaar hoe ons is* **Respect:** Minder respek vir ouer gen *Meer uitgesproke* *Respek te toon teenoor ouer generasie asook almal om hulle en hulself* *Ongeskik en dink nie wat hulle doen nie* *Don't have respect for themselves and elders, low morals* Minder respek vir mense ouer as ons	*Making sure you make right decisions so you don't have to go back to your elders crying*

APPENDIX E2

SOURCE DOCUMENTS FOR QUALITATIVE FINDINGS OF UNDERGRADUATE STUDENT QUESTIONNAIRE SURVEY REGARDING COMMUNICATION STYLES, SKILLS AND NEEDS

RESPONSES TO OPEN QUESTIONS REGARDING GENERATION Y STUDENTS' COMMUNICATION STYLES, SKILLS AND NEEDS BY UNDERGRADUATE STUDENTS IN THE SoM, SoAH and SoN.

Please note that these responses are quoted verbatim, without changes to spelling or grammar. Cf. Table 3.5 (p. 102) for an explanation of the key concepts, thematic categories and codes used for data analysis of responses to open questions. Responses quoted in Chapter 4, *Results and discussion of questionnaire survey* (cf. p. 110-254), are indicated in *italics*.

SoM

COMMUNICATION STYLES, SKILLS AND NEEDS

CONNECTIVITY	SOCIAL CONTACT
Technology	**Communication skills and styles: technology:**
Dependent on technology	Sukkel met persoonlike kommunikasie agv internet
Tegnologies	Meer wereldwyd sosiaal aktief
Tegnologies gevorderd	*Kommunikasieverskille – verkies tegnologie bo persoonlike kontak*
Meer tegnologie georienteer	*Sosiaal meer "clubbing"*
Bewus van tegnologie en vooruitgang	Oner generasies op hoogte hou van tegnologie vorderinge
Meer te doen met tegnologie	*Nie tegnologie bo aan-tot-een verhoudings te stel nie*
Meer tegnologies gevorderd	*Nie menslike aspek van kommunikasie bv simpatie af skeep nie*
By te bly met nuwe tegnologie	*Not as social with face to face interaction*
Vasgevang in digitale wêreld	*Meer tegnologies, minder interaktief met mense*
Te veel tegnologie maar te min akademie	*Technology is a person's new friend*
Meer tegnologies gevorderd	Stay cultured yet technologically and socially involved in modern society
Meer tegnologies bewus, gevoel van nabyheid weg	Te midde van tegnologie persoonlike kontak met mense te behou
Minder tegnologie bv. Mxit, Facebook	Baie beïnvloedbaar deur sosiale rolmodelle wat tegnologie en media-gedrewe wereld vul
Meer tegnologies opgevoed (informeel)	*Lewe word onpersoonlik deur Mxit*
Meer tegnologies gevorderd	Wat vroeër sosiaal onaanvaarbaar was is nou aanvaarbaar
Tegnologies aangepas	*Siel meer belang in kuberruimte verhoudings as werklike menslike*
Byhou met tegnologie	

CONNECTIVITY	SOCIAL CONTACT
Groter bewustheid v tegnologie	*verhoudings*
By bly met veranderinge in tegnologie, elektronika, medisyne	Tegnologie en verhoudings kombineer
Meer ingestel op tegnologie	*Aanhoudende gebruik van Mxit en Facebook*
Tegnologiese vaardighede	Nie menslikheid en interpersoonlike verhoudings prysgee v tegnologie nie
Meer tegnologies geletterd	*Why visit if you can text or even better video all*
Beter tegnologiese vaardighede	*Making friends on a face-to-face basis; trust, privacy*
More ignorant due to focus on technology vs. core knowledge	*Digitale era met verlies van persoonlike kontak*
Technology ease of use in daily life	*Sosiale vaardighede neem af agv tegnologie en minder tyd*
Crime via technology	Nie sagte teiken wees vir uitbuiters, bv. Mxit
Technologically literate	Nie betrokke word by rondstuur v fotos/videos wat ander te na kom nie
More technology literate	Verbale, persoonlike kommunikasie
Modern society of technology	Meer bewus van mense en tegnologie
Intense use of technology	Poor face-to-face communication
More aware of outside world due to technology	Becoming less sociable, more inhumane (in terms of empathy), more selfish and self-centred
More technologically literate	New, changing social reality: multitasking, keeping in touch with surroundings and people
Distraction by technology	More socially interactive especially with technology
Spending too much on technology	Social networking facilities lead to people becoming more antisocial
More technologically advanced	*Technology is ruining our interpersonal lives*
Technologically literate	
Getting caught up in technology	**Intergenerational conflict:**
Technologically inclined	*Vooropgestelde idees v ouer generasies (bv. rassisme) te bowe kom*
Aware of technology dynamics	Ouer mense het enger uitkyk oor sake
Not scared of technology	Ouer mense meer moreel
Becoming less reliant on technology	*Ouer mense nie bereid om ander sienings in te sien of verstaan nie*
More technology literate	Less hard-headed, accept new ideas and values easier
More technology advanced	Not racist, not so naive
More exposed to a lot of things at an earlier age	Not judgmental and racial wary like older generations
More technological aware	Parents had manners but were less intelligent
Access to technology, know well how to use it	Old people are too old-fashioned
Increasing technology destroys student's minds; causes loss of respect	Less in touch with culture than older generations; don't think it is important
More technologically advanced and dependent	Overcome older generations thoughts about race, marriage, etc. without
Keeping up to date with technological changes in the world	
Cope well with technology	

CONNECTIVITY	SOCIAL CONTACT
If one does not have access to technology, problems are sure to develop Not being innovative as the generation who discovered the technologies we enjoy, use and perfect – "we build on, not innovate" Raak verveeld as nie toegang het tot tegnologie nie Meer tegnologie bewus Hou nie van vraelyste invul en interaktiewe klasse by te woon nie Instaat om self te help met tegnologie; dis soos tweede natuur Om internet te kan bekostig Gebruik internet meer Tegnologies geörienteerd Meer tegnologies en uitgaand More technology used Tegnologie meer algemeen Meer tegnologie bewus *Meer oop v verandering en ontwikkeling, nie bang vir tegnologie* *Toegang tot onbeperkte internet* Meer tegnologie bewus, meer toeganklik tot tegnologie, meer betroubaar met tegnologie Meer tegnologie bewus *Tegnologie vordar vinnig en Gen Y bly by* Beskikbaarheid van tegnologie Keeping up with technology More technologically literate, lost the ability to interact face-to-face More technologically inclined Security over the internet Meer bewus en instaat om tegnologie te benut Meer tegnologie-bewus Tegnologie is duur – studente ARM! Gebalanseerd te lewe – raak gou vasgevang in wêreld van tegnologie Tegnologies beter ontwikkel Bewustheid en gebruik van tegnologie Om op hoogte te bly van tegnologie Lewens vergemaklik met tegnologie	causing rifts in relationships Conventions "foistered" onto us by older generations Beat barriers set by older generation Older generations think we are not hard-working Getting along with older people who misinterpret our free spirits as immorality *Dosente is nie "open-minded" nie; wil hê alles moet gebeur soos hulle daaraan gewoond is, ons maak al die aanpassings* Ouer generasies wat nie bereid is om toeganklik en oop te wees nie Lewensstyle minder konkreet Minder beginsels, minder standvas op tradisies as ouer mense *Misperception of older generations of high standards as arrogance* **Diversity:** Meer bewus van oor die weg kom met ander kulture Moet leer saamleef met ander culture *In vrede met ander kulture te leef* *Easier to form intercultural relationships* *Interakste met diverse kulture* **Relationships:** Goeie menseverhoudings Om gaping met ander generasies te oorbrug Steeds respek teenoor ouer mense te toon Om persoonlike verhoudings met mense om jou te behou Geïsoleerde mense eerder op eie as in 'n crowd Sien om na vriendskappe, familie en medewerkers Kommunikasie met ouer generasies Kommunikasie met ander / ouers wat dink hulle is reg Identifiseer met ouer generasies Verstaan ouer generasies sienswyses *Beter verhoudings met ouer generasies* Kommunikasie met ouer generasies

CONNECTIVITY	SOCIAL CONTACT
Meer tegnologie bewus *Meer bewus van tegnologie, gebruik dit meer, meer gemaklik daarmee* Nie bang vir tegnologie gebruik nie; gaan soek ipv sê "ek weet nie" Nie te dink tegnologie is altyd 'n goeie ding nie Tegnologie georienteerd Meer tegnologies ingestel Meer bekend met tegnologie en vooruitgang daarvan Technology loving / friendly, not afraid to try new gadgets to make life easier More technologically advanced or literate More exposed to technology making life easier Technology consumes time – e.g. networking Develop some immunity to media and technology because of negative effects on lives and future More technologically literate	By bly met veranderinge in tegnologie, elektronika, medisyne Meer ingestel op tegnologie Tegnologiese vaardighede Meer tegnologies geletterd Beter tegnologiese vaardighede Forming good relationships among each other *Communicating with older generation* *Believe older generations don't understand* Interpersoonlike kommunikasie Kommunikasie met interpersoonlike verhoudings *Samewerking met ouer generasies* *Om oor die weg te kom met ouer, selfgesentreerde, "no people skills" persone* *Communication with older generations*
Information: Onderskeidingsvermoë met massas inligting Uncontrolled access to information Large amounts of information Not big differences, just modified information Inligting toeganklik Self inligting sorter ipv rekenaar Vinnige toegang tot inligting, vermaak Korrekte relevante inligting bekom New technology and information to be acquired daily Information overload Information overload Information overload Information overload Nie deur inligting oorweldig te word nie Tegnologies opgevoed, lees minder Sifting van inligting Op hoogte bly met beskikbare bronne van inligting	**Communication skills: interpersonal:** Meer people skills *Don't have people skills* Less interactive Less social Less interactive Social interactions Om sosiaal NORMAAL te wees Meer sosiaal, aanvaardende, eiewys Beweeg na meer sosiale lewe van omgee Persoonlike interaksie Makliker kontak hou met familie en vriende *Very interactive, more social* Easy to talk to *No personal contact to form deep interpersonal bonds* Onpersoonlike verhoudings *More socially aware, but ignorant about meaningful things like family relationships*

CONNECTIVITY	SOCIAL CONTACT
Access to more info More access to information More information to go thru Information overload leading to confusion and failure to make well-informed decisions Older gen restricted due to lack of information Many ways of obtaining info, e.g. internet More exposed to more information more easily *Grootgeword met tegnologie, meer inligting, meer geleenthede* Om steeds kern kennis te onthou en nie heeltyd tegnologie te gebruik nie Oorlaai met inligting, benodig "quick solution" vir alles Oormaat inligting Volume of information is overwhelming More informed about entertainment options, not relevant news Quick to search web instead of not knowing or looking in a book Apathy, stop caring because bombarded with so much information	Loss of personal communication skills Vriendskappe en families bymekaar hou Able to communicate more readily and easily More socially orientated *More socially active* Hou meer van sosialiseer Groter bewustheid van sosiale verhoudings More socially active Like to meet new people more Kommunikeer beter Meer effektiewe interpersoonlike kommunikase te he Ineraksie tussen mense bevorder Suksesvolle beroepsman, eggenoot, seun en vriend te wees "Cope" met negatiewe mense

SoAH

CONNECTIVITY	SOCIAL CONTACT
Technology: Bewus van nuutste tegnologie Getting lost in technology, not appreciating history and research Wouldn't know how to function without technology, Rely on technology Relying too much on technology Vinniger dinge doen danksy tegnologie, lewens gemakliker en huukser *Bly op datum met tegnologie* Meer bewus van tegnologie en selfone Weet meer van tegnologie, Meer tegnologiese vaardighede Nie natuur uitwis deur tegnologiese wêreld nie *Grootgeword met tegnologie*	**Communication skills and styles: technology:** *More diverse, wider range of communication* *Obsession/addiction Facebook/Mxit* Not experiencing nature and outdoors, due to watching TV about other's lives Technological networking should not replace face-to-face socializing Don't communicate face-to-face Grew up in a world of technology, less time outdoors, communicate non-personally Ten spyte van tegnologie persoonlike verhoudings bou Eerder persoonlik te kommunikeer as per bv. selfoon Oor die weg kom met mense wat "tegnologies-gestremd" is

CONNECTIVITY	SOCIAL CONTACT
Meer tegnologies gerienteerd	*Too caught up in technological world – don't interact enough*
Meer tegnologies ontwikkel	Minder kommunikasie vaardighede
By te bly met tegnologie	Kommunikasie en spelling het verswak
Meer te doen met tegnologie	Meer toegang tc tegnologie – verbeter menseverhoudings want kommunikeer meer gereeld
Tegnologies meer gevorder	Te leer om nie jou wêreld met te veel tegnologie te omring nie om nie interpersoonlike verhoudings te onderdruk nie
Alles te weet van nuwe tegnologie	Om tog volle mens te wees in hierdie nuwe
Gebruik meer tegnologie	Om nie laat tegnologie persoonlike verhoudings beïnvloed en laat vergaan nie
Meer tegnologies, meer vertroud, kan nie lewe sonder dit nie	Verstaan tegnologie en kan dit gebruik om te kommunikeer
Know much more re technology	*Meer tegnologies en meer sosiaal maar meer onpersoonlik*
Meer afhanklik en gemaklik met tegnologie	Om met mense persoonlik te praat – tegnologie verhoed dit, verloor "people skills"
Baie gemakliker met mense en tegnologie	Sonder tegnologie te kan kommunikeer en klaar kom
Tegnologies, weet hoe dit werk	Steeds menseverhoudings te kan hê en nie tred verloor met werklikheid en met "illusie" lewe nie
Vinniger aanpas by nuwe tegnologie	*Tegnologie verminder sosiale interaksie met medemens (huisgebonde)*
Meer tegnologies bewus	Balans handhaaf tussen tegnologie en persoonlike kontak met ander en gemeenskap
Meer bewus van tegnologie	Face-to-face contact
Nie in 'n wêreld van tegnologie verlore raak nie	*Depersonalization of communication due to electronic and not face-to-face*
Meer tegnologies gevorderd	Nie so vasgevang te word in tegnologie dat mens verhoudings en liefde daaronder ly nie
Meer tegnologies aangelê	Meer sosiaal te wees sonder tegnologie (persoonlike verhoudings)
Nie toe te laat dat tegnologie arbeid te veel vervang nie	Om op 'n persoonlike vlak te kommunikeer
Nie heeltemal afhanklik van tegnologie word nie	Verhoudinge hê wat nie van tegnologie afhanklik is nie
Meer ingestel op tegnologie	*Gevaar om antisosiaal te word en slegs elektronies te kan kommunikeer*
Meer afhanklik van tegnologie	Steeds goeie persoonlik menseverhoudings te kan behou, al is meeste kontak oor die internet
Soms iets te doen wat nie tegnologie behels nie	*Nie gewoond om nie in kontak te wees met ander persoon nie, bv. elke dag gesels, mxit, sms*
Meer "updated" met tegnologie, weet hoe goed werk	Steeds sosiale verhoudings te hê, nie net tegnologies nie
Meer tegnologies gevorderd	Balans tussen persoonlike kontak en tegnologie
More advanced with technology	
Know more about technology	
Greater technological developments, personal technology	
Gebruik meer + meer kennis oor tegnol as ouer gen	
Meer tegnologie, doen dinge vinniger	
Meer tegnologies ingestel	
Tegnologie "slim"	
Meer blootstelling aan tegnologie	

CONNECTIVITY	SOCIAL CONTACT
Nie ingesluk te word deur tegnologie, media nie Meer gemaklik met tegnologie Ingelig te bly oor nuwe, beter tegnologie Meer bewus van tegnologie Ouer gen gekant teen nuwe tegnologie probeer of leer nuwe dinge doen Kan nie lewe indink sonder tegnologie ens nie – vir ouer gen 'n irritasie Meer tegnologie gebonde – kan nie daarsonder klaarkom nie Hulself besig te hou sonder TV of rekenaars Maak meer gebruik van tegnologie Brought up with changing tech and environment – used to and open to new things Too many technological distraction, e.g. Facebook, can cause addictions and lost in a virtual world Ouer gen tegnologies gestremd More advanced as we grew up with technology Meer op hoogte van wat aangaan in wêreld agv tegnologie Op datum bly met nuutste tegnologie wat vinnig verbeter *Access to more technology and therefore another "world"* Ouer mense weet nie rerig hoe om tegnologie effektief te benut nie Beter met tegnologie Meer bewus van dinge in die wêreld (tegnologie) Meer kennis van tegnologie en wat in wêreld gebeur (nie alles oor nuus of radio uitgesaai nie) Ingelig te wees oor al die nuwe tegnologie Groot geword in tegnologie wêreld Om by drastiesee verandering in tegnologie aan te pas Meer tegnologies bewus en weet wat in wêreld aangaan Meer tegnologies ingelig Tegnologie "slim" Tegnologies beter ontwikkel *Meer bewus van en gemakliker met nuwe tegnologie (bv. sms)* Nie ou manier van dinge verlore te laat gaan nie, bv. briewe ipv e-mail Word in tegnologiese wêreld groot, volg nie meer tradisionele manier van	*Patience with others who didn't grow up in a digital world* *Loss of social interaction* *Lack of communication skills (forget that people are individuals and look at them by their profile on facebook)* Spending time with family without technology *Kommunikeer makliker deur SMS as briewe of afsprake* **Intergenerational conflict:** Ouer gen te verstaan en waar hulle vandaan kom Oor verskille kom en saamstaan *Struggle with identity and relationship skills* *Being accepted by older generations despite differences* Solitary generation *Mense moet ons raaksien en waardeer* Hele denkpatroon verskil *Ouer gen te laat verstaan dat tye verander en ons nie deselfde as hul optree in sekere situasies nie* Still see the older gen as well-respected beings Meer vriende gerig Ouer gen hulle sal verstaan en aanvaar *Om vir iemand te werk / klas te hê by iemand wat stokoud is* Soek meer regte – want word onregverdig behandel omdat nie in gesagsposisie is nie Om bo ouers se drome vir hulle uit te styg Getting along with the rest Difficulty agreeing on certain things with older people Will challenge authority *Nie bang om gesag uit te daag nie* **Diversity:** Changes in social outlook according to race, politics and learning **Relationships:** Meer sosiaal, eksperimenteer meer

CONNECTIVITY	SOCIAL CONTACT
doen nie	Face-to-face communication, building true friendships
Tegnologie moet nie mense se werk oorneem nie	*Thrive on relationships and friendships*
Fyn balans tussen ontwikkeling en menswees ontdek	Meer sosiaal bewus, informeel, minder persoonlike kontak
Meer tegnologie bewus	Sosialiseer anders
Verder gevorderde tegnologie tot beskikking	Effektief te kommunikeer sonder disrespekvol voorkom (bv. jy en jou ipv mnr en mev)
Meer tegnologie bewus	Swakker kommunikasie vermoëns
Meer tegnologie bewus, beter werk met tegnologie	*More social – lots of friends, globally*
By te bly met tegnologiese ontwikkelinge	*Meer sosiaal, meer informele kommunikasie*
Gebore in tegnologiese samelewing, meer en vroeër bloctgestel	Met ouer generasies te kommunikeer sonder arrogant voorkom
Met tegnologie gebore	Meer sosiaal bewus
Om steeds te besef ons in net mense, al is die tegnologie hoe goed	Persoonlike verhoudings handhaaf
Rely more on technology for work and recreation	Meer sosiaal georienteerd
Functional technology to fulfil a need	Meer persoonlik te wees
Technologically literate	Meer orpersoonlik in verhoudings
More technologically orientated	*Baie meer informeel, baie sosiaal ingestel*
Tegnologie maak lui	Wil meer sosialiseer
Gemakliker met en meer afhanklik van tegnologie	Sosiale verhoudings (akademie/sosiaal) te balanseer
More technology, grew up with it	More sociable
Nie total afhanklik raak van tegnologie nie (net 'n hulpmiddel)	Meer persoonlike verhoudings handhaaf
Tegnologie	Om goeie verhoudings te handhaaf
Meer tegnologies gevorderd	meer sosiaa
Nie negatief beïnvloed word deur tegnologie nie	
Werk en pas makliker aan by nuwe tegnologie	**Communication skills: interpersonal:**
Te bly aanpas by konstante veranderings in tegnologie	Groep gefokus en "worrie" oor wat ries van die wèreld dink, geneig tot "click" vorming
Meer afhanklik van tegnologie	Steeds kommunikasie met ouer mense te behou
Om sonder tegnologie klaar te kom	GROEPSDRUK
Om daagliks by te hou by nuwe tegnologie	Relating to previous generation
Meer bewus van tegnologie, leer makliker om dit te gebruik	Ouer mense oor die weg te kom
Tegnologies gevorder	More dependent on technology and peer groups than parents
Meer bewus maar meer afhanklik van tegnologie	Kommunikasie tussen enige ouderdom mense
Seker maak word nie misleì met tegnologie nie	Kommunikeer met ouer en nuwer generasie
Meer ingelig oor tegnologie	
Depending too much on technology	

CONNECTIVITY	SOCIAL CONTACT
Not becoming dependent on technology for every aspect of everyday life Technology around to do everything *Hou nie van werkstukke op blackboard doen nie – wil liewer skrifielik ingee* *(Tegnologie meer deel van ons lewe, te afhanklik van tegnologie)* **Information** Kan inligting vinniger bekom Use technol for info not rely on library Not being able to work and communicate with technology – no able to work using only libraries and textbooks Oorlaai met inligting en blootstelling weens tegnologie en media – mag negatiewe invloed Tegnologies "slim", groter wêreld tot beskikking met oormaat inligting Nie deur media beïnvloed te word nie Meer bewus van toepassing en gebruik van verskillende media Access to greater info sourcesInformation overload Meer tegnologies ingestel, kry makliker meer inligting Meer oop vir internetgebruik Meer bronne en toegang, maak leer makliker More impatient for info, like to use technology to do everyday things	

SoN

CONNECTIVITY	SOCIAL CONTACT
Technology: More exposure to different types of technology and info (not necessarily a good thing) *More opportunities of learning and technology access* Technology improvement To collaborate the info and the ways of the past with today's technology and ways of living *More technologically based Access to technological devices that help with efforts to study* Face being incapable of doing things right without technology Meer tegnologies georienteer *Nie bang v ontwikkelende tegnologie* Om by te bly met tegnologie Meer tegnologies georienteerd *Weet meer van tegnologie af (grootgeword daarmee) – lees koerant op internet* Meer toegang tot tegnologie Tegnologiese aspekte soos internet aktief gebruik *Ouer generasies is tegnologie "gestremd", Gen Y glad nie* Nie heeltemal te verval in 'n tegnologiese leefwyse nie Tegnologies meer vaardig Net meer tegnologies bewus More opportunity than older gen (internet) Improvement of technology and expanding knowledge about everything *More technology advanced* Know a lot about technology Technology is advancing on daily basis Access to and knowledge of most of the things, e.g. technology, education, etc. *"Entailed" in using technology; older gen don't prefer to use technology* *More access to technology which makes them think they are wiser than older*	**Communication skills and styles: technology:** Kommunikasie 'n groot probleem Grew up in society with technology and more root of communicating *Little face-to-face communication* *Do not socialize face-to-face* Social **Intergenerational conflict**: Older gen base decisions on culture and tradition *More open and accepting their own emotions* Ouer gen het swaarder gekry en is beter mense Alles – verhoudings, werk, besluitneming oor toekoms – het nie 'n "comfort zone" soos hulle gehad het nie Moet harder werk aan 'n beter toekoms (minder werk, hoer lewenskostes) Meer bereid om nuwe dinge te leer *Glo dit is vorige generasies wat foute gemaak het – probeer dit nou regmaak* Dink is meer onafhanklik as hulle was **Diversity:** - **Relationships** Steeds menseverhoudinge hê met al die tegnologie Harassment over the internet **Communication skills: interpersonal** *No one-one contact we could forget ho to maintain relationships* *Lack of privacy and personal involvement (friendships) due to every detail exposed by technology* Beter interpersoonlike verhoudings te hê

APPENDIX E3

SOURCE DOCUMENTS FOR QUALITATIVE FINDINGS OF UNDERGRADUATE STUDENT QUESTIONNAIRE SURVEY REGARDING LEARNING STYLES AND NEEDS

RESPONSES TO OPEN QUESTIONS REGARDING GENERATION Y STUDENTS' LEARNING STYLES AND NEEDS BY UNDERGRADUATE STUDENTS IN THE SoM, SoAH and SoN.

Please note that these responses are quoted verbatim, without changes to spelling or grammar. Cf. Table 3.5 (p.102) for an explanation of the key concepts, thematic categories and codes used for data analysis of responses to open questions. Responses quoted in Chapter 4, ***Results and discussion of questionnaire survey*** (cf. p. 110-254), are indicated in *italics*.

SoM

LEARNING STYLES	LEARNING NEEDS
Technology: *Access to more opportunities to learn; learning environment brings us closer to what we are studying* Meer ingelig Better access to resources Easy "excess" to important information, higher education Meer inligting Not that different; use the "net" vs. books to get information **Thinking and academic skills:** *Learn more info at once* *More knowledgeable* *More literate* *More educated and understanding* *More open to learn* Spelling AAKLIG, maar weet meer oor alles *Know more and are explorers* **Environment / preferences:** *Meer ingestel op akademie as werk, byvoordele*	**Basic skills:** *Lack basic calculation skills* *Word akademies mee geëksperimenteer, kan nie spel nie* *Leer om te leer soos in die goeie ou dae; deesdae is daar baie verwarrende goed en mens moet mooi sif om NB goed te kry* *Thinking out of the box because they are spoonfed at school level* Proper English vocabulary *Think less and get spoonfed more* **Technology:** *More pressure to know information due to unlimited number of resources* *Need guidance on how to incorporate things together* *Meer inligting, maar minder lewenskennnis om dit prakties te gebruik* **Challenges:** Correctly manage time, e.g. internet time surfing for unimportant stuff Genoeg tyd aan leer te spandeer Balancing social and academic activities Balancing student and social life *Excessive workload*

LEARNING STYLES	LEARNING NEEDS
Value education less False, deceptive to differentiate: people stay the same – except slightly higher IQ, more information to learn) – the rest is hype *Meer toegang tot groter verskeidenheid van inligting, meer geleenthede* Meer blootgestel aan wêreld, meer geleenthede Access to most things older gen's didn't as students Opportunities, education and human rights mean everything More resources **Group work:** No comments **Attitudes:** No comments	Juggle studying and social life "All work and no play makes Jack a dull boy" Genoeg tyd bestee in studies ipv om na pret te streef Om vroeg op testaan oor naweke Om op hoogte te bly *Balans tussen werk/swot, verhoudings (genuine), persoonlike groei, sukses* *Tydsbestuur* *Balancing daily activities* Managing time More to learn, under more pressure due to increased information Om gefokus en gemotiveerd te bly tsv afleidings Tydsbeplanning Prioritisering Tyd beperk (nie tyd vir entspan) Balans te vind **Interaction with lecturers:** No comments

SoAII

LEARNING STYLES	LEARNING NEEDS
Technology: *Hou nie van werkstukke op blackboard doen nie – wil liewer skriftelik ingee* *(Tegnologie meer deel van ons lewe, te afhanklik van tegnologie)* *Verwag meer itv tegnologiegebruik deur dosente, vinnig verveeld* **Thinking and academic skill:** Willing to learn Weet en leer baie meer op 'n jong ouderdom Education doesn't seem to matter, they just want to have money without	**Basic skills:** *Get bored easily, difficult to entertain and get their attention* *Wil nie net inligting hê, wil weet hoe iets werk, meer "hands on"* **Technology:** *Visually stimulated* *More is expected of us due to more information available – not enough time* **Challenges:** *More pleasurable to socialize than study or read*

LEARNING STYLES	LEARNING NEEDS
education which is not realistic Taalgebruik! **Environment / preferences:** *More open to new ways of learning* **Groupwork:** No comments **Attitudes:** No comments	*Balans in lewe te handhaaf, tyd maak vir werk/akademi en sosiaal* *Om nie te sosialiseer nie en aan die leer te kom* *Problem solving and responsible thinking* *Tyd vind vir rekreasie (gebalanseerde lewe)* Beurse, ens moeilik bekombaar agv regstellende aksie wat nog glad nie verby is nie **Interaction with lecturers:** No comments

SoN

LEARNING STYLES	LEARNING NEEDS
Technology: No comments **Thinking and academic skills:** *Nie goed opgelei* **Environment / preferences:** *More educated and can easily fit in a different environment* **Groupwork:** No comments **Attitudes:** No comments	**Basic skills:** No comments **Technology:** No comments **Challenges:** *Tertiary levels of education* *Om actually te sit en swot?* *Balans te handhaaf, want wil heeltyd tyd spandeer op internet as om te leer* **Interaction with lecturers:** No comments

APPENDIX E4

SOURCE DOCUMENTS FOR QUALITATIVE FINDINGS OF UNDERGRADUATE STUDENT QUESTIONNAIRE SURVEY REGARDING ENVIRONMENT AND SHAPING EVENTS

RESPONSES TO OPEN QUESTIONS REGARDING GENERATION Y STUDENTS' ENVIRONMENT AND SHAPING EVENTS BY UNDERGRADUATE STUDENTS IN THE SoM, SoAH and SoN.

Please note that these responses are quoted verbatim, without changes to spelling or grammar. Cf. Table 3.5 (p.102) for an explanation of the key concepts, thematic categories and codes used for data analysis of responses to open questions. Responses quoted in Chapter 4, ***Results and discussion of questionnaire survey*** (cf. p. 110-254), are indicated in *italics*.

SoM

ENVIRONMENT	SHAPING EVENTS
Diversity: Culture / ethnicity: Media ideas Environment they grow in is different Access to better opportunities Bestaan maak in diverse gemeenskap *Challenges of changing the world* *Racism, demorality in society, have to redefine whole society and make changes to survive the future* Life moving too fast Integrasie Met almal oor die weg kom *Sosiale verdraagsaamheid* **Socio-political situation: challenges:** *Diversiteit word afgedwing* Grootword in regverdige omgewing tsv ras en geslag *Misdaad* *Crime* *Crime* Environmental problems	**Technology:** - **Background: Home life:** *Belonging, divorces, loneliness* *Don't know true identity and where they come from* *Disrupted families* *Poor support base* **Background: Socio-political:** Malema *Regstellende aksie* *Kom oor apartheid* Trying to remove negative impact of apartheid on SA *Regstellende aksie* Effek van post-apartheid *Affirmative action*, BEE BEE (older generation mistakes' consequences, e.g. apartheid) *Consequences of apartheid and BEE (mistakes of older generations)* Living in world full of corruption

ENVIRONMENT	SHAPING EVENTS
Crime	Living in a world full of diseases
Crime, violence	Lack of leaders – political, religious
Interpersonal "violence"	Loss of traditions and customs
Meer gevare agv TV, internet	Loss of language since most people only speak English
Ons moet besef dinge wat in die verlede gebeur het beïnvloed ons nie meer nie; media maak dit moeilik deur "rasse-en-kultuurvuur" aan te blaas	*Affirmative action*
Foute van ander generasies regstel	**Influences:**
Foute van vorige generasies	Peer pressure
Vergeet wat in verlede gebeur het en vorentoe kyk	Incurable diseases
Negatiewe media kan ons maklik "brain wash" as ons nie daarteen waak nie	Incurable diseases
Uitdagings aanspreek, bv. VIGS, misdaad en steeds positief te bly	*HIV/AIDS and relationships*
	HIV, HIV, AIDS, AIDs
Attitudes and moral values:	*HIV, VIGS*
Drank, dwelms	Early pregnancy
Groepsdruk	*HIV*
Bewus van omgewing	*AIDS*
Bewus van wêreld agteruitgang, bv. *HIV*, egskeiding	*HIV/AIDS*, alcoholism
Meer ingelig oor globale kwessies	*HIV/AIDS*
Meer betrokke by alkohol, rook, dwelms	Fear of STDs/AIDS
Substance abuse	*HIV/AIDS*
Alcohol, smoking	*HIV/AIDS*
Drugs, alcohol, sexual promiscuity	*AIDS*
Peer pressure	*HIV*
Peer pressure	*HIV/AIDS*
Suicide	*HIV/AIDS*
Teen pregnancy, alcohol and drug abuse	*HIV/AIDS*
Pregnancy and irresponsible sexual behaviour	*HIV*
Unhealthy sexual relations	*HIV*
Teenage pregnancy	Prone to more infectious diseases and illnesses
Drug and alcohol abuse	
Drug addiction	**Work and economic environment: Challenges:**
	The world with its challenges

ENVIRONMENT	SHAPING EVENTS
Drug addiction Obesity, laziness, dumbing down Sex, drugs, cults, etc. Temptation Being involved in drugs and alcohol Sterkte vir die lewe daar buite Responsibility for daily actions	*Surviving and having balance in a rat race pace life* *Finding your feet in an everchanging world* *Know more about cultures and beliefs - more focused on Westernized life* *Poverty* (especially in SA) *Wêreld verander vinnig en gereeld en ons word gedwing om by te hou* Druk om soveel moontlik so vinnig moontlik te doen *By te hou met veranderinge en verpligtinge wat van ons verwag word* *Om werk te kry* Om regverdig behandel te word en op meriete iets te kry Kom oor generasieverskille Aanvaar veranderinge sonder invloede van ouer generasies Loss of importance of one's work *Economical crises* Need to survive Wêreld verwag meer van jou – geld, status, kennis Om jouself te bly en staan by beginsels en opinies Maniere en gedrag *Om in SA te bly: Om blank en Afr te wees* Tyd Power failures *Poverty* *Can't find jobs* *Getting right jobs in present economy* *Werk te kry in ons land* *Werk te kry* In SA te bly **Education: Challenges:** Massa studente wat jy moet wen om bo uit te kom Making a success of your life and maintaining a status acquired through life Poor education

SoAH

ENVIRONMENT	SHAPING EVENTS
Diversity: Culture / ethnicity: *Beskerm teen, rassisme,;* *Rassissme* *Rassisme en misdaad oorkom; gelyke voorkeur te geniet nie op grond van vel* *Los te maak van verlede (politici laat dit nie toe nie)* More competition Unequal advantages Competetion among children *Unequality* **Socio-political situation: challenges:** *Having to make space for people previously disadvantaged even though they attended school with us since Grade 1* Persepsies verander, moet beskerm teen misdaad en terrorisme Inflasie (finansies), resessie , *Werksgeleenthede,* *Beskerm teen misdaat;* *Werksgeleenthede* *Meer verstgtig wees agv toename in misdaad* *Misdaad, verkragting* Modes Verslawing *Not enough jobs* *Futures – availability of employment – having a degree doesn't guarantee a job* Same as other generations: surviving, providing for families, improving own lives HIV Veiligheid (verkragting)	**Technology:** Grow up too fast, more prone to dangers e.g. paedophiles on internet **Background: Home life:** - **Background: Socio-political:** Blootgestel aan meer, bv. misdaad met meer ondersteuning, bv. Childline Global warming **Influences:** Meer informeel, meer gejaagde tipe leefstyl – hang af van persoon tot person Makliker toegang tot wêreld (soms te veel) **Work and economic environment: Challenges:** Meer selfstandig Meer blootgestel aan media, internasionale sake, geweld **Education: Challenges:** *Adapting to older gen and new changes, e.g. OBE school system* Coping with change Geleenthede is minder (werk, opvoeding) *By te hou met tegnologie*

Attitudes and moral values: Eendag ouers te wees Eendag die land te regeer en te werk (sukses) Regaining work ethic Threat to future careers *Meeste Gen Y student ly aan depressie en het geldelike probleme* *Deel van veranderende omgewing – moet aanpas*	

SoN

ENVIRONMENT	SHAPING EVENTS
Diversity: Culture / ethnicity: Social habits **Socio-political situation: challenges / problems:** Alcoholism, Drug abuse, Alcohol abuse, drugs, Maklik beskikbare dwelms Alcoholsim, Being exposed to drugs, Drugs, alchole and wanting to be someone they not Alcohol abuse, alcoholism and smoking, Drug abuse Alkohol misbruik, Social habits, alcohol abuse, drugs Suicides *HIV* pandemic (STDs), *HIV/AIDS ,* *HIV/VIGS pandemie,* *HIV/AIDS stigma;* *HIV/AIDS;* *HIV disease;* *HIV/AIDS;*	**Technology:** - **Background: Home life & culture:** Can eat variety of food without being cursed **Background: Socio-political:** - **Work and economic environment: Challenges:** Financial responsibility *Poverty, unemployment;* *Poverty* Finansies **Education: Challenges:** Education, Education **Influences:** No comments

HIV Health, Emerge of incurrable diseases Teenage pregnancy, Teenage pregnancy Pregnancy Teenage pregnancy Pregnancy Pregnancies Prostitution, women trafficking Pornografie Mishandeling Abuse, rape Crime; Crime; Crime Political issues **Attitudes and moral values:** No comments	

APPENDIX E5

SOURCE DOCUMENTS FOR QUALITATIVE FINDINGS OF ACADEMIC STAFF MEMBER QUESTIONNAIRE SURVEY

ACADEMIC STAFF MEMBERS' RESPONSES TO OPEN QUESTIONS REGARDING GENERATION Y STUDENTS.

Please note that these responses are quoted verbatim, without changes to spelling or grammar. Cf. Table 3.5 (p.102) for an explanation of the key concepts, thematic categories and codes used for data analysis of responses to open questions. Responses quoted in Chapter 4, ***Results and discussion of questionnaire survey*** (cf. p. 110-254), are indicated in *italics*.

VALUES AND BEHAVIOURS

ATTITUDES	GOALS AND IDEALS
Positive / friendly / pleasant: *They are excited about life* More negative *Meer ekstrovert* *Optimistic outlook on life, but prevalence of depression increased, indicating certain individuals susceptible, due to fragmentation of family unit* *Aangenaam, nie moeilik nie* **Self-esteem / self-centred:** *Sien hulleself as verhewe bo sekere situasies* *Kennis maak jou nie "volmaak" nie* *People from older generations (some) are often more humble and considerate of others - our students (some) tend to be more self-centered.* *More self-centred* Selfgesentreerd Meer selfgesentreerd *Op eie self ingestel "niemand" kan hulle iets aandoen nie* *BUT there self esteem and self worth are VERY LOW INDEED.* **Casual, open-minded, discipline:** Lack of discipline and not following rules They are more difficult to manage because of their attitudes and lack of	**Challenges:** *The change from a casual environment to a more structured environment in which they must work* To succeed in a very competitive environment To survive without anybody telling them what to do, to think for themselves. Facing your limits. Om sosiale en professionele verantwoordelikheid te aanvaar Om hulle eie kinders reg op te voed terwyl hulleself nie mooi weet wat "reg" is nie Emosionele ontwikkeling en emosionele intelligensie Developing problemsolving skills Being accepted. Developing empathy and understanding They need to know their place in society Aanleer van lewensvaardighede Het nie lewensvaardighede nie Maintaining rational expectations. *Their challenge is to cope in a world which has huge expectations created by us the BBs.* *Well formulated goals*, but expectations influenced by "trouble-free period" during formative years in contrast to e.g. WW II, natural disasters and epidemics

ATTITUDES	GOALS AND IDEALS
discipline No self- discipline. *Less self-disciplined* Selfdissipline en vasbyt blyk moeiliker te kom, dalk agv ander kurrikulum op skool? Dissipline probleem *Minder gesteld op konformering (bv. "goeie maniere" en "professionele gedrag") hoewel tog oop vir groepsdruk;* *Meer gemaklik, kreatief en spontaan* *Oper gemoed en meer liberale denke* *Hou minder by reels en het 'n meer liberale lewensvitkyk* Meer vrydenkend en kritiserend – dis goed! More open-minded *Less clear values* *Minder inhibisies* Liberaal *Some follow a disciplined, well behaved and moral life style while others have no self-discipline or moral values* **Ambitious, confident:** *They are more assertive* *Kom meer onafhanklik voor.* Hulle bevraagteken meer. *They are success driven* *Sonder persoonlike trots en dryfkrag* Less motivated **Instant gratification, entitlement:** *Want instant gratification, fast gratification* *They are success driven and want instant gratification.* *Alles moet net maklik en vinnig geskied* Fast food, fast results, fast gratification	**Street-wise, brand-conscious, materialistic:** *More street wise and aware of crime.* *Word vryer groot, meer "straat-bewus"* Meer streetwise *Baie meer wêreldwys en wêreldreisigers.* *Most travel easy and extensively and explore new areas with more confidence.* *Minder materialisties en meer empatie vir ander en die omgewing* *Materialisties geörienteerd* Materialisties ingestel **Work-life balance:** *Achieving a balance between work and play* *they have little balance and wider worldview* *Play as NB as work/learning - balance lifestyle* *Need to realise what is actually important in life* *Om verantwoordelik te leef en nie jonk reeds uit te brand nie* *Om rustig te kan raak en nie met die massas saamgesleur te word in 'n "rat race" nie* *They are selective and have little time to think about the meaning of life, simply accepting that there is more to do and to be exposed to and thus they often live their lives vicariously (eg. the WC).* Developing priorities. have little time to think about the meaning of life **Responsibility:** Less responsible *Lacks sence of responsibility and commitment.* They do not always except their responsibility in order to achieve success. *They fail to see their own responsibility for achieving success and typically plays a blame game if not successful. In the process they fail to develop*

ATTITUDES	GOALS AND IDEALS
Verwag dat goed net in hul skoot moet val met min "effort" van hulle kant af; terugsit *Wil maksimum hê vir minimum inset* *Het nog nooit gesukkel in hul lewe nie en dus moet alles op 'n skinkbord kom* Want instant satisfaction /access to lecturers and information *Like to get away with minimum efforts.* *Feel entitled!* Leer om te werk vir wat hulle nodig het Need to learn to wait *Minder geduldig tov beloning en verwag onmiddelike beloning* *Not prepared to work/save for objects/gadjets* *Onmiddelike vergoeding* **Respect:** *Do not give seniors/ or figures of authority due respect* *Respekteer niks/niemand, soms nie eers hulleself nie* *Nie respek vir meerderes of gesag nie* *Respekteer nie ander se waardes en opinies nie veral as dit ouer persone is.* Aanvaar reels en gesag moeiliker, en wys dit of gee uiting daaraan *Is minder geintimideer deur gesag.* *Want active participation in decisions* Sal makliker hul menings lig. *Do not like authority* *Are not afraid to challenge authority without thinking* *Challenge more what is said - don't just accept what is said* *They think they know better and challenge authority* Not too afraid of authority They tend to challenge authority with greater ease *Need to learn respect for rules* *Less respectful of others*	*stamina.* *They are childish, no sense of responsibility for their own studies, think everything must be handed to them on a platter.* *They fail to see their own responsibility for achieving success* They do not always except their responsibility in order to achieve success. Nie bereid om verantwoordelikheid te aanvaar nie *Vir self verantwoordelikheid te vat – voel geregtig op als* *Complains easily (even about small insignificant things)* *Onvergenoegde en ondankbare generasie* Don't want to work for what they get *Aanvaar dinge moet vanselfsprekend gebeur.* *hulle goi makliker tou op en deursettingsvermoe ontbreek* *Taking responsibilities for their own actions/lives* *Cannot cope with what life throughs at them - they were not prepared at school level to cope and think for themselves* *Typical of a "princess" syndrome: expecting results with the minimum effort and to be served with knowledge.* *Blame always other people if they fail, or the system, even racism, but they are never responsible themselves.*

COMMUNICATION STYLES, SKILLS AND NEEDS

CONNECTIVITY	SOCIAL CONTACT
Technology Tegnologies baie vaardig; nie bang vir tegnologie Meer tegnologies ingestel Not afraid of technology Tegnologies beter ontwikkel as ouer gen Tegnologies BAIE meer vaardig *Vir generasie Y is tegnologie so deel van hulle lewe, dat hulle nie daarsonder kan funksioneer nie. Hulle is baie meer wêreldwys en is ook nie bang vir tegnologie nie.* They are more at ease with technology, They are more technological advanced, *Grew up with technologies that were not available to older generations and experienced development thereof (makes it easier to understand and handle).* *Thus much more adept at using them.* *They suffer from technology with no hope of understanding and so they simply have become mindless users in many cases, learning enough to cope with a decent work to make money. This varies from country to country.* Meer tegnologies. Older generations are not as familiar with technology as our students. My students in RSA are SOOOO different that students in the developed nations. They are much more comfortable with new changing environments and do not find technology treathening. HUGE variety in the backgrounds of our students. Some of the black students have never owned a computer and hence the internet and technology other than mobile phones are really new to them This country is about 10 yrs behind the technological explosion from the developed nations. It has to be interpreted in that view. Here the social backgrounds of the students and their access to technology differ a huge amount. The contrast is PALPABLE from the white afrikaans class to the english black class (with a few exeptions of course)	**Communication skills and styles: technology** *Kan nie sin insien van ordentlike kommunikasie, verkies e-pos / SMS.* *Texting practices have a major negative impact on communications skills – particularly formal written communication such as reports & exams* *Verhoudings meer oppervlakkig agv tegnologie* *Strive for greater social contact (face-to-face and electronic media)* Less time spent at home and less time reading conventional written media Uitdaging tot sosialisering op individuele vlak sonder tegnologie *Kommunikasie beperk* *Finding meaningful ways of connecting and communication in personal, day-to-day, relationships which are not mediated by technology.* *Hulle kommunikasie netwerke is ook uitstekend en vereis van dosente om op hierdie manier met hulle te kommunikeer.* *But in other ways, each generation creates its own challenges. I think the defining difference would be the disregard for social institutions--membership to organisations and structured or organised communities is seen as restrictive, and they prefer to create their own open, flexible communities, which also require a lesser degree of commitment--they can join without too much effort (just a click of a button on a social network) and they can leave without too serious consequences (just another click).* *Technological relationships create room for insincere or non-committal relationships, and insincerity and lack of commitment do not bode well for interpersonal "flesh and bone" relationships. Having said that, all generations have been plagued by insincerity and a lack of commitment, but perhaps now it has just been made easier to choose those options.* *But the social and emotional skills seem to be on the decrease.* *Base their communication skills on electronic means, often using cell-phone abbreviations;* *Many students struggle to communicate effectively on a deep and meaningful level. This will affect their relationships on all levels. Older generations*

CONNECTIVITY	SOCIAL CONTACT
Information Information overload Information overload, They struggle to cope with the increasingly huge load of information that is presented in all media at all times.	*value personal one-on-one communication more than our students who are happy to use technology to communicate.* **Diversity** *Aanvaar kultuurverskille / groepe makliker* Many interindividual differences (influenced by cultural and socio-economic differences) They are more accepting of cultural differences **Relationships** *Om in diepte sosiale verhoudings te kan bou en behou* Can more easily cope with rapid changes in social environment **Intergenerational conflict**: *Ouer generasie het aanpassingsprobleme met nuwe generasie studente* *Older generations are often content with a predictable routine and way of life. Our students are comfortable with variety and change* **Communication skills: interpersonal** *Extremely poor speaking skills; far more casual* More social acceptable behaviour *Poor communicators* Meer sosiaal *Ken nie die woord / beginsel van 'n AFSPRAAK nie*

LEARNING STYLES AND NEEDS

LEARNING STYLES	LEARNING NEEDS
Technology: *Vaardig met tegnologie maar weet nie hoe om optimaal te gebruik in leeromgewing nie* *Kan SMS en facebook, maar nie rekenaar gebruik vir leer nie; "copy & paste" van internet sonder om te verstaan of insig* Groter belangstelling in tegnologie; meer tegnologies geletterd Kan nie daarsonder leef nie en om dit te weerhou is een van die effektiefste metodes van straf / dissiplineer Baie min stimulasie uit omgewing rondom hulle (buite), maksimum stimulasie vanaf elektronika. Hulle is waarskynlik blootgestel aan 'n baie groter verskeidenheid leermediums as die vorige generasie. Hulle is via die tegnologie en internet aan baie dinge blootgestel op baie jonger ouderdom, waar hulle dikwels nog nie emosioneel reg is daarvoor. Access to new technology which broaden their knowledge, methods of learning, Technologically more advanced, Information overload Load of knowledge is bigger and overwhelming. **Thinking and academic skills** Volg opdragte nie noukeurig uit nie *Onvermoë om ure in te sit.* *Nie aktiewe leergierigheid nie.* *Sukkel om te leer!* *Y-studente het nog nie geleer om te "leer" nie.* *Om die oormassa informasie sinvol te bestudeer en tot konseptuele verstaan te kom.* *Om die groot hoeveelheid inligting beskikbaar sinvol kan waarneem en daaruit te leer*	**Basic skills:** Moet leer om te spel, lees, reken en skryf *Self verantwoordelikheid te neem vir studie en bereiking van uitkomste.* *Adapting to learning in another language than native tongue* *Poor school system with lack of language and maths skills in previously disadvantaged groups* *Poor preparation at high-school level for university* They cannot communicate well in writing (lots of spelling mistakes, do not elaborate - only write the necessary) *To develop optimal critical thinking and deep learning skills, to handle large volumes of work successfully, to develop suitable writing skills (at least Afrikaans and English) and be able to express themselves clearly in verbal and written format.* *Self motivation to study on their own time* **Technology:** *Hou van multi-media aanbiedings; verwag kwaliteit vermaak in klaskamerverband ipv kwaliteit onderrig* *Simulasie en virtuele pasiente is 'n ander noodsaaklike manier om aan studente se tegnologiese behoeftes te voldoen en op 'n veilige manier oefening in noodsituasies, chirurgie en ondersoekmetodes bloot te stel.* *Onmiddelike terugvoer kan ook met simulasie gegee word wat goed inpas by die behoeftes van generasie Y.* *Wat leer aanbetref verkies studente tegnologie en informele benaderings in die klas, hoewel dit moeilik sal wees om heeltemal weg van formele lesings en direkte kontak met dosente te kan beweeg.* **Challenges:** *Volg nie opdragte noukeurig uit nie*

LEARNING STYLES	LEARNING NEEDS
Om al die nuwe inligting te kan absorbeer. Beperkte verbeelding Workload Stress *They struggle with criticle thinking and can't put theory into practice.* *Feel the majority seem to perform poorly in written examinations -written language skills exeptionally poor, battle to answer questions that are not posed directly and require application and creativity* *Choosing what is important or valid in all the info they receive* Like to have "short-cuts" regarding learning to optimize use of time, to have more time for other pursuits **Environment / preferences:** Hou van struktuur *Hoewel Gen Y baie "laisez faire" kan oorkom; frustreer swak organisering, min detail en min struktuur hulle geweldig, en veroorsaak dit tog angs* *Sukkel om te multi-task;* Konsentrasievermoë makliker gebreek maar kan op meer as een ding gelyk konsentreer (al is dit gedeeltelik) *Struggle with written work - prefer practical classes* Ouditief onderontwikkel. *Visueel – oues luistar* *Hulle word visueel baie meer gestimuleer as die ouer generasie* *Want it fast and visualized* *Difficult to excite, easily bored,* *Most prefer visual aids, e-learning and a changing, exciting and challenging learning environment.* **Groupwork:** *Enjoy working in groups than independant work* *Some prefer group work while others still prefer to work independently.*	*Dissipline* *Kan hulleself glad nie op 'n "ordentlike" manier handhaaf tussen ouer persone nie – word gesien EN gehoor – maar nie noodwendig op 'n mooi manier nie* *Meer struktuur nodig* Striktuur in hul lewens *Om norme en struktuur te aanvaar sodat funksionering georganiseerd kan geskied* *Ons moet onthou dat bg. grootliks te doen het met 'n fase van ontwikkkleing (gekoppel and ouderdom) wat nie slegs aan generasie toegeskryf kan word nie* *Jy moet nog altyd kan luister* Beperkte verbeelding *Om binne ons Fakulteit se studierigtings gekonfronteer te word met die feit dat hulle nie meer 80% en 90% behaal nie.* Om vanuit 'n skool leeromgewing aan te pas by die universiteit Maintaining standards of academic excellence To acquire and keep an ecceptable professional and ethical conduct. **Interaction with lecturers** Dosent moet "perform" *Studente in arbeidsterapie leer definitief graag by dosent self; wil graag uit dosent se eie ervaring leer; motiverende leierskap baie belangrik* *Role models and mentors regarding learning very important, consistency and transparency of conduct and involvement by lecturers to promote professionalism and enthusiasm regarding particular field* Hulle moet inval by sommige dosente se verouderde manier van lesings aanbied. Die Generasie X en Baby Boomers is baie meer gestruktureerd, en sake is swart/ wit en geen grys areas. Die Baby boomers is ook meer outoritêr en kommunikeer nie so geredelik met die jonger generasies nie. In die klasopset en opleidingsituasies kan dit probleme skep met die studente en kan dit tot

LEARNING STYLES	LEARNING NEEDS
Attitudes: Het 'n antwoord op alles Minder gedissiplineerd en meer onbetrokke wat betref kliniese werk Students want everything the easy way e.g. unwilling to take notes in class *Unwilling take responsibility for learning and their academic success* *Not interested in knowing more than the absolute essential they need to know to pass the exams* *Still just want to pass exams* Sometimes stick too tightly to outcomes *It is all about quantity not quality. Want full marks - even if they lack insight.*	misverstande lei. Om die ou tradisionele metodes van lesings en outoritêre leiers te aanvaar en met tegnologie te kombineer. They are also more willing to challenge a concept - not accepting everything a lecturer says as the truth. Have much more interaction with lecturers. Allowed much more freedom to challenge lecturers e.g. marks *They depend on the input of the teacher to keep them interested and motivate them to study.*

ENVIRONMENT AND SHAPING EVENTS

ENVIRONMENT	SHAPING EVENTS
Diversity: Culture / ethnicity: Respek vir mense wat nie soos hulle is nie (aanleer en uitoefen); More relaxed about cultural and ethnic differences Meer oop en toeganklik vir diversiteit *Great diversity, media have positive and negative impacts regarding self-expectations; have become unrealistic due to "virtual" environment* The diversity in our community **Socio-political situation: challenges:** Omgewing nie regverdig nie; nieteenstaande passie te vind en uit te leef Meer bewus van dit wat in SA gebeur en gaan saam terwyl ouer mense verlede aanhang Om in te val by dit wat die ouer generasies van hulle verwag *Omgekeerde diskriminasie* *Die rassisme van die algemene publiek te oorkom (wit en swart)* Positief te bly ten spyte van die politieke klimaat in die land. Corruption Survival of the fittest *Om medisyne te beoefen in 'n omgewing van swak leierskap, swak bestuur en swak befondsing van veral staatsinstellings* *Ongoing racism, the best applicant are not necessarily appointed because of designated groups* Standards do differ sometimes for different populations ?conflicting messages Ervaar meer stress Cope with stress in their lifes Aan meer uitdagings blootgestel **Work and economic environment: Challenges:** Competition for jobs	**Technology:** Lack of technology in certain places (e.g. public hospitals) Studente moet tred hou met snelweë van elektroniese ontwikkeling. *To make sense of the information overload.* **Background: Home life:** Life experiences restricted *More dependant in certain aspects because parents have to stay on their heels and transport them to make sure they are not raped or kidnapped or drugged* Most questions reflect on upbringing and their parents *Disrupted family units is a major complicating factor for this generation* *Increasing phenomenon of "single parent" and "composite" families* Het in 'n omgewing grootgeword waar geld en materiële dinge die gate toestop *Materialism: parents try to compensate by gifts because of lack of time due to workloads* *The diversity in the student corps often results in large variations in the experiences and background of students. In one class there will often be students that come from a privileged background where parents were very involved in their children's lives and they were given every opportunity possible. In the same class are students from disadvantages backgrounds who are the first generation of university attendees in their family - they are under a lot of pressure to succeed, often without the support and assistance of more privileged students.* **Background: Socio-political:** Grootgeword in 'n omgewing vol pessimisme en onsekerheid oor die toekoms van "ons land" en du sook hulle eie toekoms Minder gebuk onder patriargale stelsel

ENVIRONMENT	SHAPING EVENTS
No future job security in previously advantaged groups. Afraid about getting employment *Job scarcity/unemployment.* Employment opportunities after completion of studies. Global issues, e.g. climatic change **Education: Challenges:** Poor support from families, often being the first generation to study *Greater challenges re. studies - admission to courses , finding suitable accommodation, employment opportunities after completion of studies* *Finansies om as student te kan oorleef* Om gemotiveerd te bly om voor te berei vir 'n professionele beroep tsv die feit dat hulle baie onseker voel oor werksgeleenthede. Positief te bly ten spyte van kritiek rondom die "nuwe" kurrikulum. *Economy* Transport problems Financial Transport In the longer term being able to adapt in the workplace and the challenges faced by the medical professions outside e.g. accepting own responsibility in the clinical area in the execution of their duties, determining their own professional path, have the inherent motivation to succeed and be the best at what they do e.g. even when financial gain is not possible. Less affluent Adapting from integrated medical education to discipline-specific work circumstances Admission to courses , funding, finding suitable accommodation	**Influences:** *Ambivalent messages received from peers, media and authoritarian figures re basic moral and ethical values;* Adjustment and identity issues *Groepsdruk van eweknieë en ouers* *Word groot waar duidelike riglyne vaag geword het en ook verskuif het rakende lewenstyl, morele waardes, ens.* *Hulle word ook baie vroeg aan groepsdruk blootgestel en vind dit soms moeilik om self besluite te neem en op te staan vir wat reg is.* Another challenge would be the age of tolerance, in which the only thing that is not tolerated is whatever is seen as the traditional standpoint (e.g., all religions are tolerated except Christianity). Finding people with the conviction to stand for their beliefs even in the face of serious challenges to those beliefs may become a little harder They live in a less protected environment and are also more exposed to global influences which can have positive as well as negative consequences. **Attitudes and moral values:** More involved with community. *To handle, manage and overcome negative influences successfully and keep a positive outlook and sound moral conduct.* To stay focussed on achieving their set goals in a positive way. Like everyone else, to be able to cope and blossom in this changing world. *To maintain values - moral, religious, family, etc.*

APPENDIX F

TRANSCRIPTION OF FOCUS GROUP INTERVIEW AUDIO RECORDING

TRANSCRIPT OF FOCUS GROUP INTERVIEW

Held on: 05 October 2010

MAIN RESEARCH QUESTION:

TO DEVELOP AN EDUCATIONAL APPROACH FOR THE GENERATION PROFILE OF UNDERGRADUATE STUDENTS IN THE FACULTY OF HEALTH SCIENCES, UNIVERSITY OF THE FREE STATE (ETOVS 205/09).

Key:
F = Facilitator
Participant numbers 1 – 10
O = Observer

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
F	Right, good morning everybody and welcome to this focus group discussion. I'm just going to explain the process, apparently we are still waiting for two participants, but in the meantime we will continue and we will just accommodate them when they do arrive at a specific point in time hopefully. Right, so you received the information leaflet and did sign the information, informed consent document for [name mentioned, researcher] so you know what this (*background: Researcher: available to be signed if you haven't signed*) so hopefully you are all now familiar with the process with the focus group, but I will quickly discuss it once again and then you are familiar with [name mentioned, researcher] topic, so this is part of, as she explained, this is the last part of data collection for her PhD degree, so, this focus group discussion its all about a discussion between the participants, I will start the discussion by asking the question, want in-depth knowledge and information from this session, so as you can see, [name mentioned, number 10], we can relax, so we will just record some of the comments, no, we will record all the comments, right, but as you can see, you do have numbers in front of you, so please if you can refer to participant number 8 or if you *per abuis* [accidentally] use the name [name mentioned, Number 7], don't worry, if you do type the recordings, we will change the name to number 7, so there will be no names appearing on the data set and with the analysis. Also as we know from the Ethics Committee, if you do feel threatened, if you do feel uncomfortable with the question or with process, please you are more than welcome to leave the room, this is not compulsory, it's totally voluntary, so please you can relax, so, so what I'm going to do is, I will start with the questions, you do have the question also in front of you, the questions that I'm will be to ask you we decided to put in the folders	Friendly, relaxed attitude

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	in front of you so you can see where you are I'm going to be asking the questions in English, so please if you can answer it in English, but if you do feel more comfortable answering it in Afrikaans, please feel free, we are just waiting for our last participant, and she's English, right, and that's why also we will conduct it in English so she can follow the conversation, *maar as julle enigiets in Afrikaans wil sê, as jy dink jy gaan jou beter in Afrikaans uitdruk, asseblief druk jouself in Afrikaans uit,* [name mentioned, researcher] *sal dit sal dit laat vertaal want baiemaal is dit baie beter om jouself in Afrikaans uit te druk [but if you want to say anything in Afrikaans, if you think you will express yourself better in Afrikaans, please express yourself in Afrikaans.* [name mentioned, researcher] *will have it translated because often it is better to express yourself in Afrikaans]* So and then halfway through the focus group discussion, we will have the break for tea and you can have some tea and relax and then afterwards we will continue with the last session of this focus group discussion. Right, so any questions before we start? All familiar with the focus group? [name mentioned, Number 10], usually it's quantitative for us, this is totally different and new, but this is an acceptable research method that we are going to use so if we are ready I think we can start by looking at question number 1. **Question number 1 is, what is the value of considering the generational characteristics of undergraduate students in the approach to the teaching and learning environment? [Silence after question was asked]** **Anybody wants to comment on that?** **What is the value of considering the generational characteristics of undergraduate students in the approach to teaching and learning environment?**	
6	Well I think as teachers we all come with a gap of 10, 20 years, you know, and we cannot assume that we know that the learning environment, the whole environment that the students need to function in is not the same as when we studied, so you know we can't apply what you know what we were thinking, and what we were taught to them necessarily, and I think it is important to understand what they need.	
F	OK, that was participant number 6. Number 5.	
5	I think also if you consider the characteristics you will get better transfer of learning, and that the only way to get transfer of learning is to consider the characteristics, otherwise, and that's the ultimate goal of teaching and learning is to get the transfer of learning and you can't get it if you don't consider the characteristics.	
4	I think the value is that you will have to redesign and design your content and you have to revisit your teaching and learning strategies	

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	all the time of the characteristics because of the characteristics, because not one teaching approach will help you to reach all the students because they are so different and they have all these different ideas about how they learn and what they want to learn and ja.	
3	I think we must know the generation, we must look into the generation kind of student that we have and try to understand them and then like she said, you have to apply or you take other teaching and strategies to help them so you must understand them first and what they the way they learn best so you have to go in depth into them first.	
F	Right, number four agrees with that, any other comments?	
1	I think if one takes into consideration the way our students think due to the generation in which they grew up in or to which generation they belong, that we can align the way we teach with the way in which they learn the best. I think we will succeed in succeed, be more successful, or be more successful in getting our information across to the students in such a way that they can relate to it. And if we keep on teaching the way that we were taught, we will most probably not succeed, and we're going to lose students, they are going to think our classes are boring and they will not benefit from the information that we try and give to them.	
6	I think the other important thing is that we don't assume that we know what they need, you know, because we can think, you know, how we think that it ought to be, and then it is completely wrong.	5 nods, general agreement
10	I also think that we should also understand the way they think because it is also valuable that we can know that because then we can also focus on trying to change their mindset to a certain extent because they are obviously, they are not always correct, so if you can understand that you can sort of manipulate the whole process at the same time.	Others nod
7	I also think that it's important that they also have to understand how we think so that they can see what is important and also see the differences between the lecturer and themselves but that we have to adapt to what their learning styles is, is very important but there is things that we do in a way that is not what they want but it's very important to do it in that way so that they can see what is the importance in the learning process	Others nod
F	Any other comments? Number 8.	
8	I was just thinking, I looked into this document, I would like to mention three things that I found that's of value for the generation characteristics, something that happened is the rise of the learner-centred education, that's something that happened in the past few years and then the onset of mass education, if you look at internet and we look at all these other kinds of educations developing it is becoming larger and larger in terms of mass education, and then most probably the most important one is the emergence of information and	Reading from text, others nod heads

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	communication technologies in education, and this generation of students are very apt in accessing information and becoming more and more proficient even more than ourselves in able to access information so we have to keep that in mind when we teach that know we have a student with the – and I heard the most wonderful word the other day – they read "googlish" they read this word and that word and that is how they read and that is how they learn so we have to take that into account and we have to decide, is that how we are going to teach them or are we going to change into whatever? So, I think there is a lot of concepts in society that changed that we have to look into to accommodate this generation.	General laughter
F	Any other comments? Number 2.	
2	I think that we must look at their skill background as well because the school system changed also so I think how we when we got here to Varsity, how we know how to learn they don't know maybe because they have another approach from the new school system so that can also have an effect on their studies.	
F	Right at this stage I just want to mention that participant number 9 joined us for this focus group discussion. Welcome, we have already started the process, we are busy with question 1 and the questions are in the folder that you can have a look at, right so we are busy with question 1: any other comments? I just want to mention also, I didn't mention that, sorry, that you can see we do have a time, specific time frame for each and every question, so that's why I do have this watch in front of me and not the watch that you were thinking of and I will also give you an indication of how long you can continue with a question. So, any other comments on question 1, the value of considering the generational characteristics? So if I can just summarise, that we started off with a 20-years gap that you've mentioned, we need to redesign the context, there's the way of thinking of the students, we need to understand the students in order to change them, it's also the school system that you want, and we must also consider how teachers think the differences there and that number 8 highlighted three issues that learner education centred, mass education and then info and communication technology. Any other things, any other comments that you want to add to this question?	Participant 9 enters room
4	I think that maybe it will add value or the value of considering the characteristics is that the students will become aware that the facilitators or the lecturers are involved with their teaching and learning and that they see them as individuals, it's not just that we want to bring content from the top and you know just transfer the content, but we really want to involve them because that is one of the things that they need is to be involved in selecting content and, ja, the approaches that they want to follow.	
F	Any other comments? Right, can we move on? **Question 2 then: Question 2 and we do have 5 minutes for question 2. "How can**	

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	we harness the optimism, ambition, confidence and assertive behaviour of generation Y perceived by both staff and students to improve learning?" How can we harness the characteristics? Number 6, I see you have a burning issue.	
6	No, I think you know that if your student or a learner comes to the learning process with optimism and ambition I mean that is the perfect place to start. You know, if they really want to learn and if they are excited about it, and if this is true about them it's a wonderful place one needs to slot into that they see the learning process an opportunity that they want to learn and to buy into – I think it's a wonderful place to start.	Smiling
F	Right. How would you?	
6	I thinks it's one's own, you know, meeting it with your own optimism, you know, I really think the way the teacher comes to the process is very important and that if you come with an understanding of them and optimism of your own and…	Participant did not complete her sentence
F	That was number 6.	
10	The way to sort of harness this would be, you know, the way we tried to do it 5, 6, 7 years ago was to get the students involved in the teaching process, having them prepare things and having a discussion where they teach and the facilitator is there to sort of control things and fill in the gaps, but, and we assumed they would be able do it, but it didn't seem to work, we had to change it back to different methods. But it says here, that is the sort of thing we should use to make them to use that for teaching in the ideal world. But it didn't seem to pan like that.	General agreement
2	I actually see if you use a student that has all these characteristics and did prepare actually, and use them to help their colleagues, for that student it works very, very well and the other students also accept it more readily from his colleague – the same thing that you said, but because it comes now from my colleague, you know, I understand it a bit better or, you know, I agree with it.	General agreement
F	It seems there is a general agreement with that statement around the table.	Several loud Yes
9	Can I also add on that? What I always do with them – sometimes I think I'm also part of generation Y *(laugh from participant)* – you know, is they come up with their own perceptions and all the stuff and they've got their ambitions which will be different from what you would want them to have you know in their behaviour of being assertive, but being assertive doesn't mean it's applicable to that situation. So what we usually do is to ask them to say what do they want to see themselves in the next four years, or the next three years, and they come up and say this is what we want to, and how do you, so which is another way of putting them more involved in the whole process. And as you go through whatever module, you say to the student, how do you want us to continue with this? Not giving them control over, but in that situation I think you become more of a	Laughs, looks around to all and points to 2

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	facilitator than a teacher and I can agree with the previous colleague when she says that the peer learning is very important. I don't know if you find that most of them, the students, they do not read textbooks. Some, there is part of the students who summarise the text books, or section, and then they, all of them who learn from them. So if I can identify the leaders, you will find that they all follow the leaders and you find that you've got a vibrant class.	
10	I just want to add something there. One should, it is good to ask them what they, how they see things in future, but we should never allow this assertiveness to influence the outcomes. The outcomes we know, but they should achieve them – how we get there is a different story. But shouldn't be, the assertiveness shouldn't be given so much room that they influence the outcomes.	Strong feeling; general agreement
8	When I asked the students specifically what they want, how they looked at it in a structured way as well as in their feedback and one of the most important things for them was the enthusiasm of the lecturer, the way in which he presents content. And they value that highly, even more than any other aspect of the lecturer, even the clarity of his voice, etc. if he is enthusiastic they rate that highly and connected to that is another thing that they also appreciate: a role model and for their own enthusiasm that they can identify with you with their own enthusiasm and their confidence regarding the way in which you do it. And then just one other thing that I found where they become more assertive is if they can get continuous feedback regarding their own abilities, etc. regarding the subject matter, if there is continuous feedback in how high they can rate themselves then they can get confidence regarding the process.	General agreement
1	Just commenting on something number 10 mentioned, the fact that we tried for the students to prepare and to present. I sometimes get the impression that the students have a certain perception of what they think they should get from us and I think what happened in that instance or what could bridge that gap is that to communicate the outcomes of that discussion or that presentation to the students in a more or in a clearer way for them to understand it better, because sometimes I think that they think we just want to not take responsibility and make them work, but they don't really understand what's behind that. So I think if we accept that we might think these are the specific reasons why we want the students to prepare and to present, they might have another perception of that process. And that, being, or because they are assertive, they then tend to become almost aggressive about the fact that they don't want to do that. Where if we can harness that assertiveness and make it or use it in a positive way, most probably we will find that if they understand the process they will be more than willing to take part in something like that.	General agreement
6	Can I maybe just add to something that number 1 and 8 said? You know, maybe our situation where I work is a little different because	General agreement

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	our groups are not so big, but we took the whole group of senior students, 40 of them, to the congress last week, and the appreciation of the students afterwards, you know, we've been inundated with sweet little tokens of appreciation and just how much they valued the experience because they saw role models and all of a sudden saw where their learning is really going on a different level to what we told them, and you know also that thing of understanding that, I am empowered, you know, that I know a lot of these things, that there wasn't any presentation that they didn't know anything about, you know, this sort of thing, to them, coming from them, they say an invaluable experience, and is something – if one can accommodate on that, they are very enthusiastic, they had all sorts of plans after this congress, what they now want to do from their side besides their curriculum, so I think if, you know, one, that's one way of harnessing that enthusiasm.	
3	That's wonderful characteristics that they have, you know, really, and if we also can have it as staff, and that can match together it will improve learning very much, so we have to get strategies like the congress in place for them so that they can live it out and in our teaching strategies we must have things like projects that they can work on and that they can use their confidence and can use their assertive behaviour to reach some outcomes.	
5	I think I just also, maybe I'm more negative, but show the other side, and this is wonderful characteristics, but it can also be negative if you don't harness it or manage it correctly. Because they are so ambitious a lot of the time they feel failure to a very big extreme where other students maybe not have felt it that bad in the past, but just a little bit of failure they, it's just the end of the world for them. Because they're so ambitious, and suddenly you're interfering with this ambition and I think we will also need to be very careful in the way we manage these characteristics. It's positive but if you don't handle it correctly it can be negative.	10 Strongly agrees
7	My experience is also like number 5, we can be facilitators, but they have to feel secure within that situation. If you don't give them the underlying things, they will become unsecure (sic) and not optimistic and enthusiastic, but if you give them that security, and if you facilitate things, other things, then they stay that enthusiastic.	Emphatic hand gestures, 5 nods
F	Can you give examples of how can you create security, or is it just a general thing?	
7	I think it's just a general thing, but they want to know what is going on, they want the basis, they don't want to get something out of something, they want the basis of the knowledge.	
8	I'm thinking of an example. I, when we, for instance, it's quite difficult for a young student to interview a patient with schizophrenia. Now what I do, is in the group in the part of the residency, I bring in the patient with schizophrenia in front of the class, then I interview the patient, and I give the class opportunity to	Nodding of heads

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	ask questions and then they hesitantly asked their questions, and I leave them and afterwards then we discuss and I say to them can they get the diagnosis, and they say no, we asked wrong questions, we were all asking about this delusion, we were all interested about this delusion but we didn't look at all the other symptoms. And then we discuss it and give them another opportunity again, so by the secure environment where the student can practice his abilities under the tutelage of the lecturer and under his supervision is a very nice place where a student can develop this ability.	
F	It seems like there is a general agreement with your example and statement. Right, I think that was question 2. If I can just summarise, it seems like we are looking at the teacher and as well as the student, you know, in order to harness this characteristics if I do understand you correctly. Any other last comments on this question that I can take?	All nod in agreement
4	Ja, I think I agree with number 5, 7, and 8 with regard to the safe environment, it must be an environment that is conducive to learning if you have students with these characteristics, as well as facilitators, I think you can challenge whatever existing teaching strategies there's already been in place. So you can take the student a little bit further than in general, but you must also be careful because not all students will have all these characteristics at the same time.	Strong feeling
F	Thank you, thanks for that.	
9	And can I just say, reassurance is very important, to reassure the student that you are on the right track - that's what they want even if they are very assertive, you have to say that you are on track.	Short period of silence after question was asked.
F	Right, thank you, right let's move on to **question 3 and there we do have 10 minutes to discuss the question, and the question is in what way can we address the contrasting perceptions between staff and students, and there we do have a few examples to improve our ability to interact with the students. In what way can we address the contrasting perceptions between staff and students to improve our ability to interact with students?**	
2	I think if I take the example of unprofessionalism, if you do tell a student you're acting unprofessional (sic), tell them why do you say that, because they don't know. They have a maybe a definition in a textbook, what is professionalism but they haven't seen it, they didn't have the opportunity to see people act professional (sic), even medical people that they interact with, gone to maybe did not act in that way, but they don't know it's the wrong way, so if you tell them, no, it's wrong, show them, and with that I think us being role models is very important, because if we tell them something no you can't do that, but you do it, the same, you contradicting yourself, and the students, sometimes they learn more by visual, by your experience, example than what you're actually telling them to do or not to do.	Strong feeling, hand gestures, 1,5 and 6 nod

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
7	What I also experience is I gave a lecture on values within our profession and the next year, nothing comes out of that, and the next year, the following year, I change it to a discussion and we discussed the whole thing and say why and what do the students feel, why do we as professionals felt like that, and that was very, a very good session, because then we can afterwards see what happens within the clinical field wherever they go, and especially in class, the acting out things that they do in class, also coming with clothes that's not professional things like that, that changed, so I think also we don't have to tell them what to do, we have to discuss why, why it's necessary to do things in that way.	Hand gestures, 5 nods
4	I think we need like sort of a vertical strand to have these discussions on an ongoing way, like you say, if you do it in the first year you will find in the second year they don't know that you've done it in the first year. So you need to make time within the curriculum to really address several issues, not only these, but whatever comes up in the classroom there needs to be time to reflect on what has happened during a teaching session, and that in that way that you can come to an agreement on what is the accepted norms that will, ja.	General laughter Participant did not finished her sentence, thinking what to say
F	Do you have practical examples, or like number 7 was saying, or is it just general observation?	
4	No, it's just in general, ja.	
3	Luckily in our profession, there are rules and regulations and conduct, codes of conduct and we deal with that, we can deal with that in a professional way and in a disciplinary way, so we are lucky to have that, but it's not, you don't want to do it always, disciplinary, but your contact with the student, and I agree with the role model thing that, but luckily we have some strategies in place.	Smiling
6	What number one said about them wanting to know why, that's to me a very basic part of this generation, I've got teenage children, and even from there they want to know why, and they're quite willing to follow, you know, if you can explain why, but they don't want to be told, you know, to do a thing and not question it, because they grew up in a world where things are questioned, all the time, I think,	Laughing
F	This is also linked to what number 2 was saying. Number 8?	
8	I would just like to reiterate the concept of the role model. I can give an example, and it is a postgraduate student the other day asked me to come and see a patient which he has having difficulty with interviewing cannot get all the information, so I saw the patient with him and afterwards he told me, now he is at peace with the way in which he interviews patients, because he sees that is also the way that I do it, so he used me as an example to developing himself. Now I think that that component is a very important component of coaching the student to show them you as a role model, and how they can do it. So I think that interactivity between you and the student is extremely important for him to develop these concepts. This is the one	

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	component. The other component is, where we in Psychiatry work also a lot with patients with borderline personality disorders, we do really get a lot of experience in setting borders and I define borders for students right from the beginning, tell them this is what I want, and this is how it should be done, and these are the borders within which this discipline operates, and you can then accept these borders as a valid way of doing, and then I show them how I function within those borders.	7 agrees with "borders"
1	I also agree that with I think it was number 7 who said that one should have a discussion with students about this, but what I recently saw, a group of students, we actually asked them which of their academic afternoons should not be included, just to find out if there is repetition and what do they feel and the things that they first crossed out were the sessions on professionalism, on ethics, and I just wonder when, because they said, it's something that they previously had so I don't think they always understand the importance of this, because it's not related, they don't see it as directly related to their academic knowledge. And I sometimes wonder if one starts a discussion like that by making them understand how important it is, most probably they will then not have that negative attitude towards those sessions.	2,3 nod heads
F	Number 7, you want to comment on that?	
7	Yes, I also saw it with our human rights thing - they don't understand why they're doing human rights, but when we do a practical session for a week long, where they do diski dancing, they're going on a taxi to Botshabelo or wherever, and they see what happens and how do people feel and what happens to them and how they had to come to work at eight o'clock in the morning by a taxi and things like that then they start acknowledge what we tell them or told them in the lectures. So they also have to experience things to not only why, asking, but to experience it, that make a big difference.	Strong feeling, 6 nods
10	No, I think most of us would definitely agree that, you know, that we think that interactive discussions with assertive students will be the most productive learning environment, but their programmes are so full, there is no way one can experience those things. Discussions take a lot of time. If one wants to use discussions and interactive sessions one will have to assume that the students will go and do a lot of self-learning in their own free time or their own time, which I think for a portion of the class is not going to work. There will be a portion of the class who will do it, but the larger number not. So although that seems to be the ideal way to go about it, I think the curriculum especially in our programme that is so full, that it…	Emphatic Interrupted by #6 trying to make a statement
6	I would just comment there that, you know, with things like values, human rights, these abstract things for them, you know, they perceive it as abstract. One should interweave that into, you know, the rest of	10 nods

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	the learning, you know, where you can ask questions in class, involve them, you know, It shouldn't take too long or whatever, just what they would think the ethical thing would be to do here, or what would be the professional or the unprofessional thing to do here, you know. That's sort of a way to bring it into the classroom although it's not, you know, the opportunity to go out and experience it but…	
F	Number 10, you want to comment?	
10	No, one can, we do some of that, snippets of that we can do right in the ward round, and the clinic situation, but then you have three or four students and it's a little sample of whatever you can. You know, you can't be consistent through the whole class so you end up discussing things like this with small groups of students, but you don't cover it, that work in detail with the whole class.	General agreement
F	It seems there's a general agreement about that statement.	
8	What I like doing is to get back to real life examples; the other day I made a list of all the HPCSA verdicts, and there were quite a few "Bloemfonteiners" also and some things that they had to pay, and I use some of these examples and say, you know when you're busy with clinical work, and say but, you know, there was this doctor at Universitas outpatients that was accused of using foul language towards the patient on that and that date and then it becomes real to them. And we, I, use also a number of video for instance where he actually comes and he gives the therapist a gift and then they ask, but must, may he accept the gift from the patient, and then they have a short discussion. So every time I bring back values and ethicals within their practice, as much as possible. Not as a formal process.	General agreement
F	It seems also general agreement about that statement. Any…number 2.	
2	I think because we all agree there is not enough time in the curriculum to address formal discussions and we know students, if something is not assessed, it's not important so maybe if we can bring some of these things in, so when you do a case study on a patient, you're not going just to be assessed only on your diagnosis, on your treatment, but on being professional, feedback from the patient and maybe if you can bring that in the assessments they're going to start understanding and seeing why we say it's so important that they do that.	General agreement with loud "Yes"
6	So I agree with that, and we've formally done that with our final year students. Part of their assessment is the ethical, professional, the whole conducting of the interview, of the patient interaction, the actual result.	Strong agreement
F	Number 9 is also agreeing with the statement	
9	Yes, and also I've got an example. Some of our students, they used not to call the patient, you know, using "Mr" or "Ntate" or "Uncle" or whatever they see fit, you know, all the stuff. And we told them, here, we taught them, here and here and then we put it into our rubrics. All the students now they say "Mr," "Ntate," even to young	Laughter, agreement

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	kids, "Master," so I agree with you, that we have to assess.	
F	Right, good, it seems like time's up for this question. Just to summarise, once again, we're looking at role models, explaining why and not just telling them how, but also changing the lectures to discussions, and also we do have the rules and the code of conduct that we can to use, but then also using practical examples of such behaviour. Right, can we continue then to question 4? And we do have ten minutes for this question. **And question 4 is, "How can interpersonal communication skills and communication between staff and students be improved?" So what are your suggestions, how can we improve interpersonal communication skills and communication skills between students and staff?** Number 3, it seems like you have a burning issue.	
3	When I see this question I think of a few years ago when we started with our module guides. And one of our lecturers tells the students this is your bible, and there is everything in that you need to know, don't come to us and ask us things that stand in this, written in this module guide, because they ask you in the corridor or where else, and sometimes you tell them and you tell them wrongly, and then it's fatal. It happens with me. And so the communication, what we put in our module guides and to guide them through the year and through the semester is very important, and it must be comprehensive, so that they know exactly what is expected from them. And we try to do this and send them back and then with the interpersonal thing we have really open office doors – *of hoe sê mens in Engels* [how do you say it in English]– for them to, and we see our students many times in a week, and so we really are in communication with them all the time. In practical situation and in theoretical, because we do that.	Emphatic, smiling when using Afrikaans
F	So you do encourage the communication via the open forum?	
3	Yes	
F	Policy type of…	
3	Yes, yes.	
8	I have found one of the most important components for interpersonal communication is availability. If you are available to the student, and you show them you are available, they are more keen to communicate, and even availability within the class situation as well as availability on e-mail, phone, open-door office, etc., so I would like to make that a very important statement of availability to the classroom situation.	Emphatic, general agreement
F	Via any media?	
8	Via any media they've got my phone number, they've got my e-mail, I've got students e-mailing me with questions, etc. so I am available.	
6	Sorry, it goes even beyond that, they come to the learning experience with their whole lives, you know; they don't just come with the component that they need to, you know, learn in the contents, they come with all their personal things, and their whole lives. And I	1 puts up hand, 6 smiling during

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	think having an open door there we find that you know they do come and discuss a lot of personal problems with them, and sometimes, being young, they sort of blow these things out of proportion and you know one can deal with it and you can get them back on track. When we don't have that open door for them, you might lose students like that because they perceive their problems as so huge they can't overcome it. So they need, I find that our secretary is also invaluable, she's become their, you know, sort of mother away from home, if I can see in the way that they appreciate, little things that they, presents that they buy her and things like that. So, I think that is quite important; they bring their whole lives, they're far away from home sometimes, they've got to deal with life but they're really not equipped to do it.	answer
F	So you do think that you know having an open door where they can…	
6	But beyond just the academic things.	
F	That will encourage the…	
6	Yes, that absolutely, encourages them.	
1	Yes, I would just like to add on that. I think we should understand the fact that these students are in constant communication with their friends and its always either e-mail or Facebook. I see it with a young cousin of mine, being on communicating on different levels at one single time! And the thing that we don't have is time. Very often we can't necessarily speak to the student but I think if we tell them from the beginning that they can e-mail us, and at any time, that will make it a little bit more, that will make us more accessible than maybe actually coming to see us personally because sometimes, I've actually had the problem that students come to my office and then when I'm not there they just leave but they don't understand that there is another way in which they can contact me and I think because that's their preferred method of communication if we use that we will most probably find that …	General agreement
6	Prefer, sorry but they prefer to send an SMS, rather than actually face-to-face, they do the SMS thing first.	Interruption general agreement
1	Yes, yes.	
4	I think in, I'm involved in the undergraduate programme, first years. , We spend quite a lot of time with our students, so we take every opportunity we have to talk to them and to sort of reflect on what we've been doing with them, like for example, when we go out to the community, we take a large number of students - this year we took like seventy students at one time. Each time we go to the community, so while we are waiting for the bus or for a family to arrive at home, we just communicate with the students and we also reflect on what they've done well, what and where they could improve and I think that helps a lot. And also, in the practical situation, because they come to the hospital for the first time in July,	Looks around to all

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	we have a structured way in which they have to communicate patients' information with us. We use an S-bar and they need to give us feedback regarding the patient using that structure and I think that helps quite a lot.	
F	Any other comments on this way, number 8?	
8	Another thing that I found that students really do appreciate is maybe it's a dual role. They are students and you are more experienced, and you know, hopefully, more than they do, but if you also treat them like a colleague, because the whole concept of unconditional positive regard of their dignity and you appreciate the input when they talk and you show them that you really listen to what they say they are more eager to communicate with you because in some way you are on the same level; you are in the same discipline; you are busy with the same topic. And they appreciate that and that gives them more readiness to talk with you about things, or whatever you want to talk about.	Emphatic, 6, 9, 10 agree by nodding
F	You mean, you must…	
8	Ja, like a colleague, you are now we all are now doctors, we are general practitioners. , Let's talk about this issue and then when you feel you talk to them on their level, but on an academic level then they are much more appreciative of the topic.	
F	Number 9 and number 10 agreed. Number 9, you want to add to that?	
9	Yes, I think also the students even if I were available and we have an open door, the student must be able to trust you, and come to you and say this and this. So we must be able, we must show that politeness to the student, but not going down to their standard but being at a professional level but showing something like empathy, actually.	
7	I think that, I agree with all what was said but sometimes there are students that don't know their borders and they become unprofessional and want to small-talk things. And there is where there's a border for me and we as lecturers have to look at that and tell them at that point this is unprofessional because some of us are afraid to tell students you are now unprofessional. I think that's also important because they don't know their borders because they know, they can argue with you, they can do things that we normally in our generation don't do but the borders must be there.	Strong feeling, general agreement
F	It seems like a general agreement about the borders. Right, any other comments on this question? Then we'll move on. Right, thank you. Then we move on to question 5. And we do have ten minutes to discuss this question. **And it reads, "In what way can students' needs for direct access to and feedback from lecturers be incorporated in the teaching and learning environment? In what way, ways, can student needs for direct access to and feedback from lecturers be incorporated into the teaching and learning environment?** We touched on the subject already in the previous discussion. Number 9, it seems like you have a burning issue.	

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9	No, I think we think, you know, all of us, all the Y generation, the students like the media. Mxit, Blackboard is their thing right now, and I've seen that with the first years they are, in my department, you know, the first years, there is a Blackboard. They are into it and they will come and say this is what we've got, you'll give them and you'll put things on the Blackboard, feedback any feedback for the tests, for the practicals, they are there. The second years also. Third years and fourth years, no, they want the paper, you have to put in the library, or put it somewhere where they can, they don't want to go, I don't know, that's what I've experienced in my department. But the first years, they are more, I think even among this Generation Y there is also a gap right now, that's so.	Strong feeling, 2 nods
1	We also had the impression that the students will appreciate it if we use Blackboard because of this whole thing that they want the media and they like doing that. But we are involved with the final years, and I don't know what the perceptions are of the first year students about Blackboard, but the last discussion that I had with our students was they actually thought Blackboard was inaccessible. Whatever we put onto Blackboard doesn't seem to be what they want, and the one comment was also there was, this is now Blackboard, but there was Moodle, and there was Web-CT, and they just see this as 'OK, tomorrow it's going to change to something else' and we were quite upset with their perceptions because it, we put a lot of work into putting everything onto Blackboard and we thought they would appreciate it. So I think it's also when we decide to do something we should get the students' opinion on that because there seems to be a gap that hasn't been breached there.	Strong arguments
F	Right, then number 4 and then number 7.	
4	I would like to address the one on the feedback from the lecturers. There are at least three ways that we do it in the undergraduate programme. The first one is we schedule specific feedback sessions in our timetable. It's a must and it's done very fast like after a test; a week later they get the feedback and whatever. Then the second one like I've said is in the hospitals; when students are placed there for the first time we take them out of the wards and we have a reflection session with them to give them feedback on what has happened that day and to debrief a little bit. And the other thing is when they submit a task via e-mail, we usually do an analysis of the general problems that we saw in the feedback or the results of the task and give them feedback on Blackboard, just said 'post a general feedback and say this is what we found from all the tasks or everything that we have assessed'. And I think that helps quite a lot.	Emphatic
F	That was my question. How do you, how did you experience these sessions?	
4	Which sessions?	
F	This feedback, the formal and the reflection sessions?	
4	Ja, very good, especially the ones the reflection in the hospitals; very	

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	good and it helps the students quite a lot because it was their first time in the hospital.	
7	I want to add on what participant 1 said. We did a small research within our four year groupings and the first and second years said they want to do it on black – or what? – Blackboard. And the third and fourth years said no they don't want, but we think it's due to their experience because we put things on the blackboard for second and first years, and we start with the second years in their first year but we didn't start with the third and the fourth years, but we want to start now. So they decided they want to do Blackboard things, the first and the second years want to. The other thing is the feedback. In my research they definitely said with do-it-yourself activities, when they come and get feedback in class they want to, they like the feedback immediately after, also in the clinical experience, but they want to, they want us to give individualised feedback, and within the do-it-yourself activities where it's group activities, you normally can't give individual feedback and that was one of the comments they said what was for them a frustration. They know what the general comments are about the feedback, but they can't individualise that feedback.	Strong feeling
F	Number 8 and then number 6.	
8	I've designed this computer lab and in one of those components is the OSCE exam that they do, an OSCE test at the end of the residency. How it works, they do it, the OSCE test, and what it can actually, when the results are displayed they get their percentage and then all the answers are now marked and what they can do then is they can click on each wrong question and then an explanation jumps up telling them this is the reason why this is the wrong one and then they can also go back to the case and to review it again. And now what was interesting, what happens is that they have this OSCE test from 9 o'clock until 10 o'clock and 10 o'clock they can leave and usually more than 50% of the class sits sometimes up to 11 o'clock reviewing their wrong answers on their own, so they could have left at 10 o'clock but, so by this way they get feedback and we really see that they do appreciate getting this direct individual feedback in that manner also.	General agreement
F	Right, but that's almost depersonalised so they can….	
8	Yes, they can continue in there and what they appreciate a lot is that they can do it at their own pace and in their own manner and that's an important thing; sometimes the feedback works in this specific situation.	
6	Yes, I think, the way, number 8, you know, does it, is a brilliant way to do it. I think, you know, my perception also of a four year course, you know, in the first year and the second year, they prefer the Blackboard and things like that because it's sort of, you know, the work is still a little bit removed from real life. I think in the third and fourth year when they have to deal with the clinical case, they do a	General agreement

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	clinical case every week, an assignment that they have to go either a paper assignment or a real patient or whatever. Then they value that contact with the lecturer; they want to know. Because now they've got to integrate a great many things, it's not just one thing, it's not just a question-answer thing and then they appreciate feedback like number 8 said, or that personal feedback. They want to know from you is this the right way, you know, what did I do wrong here, and I think that's why, then they don' prefer Blackboard. Thank you.	
10	I think this process develops and the fact that they stop using electronic stuff and want more paper feedback, and I think what happens initially when they start with the course, and I think we touched onto it, the world is wide open and they want to learn a lot from the electronic media and this. But when they get closer to their final exams, they are overwhelmed by the knowledge, the amount of knowledge, and then they want it, you know, in small packages that they can digest and memorise. And then I think the electronic media becomes a bit of a burden to them. I don't think it's as effective as studying if from paper. Electronic media works well, you know, we use a set of live tutorials that they get on a DVD that they do and they find that very productive, but in the end if they work through it, it still ends up being a little set of notes that they can study, you know, so one uses electronic stuff, but the more the knowledge overwhelms them they tend to use it less and to go back more to the old-fashioned way of studying notes. They become quite aggressive about getting the notes. And if there is something not quite right on the notes they want new ones.	General agreement, laughter
F	OK, agreement around that one. Number 5.	
5	I think we also use all the techniques that everybody explained but what we added extra is once a term the year-group coordinator has a discussion with the class where they can actually discuss anything. It's not feedback on a specific test or feedback on a clinical situation but it's in general, their experiences, it's almost more maybe a debriefing or whatever, and we had very positive results because you get that trust then and you give them the feeling that you're there for more than just giving them knowledge or teaching them how to be a professional but you're also there to, for them as a person, so they can develop and those extra sessions really made a big difference because now it's not knowledge related, it's just in general.	General agreement
10	I think that touches on a point. , Sorry, I'm…	
F	Number 10, ja, and then number 1.	
10	I just wanted to comment that often in communication with the students and using methods to give knowledge and so on and there's a difference between general sort of communication and academic communication. We tend to where we use small specialised groups we often communicate similar with academic stuff and then interpersonal communication often goes elsewhere to this floor down here, to department of education where we, we don't really, we aren't	Emphatic

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	really getting involved with interpersonal communication, so academic communication tends to be split from sort-of general…	
F	Number 1, the concluding one.	
1	A comment on number 10. I think that's what we saw; we, the impression that that was a problem, the fact that they tend to see us as just people who will just care for their knowledge and then we started having small discussions with the students every week. I found that that was the only way in which they started to trust me enough to start talking about their personal things as well and where we actually integrate the knowledge part with their personal perceptions. I've got the impression, then, that you get more from the students and you tend to be able to identify the problems, because you know that there is a problem with their knowledge, but then once you know what their background is, very often you understand why that is and it is true that it is good to send them to the educational division, but then again there is this bridge, now they don't have that knowledge of their academic performance in that specific, at that specific point in time so once again there is this gap. So we are trying to find a way in which to integrate these two. I think you will get much more from those students. And I felt that that works and students appreciate that. They will at the end of their module tell me that they actually like being able to air their views and to have this kind of contact.	General agreement
F	Right, so if I can summarise this question 5, it's all about personal and non-personal feedback methods that you can use and then utilise the media but it looks like you need to involve the students to make that decision. And then also what number 1 was talking about - the bridge between the academic and the personal into number 10 that you need to incorporate. Right, can we continue? **To question 6, where we do have about 5 minutes to discuss question 6. And this is all about staff and students disagreeing that students are capable of deep and active learning, taking responsibility for their learning or critical thinking. So, how can contrasting perceptions regarding learning skills be aligned to encourage and facilitate students to achieve successful learning? So this is all about alignment. How can these contrasting perceptions be aligned?** What are your suggestions? Number 8, help us!	
8	For academic content to be effective regarding the learning experience of the student, I have found the most important component is it must be engaging, so the student must, doesn't matter what type of content it is, you must have creativity in designing the way in which you deliver the content to the student, that it engages the student and I found that, when that happens, the student really learns. And one can be creative in whatever way; I can mention quite a few examples that I've already developed, to do that, and I've got verbatim feedback from students also, stating, but you know, now I remember the thing better, now I understand it better and even to such an extent the other day when we were discussing substance	Thoughtful, 5 agrees, general laughter at joke

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	abuse disorders, the next day a student came with a photocopy of (laughs) spiders who were given caffeine and LSD and marijuana or whatever to show how they did their, what, *spinnerak [spider web]*, webs, and the worst web was caffeine. Really! Now I learnt something, I never knew that caffeine could be so bad; the spider lost it completely with caffeine. The marijuana one was quite good also. So we had a good discussion there.	
F	Right, so this is all about creativity.	
8	Creativity in making the content engaging for the student. And that helps with this whole process of their learning experience.	
6	Linking with that, but you know, even if you're giving a formal lecture engaging the student is, you know, about throwing questions all the time, engaging them, you know. I always tell them not to sit in the back of the class, they must sit in my personal space not in my public space because you need to you know, throw the questions at them and then what you said earlier about, you know, innovating and getting them to that level where they feel you know that they can say how they would do it and you know even if they ask a stupid question to acknowledge it and say that it's not a stupid question, it actually raises a very important thing because this and this and this, you know. Then they start trusting you, you know, to link up with what number one said, and you know then they want to engage in class, you know, even if they didn't come prepared.	Hand gestures, looks around
2	The problem is what I found the students don't answer you. You ask the questions but they sit there, "Uh", you know, whatever it is, didn't prepare, didn't think I'm giving the correct answer. , So what I actually did was - the creativity part - I developed games which I made competitions between different groups and all of a sudden, the same question that I asked before that nobody put up their hand, now all of a sudden, everybody wants to answer because I'm in competition with this group. And they are so competitive in their class. And also, I had the verbatim comments of the students in exams that they said, I remember this because my colleague was standing up and holding his hand in the air or something like that. So I agree with number 8;you actually have to think creatively and think of new methods and as I said, games even, how to teach the same things and get that interactive-ness of the students.	Excited, hand gestures
F	Other ways that we can align this?	
6	I think I just want to add again there, you know, we're probably dealing there, you know, with the third and the fourth years on a clinical level where they've got to work, you know, with a patient, you know, the thing of setting the bar high, you know, if you expect a lot of them and you expect professionalism, and you expect things from them, they actually rise to the occasion, you know.	General agreement, laughter
F	So you want to challenge them.	
6	Yes, you know, I just think we expect a lot of them and they always	

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	rise to the occasion and they come to appreciate that as the facilitator I am the rock against which they will stub their toes black, you know, like you said, number 7, about setting the boundaries, and then they do appreciate that.	
F	Any other? Number 9,	
9	Actually yes, I just, it's just one of the things that just happened, some, why I was late, because I was with the students, in the practical environment, and it's something that I've taught them in class, I've even given the visuals, on this is a pre-schooler, do your cross-observation, you do this and this and everything is on PowerPoint and with pictures, and today I had a real child and I said to call them, all of them. There were about fifteen and said who, just do the cross-observation on this. They were normal. And I said, "Can't you remember the picture?" Oh you give us lots of pictures. And then I started showing them what I've …They said, "Oh, that class!" So in the practical situation you need that reinforcement, reassurance so we have to use all even if you know you are also innovative, also in the practical sense you need also to get lots and lots of different styles that you have to use in order for them to remember.	General agreement
F	Number 1 and then number 10.	
1	Just looking at this and the fact that the statement is that students and staff disagree, I wonder if we should not go and reflect on exactly how we try and teach these students. Maybe if we think that they are not capable of active learning, the way we are going to present our information to them is not going to be conductive. We might think OK these students need parrot type of learning, that's all they're capable of, and in the meantime they themselves think they are capable, so I think that's why it's very important to actually have feedback from students to try and understand why we seem not to be able to engage them in an active learning process.	10 agrees strongly
10	Ja, I think number 1 touched on what I wanted to ask. You know, what does the question actually mean? Is it that the students think they can do it but we don't believe they can or is it the other way round? What we've been discussing up till now was trying to lift the confidence of the students as if they don't think they can learn by themselves, but I think the biggest problem is that we as teachers don't realise that they can learn by themselves. I think that's what number 1 said.	Questioning
6	I want to add to that: Professor Wilkinson from SHOSO has a saying that all students can learn, maybe not on the same day, and maybe not in the same way, and I think that is vital if you go into the situation that you think some students can't learn; then I mean it's already lost there. You've got to go in there, you're all selected, and I always say to them, you're selected so you can do this, you know, maybe struggle with some things a little more than others, but you've got to believe they can to do it first and then make them believe.	

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10	Right, maybe the biggest mind shift is for the lecturers to change, let them bridge this sort of gap.	
F	Right, so I think we reached the end of question 6. Just to summarise it, it seems like you need to be creative, right, in order to engage the students, but then the last session moved more towards the teachers that needs to adapt and look at themselves, reflect on themselves. **Right, let's look at question 7 then. Now this is also a five minute question. Should students be involved in decisions regarding subject content? Seven, seven. Oops, oops, Group work. Group work is problematic to most students yet and an important part of learning method. What methods can be put in place to ensure efficacy? This is all about group work that is problematic to most students, yet an important part.** Number 1, it seems like you are very keen to answer this one.	Confusion due to question sequence
1	I think about group work…first of all I don't think all students understand the importance of group work. Once again, that cousin of mine, she's in the humanities, and she was involved, or she had to do a project in a group and she was completely negative about it, she said two of them do all the work, the other two students are not involved at all and eventually they get, they all get the same mark. So I think we assume that students understand the importance of group work, but just from that one comment, I don't think that's always the case, and I think we first of all have to explain to the student why this is important to be involved in that group or in that process.	Feels very strongly, 3,9, 10 also indicate strong agreement
4	We assess the students' learning styles in the beginning of the year and when we allocate them to groups we try to make a group that consists of all the learning styles and we have looked at, and I think number 3 has also done that, that the groups that are based on their learning styles definitely perform better and there's less conflict in that group than other groups that are just randomly compiled.	Emphatic
F	So you compile, sorry, number 7, you compile groups according to the different styles, not…	
4	To their learning styles, ja, so each learning style is represented within a group.	
7	I also did a research on group work and what I found is that the way we assess students in group work was the main thing that made them negative about group work, because they said they are assessed in a group; they are not individually assessed, they're only assessed by the end-product, they don't assess during the group process. There are a lot of things that we have to look at in the dynamics, the end product; things like that, but also what comes out is the value of the group. Do the students, they came from a school setup where groups are getting together four or five, and some work, some don't work and now you have to tell them in the first year how it works, how group work really has to be done and they have to know that and that is of big value. Within the research there were lots of aspects that the	Puts up hand, emphatic 4 agree

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	students said - and the lecturers - that is of value, but the main thing is the process, the end-product, the way you assess the group assessment and not only using assessment of the lecturer but also using the students, reflective reports and that they really do assess everything in that group, from the start when they start contracting with each other till the end where the end-product is assessed.	
F	Any other methods that you will put in place to ensure the efficacy of group work?	
8	Maybe just to tell them why they have to do this in a group. Many times people don't tell them, OK, you are now a group and you have to do this and they have to do that and they only think that it's five or ten students that have to do collectively this one thing, and they don't understand why they have to be in a group, and if that can be explained to them we should, I think, it would help also.	
F	That's also what number **1** was saying.	
6	And I think you know, restating what everybody said, one needs to give them some guidelines on how to conduct group work not how the work should be done but how to handle conflict, how to contract with one another, you know, how to deal with the guys that don't do the work. And I think that they have to be given the opportunity to actually resolve that themselves because they quickly run to the lecturer, you know, resolve it, and that's part of the whole group dynamic thing is to learn how to do it.	5,7 agree
F	Number 7, you wanted to comment on that?	
7	What's also important for me is the assessment criteria and the rubrics of the assessment, because most of the students don't know what is going to be assessed and how it's going to be assessed and that's also very important for the students to know, especially the Y generation what are you going to assess within this specific DIY or assignment or whatever.	
F	Any other methods that you want to put in place? Otherwise can we continue to the, I think it's now the last question before tea? Second last. So now, right, now, sorry I skipped this one, now it's all about second last question, "**Should students be involved in decisions regarding subject content?" What is your opinion about this? Should students be involved in decisions regarding subject content? If so, how?**	
F	Number 3, you look very unsure about this.	
3	I don't think so.	Shakes head
F	Right, why not?	
3	I don't know.	Laughter
F	It's just your gut feeling?	
3	I don't know how it can be done, really, I…(laughs)	
F	Right number 10 and then number 6.	
10	I don't think students don't have the insight at all to decide on something like subject content. They shouldn't influence that – as I	Strong feeling

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	said earlier the outcomes of the course at all – academically.	
6	I fully agree with what you both say. They don't have the insight to decide on that from the onset, but you know, I do think that it's valuable giving them the opportunities, you know, if they do, you know, that they can come and ask, you know, if, you know, can't you get a lecturer on this or that or, you know, maybe, some outside things that are not necessarily part of the curriculum? You know, then they get, like for instance with this congress, there was something on product dissemination and they, you know, were very enthusiastic, and asked, you know, whether we could get this person to come and do a workshop here, because it's something that they really, you know, all of us can use in our profession. So I think, you know, to have that open forum, where, if one can meet that sort of thing, but I don't think in the basic content of things…	Some agreement
F	Number 8 and then number 1.	
8	What I, I agree that they cannot really have input into content, but it's like a menu, they can make a choice of a few things in a menu, but I do think, there's a lecture on dementia, then I have few videos, etc., and I tell them I've got this one on Daniel Tamworth, the one on Tim Peak, the Rain Man with a perfect memory, I've got this one of this guy in England who has only two minutes memory left, etc. and it's too much, you cannot watch all these videos, make a choice. At the end they make they really make a good choice because they know what they want, and I've designed their choices to such an extent that they don't lose out on anything. So they can choose what they want and, but they don't lose out in terms of content, so I present them with a variety, with a quite long menu, ja.	Laughter
1	On that, I want to say something controversial. I think they should have a, or they should be involved. And the reason for that, we design a curriculum in such a way that we assume that certain things happen at a certain time. But there is not that much inter-modular communication. So what I do find that sometimes students get the same thing over and over again. Because different people do give that information to them. They, we don't always know that and it's only when we ask them that we find that a specific subject was done four or five times at certain stages, and then another subject which was very prominent in assessment wasn't really done. So most of all I think it is important for students not, I don't think junior students, but students in their fourth or fifth year, they've been through the process and they can give us feedback on where they think there is something that they need. One thing that I can recall, we never, we never, they never consulted us as students about anything, and there was a specific year when we had over the two year period we actually had six lectures on a single subject, and that's really not productive. So I think it is good to ask students. I don't think we should let them influence us to such an extent that we take out things that we think are important.	

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F	Right number 9 and then number 2.	
9	Yes, I think they have to give their input, but the decision has to be taken by the departments. And also, to just add on what number 1 said, I always get more, you know, useful, inputs, from graduates because now they are applying, you know, they are in the field, they know what is supposed to happen included that, so that's….	General agreement
F	Right, number 2.	
2	We are actually conducting research where we give the final year students now, just before their final exam, a questionnaire to tell us what did you want to do or have in our subject, which they actually have in their second and third year, so now they have the insight of the fourth and fifth year so that they can make these choices and say yes, but this and this was good, but you need to add that so we take that feedback now and we can put it in for our second and third years because we know, they are going to use it. So it's with insight then that they give us that feedback.	5 puts up hand
5	Yes, I just want to link with number 2, we also do it in actually a formal and informal, informal way like they do it, at the end of the fourth year also reflect on what you think must be where and what must be added and those kind of things. But then we also use some of our undergraduate research to do formal studies on curriculums, so if there is a certain area that may be developed very quickly over the past few years we give it as an undergraduate research project and they must research it formally and then we also use that information, so we use it informal and formal.	
6	I just want to add to what number 2 said, you know, I think that what you are actually saying is about alignment, it's not so much about the content, you know, it's more about alignment, about getting the alignment right. Because we make assumptions about what the teachable moment is. You can teach something and it can be completely lost because it wasn't taught at the right moment, and actually only they, in constructing their body of knowledge can actually tell you, you know, when that would have been appropriate.	General agreement
10	I just want to make sure that we understand the difference between the content which I see as the outcomes, versus technicalities in overlaps and omissions in that, and there students can play a valuable role with their input, but the ultimate outcomes I don't think should be influenced by students at all. Postgraduates, fantastic! And I agree, obviously, that an open forum must be there. But mostly the open forum is important for us to explain to the students why the content is there. But I don't think they have the knowledge that should influence that.	Strong feeling
F	Right, this was question 7. Thank you. So we can summarise it that there is not a, for this question, that there is not an option, so there are advantages and disadvantages, right, but we need to look at the actual, like number 10 was saying, the academic content, and then the technicalities, so you need to differentiate between that. **Right,**	

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	so now we do come, hopefully, now to the last question before tea, and we do have ten minutes for this question, exactly. So, how can visual stimulation, technology and the need to learn by discovery and exploration be incorporated to a greater extent in teaching without disregarding personal face-to-face contact with the lecturer? Very interesting question. Number 6?	
6	I think number 8 is the expert here.	Laughing
8	You know, while reading this, I was thinking about, who is that guy in Australia, the movie, who's this guy in Australia that plays in the movie with the hat, Crocodile Dundee, that one situation where this guy came with a knife and looked at him and he then said, and he took out his knife and he said, "That's not a knife, this is a knife," and he had this huge knife. The thing about that, you know, looking at technology, there is this famous saying, "Death by PowerPoint", don't know if you know it; "Death by PowerPoint", and it's that you think that the more pictures you have on your PowerPoint, and the more technology that you have, the better your presentation is, and that's wrong. Technology is a tool, it's a tool that should be used to enhance the learning experience of the student, and it's a tool that should be used to enhance the way in which you deliver the content to the student. I think that's what, if you have that basic idea, then you use technology in the correct manner. People think that technology is the solution; it's not the solution, it's a tool that you must use.	Laughter at joke, agreement
F	Right, number 2.	
2	I can add, I see technology as you said, number 8, to help you, because we all have problems - time, we don't have enough time for the students, not just for the teaching, but to maybe address certain issues that the students feel they need more lecturing or whatever in. So, now, if you can use that technology so that the students can go on their own, whenever, wherever they are, and utilise it and go into the subjects that they want more time on, but it's not your time that's a problem now for them. I think that is the way I use it, definitely.	General agreement
8	Just to respond on that, while I was sitting here till eleven o'clock, my students were learning from me. I was teaching them, they were in the lab, they were actually busy studying the question on the modules, and so time-wise, yes, it can help a huge amount but then the feedback and that contact session is always very important. Because if you just rely on technology then you're lost.	
F	Ja, because this is what the question is all about. Without disregarding the personal contact. Number 4.	
4	Yes, I agree with number 8, you can send them, they can do everything outside your contact session, but you need to bring them back, it needs to be planned sessions, you need to recap on everything. Even the lecture, you can even incorporate a lecture in there, because there is still place for the lecturer to summarise what they've done outside.	Strong general agreement

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F	General agreement that you need to bring them back. Number 1.	
1	I think one should never assume that just by showing the student a video or by having a session that they have to do on their own we shouldn't assume that learning has actually taken place. So I fully agree that there has to be a person involved as well. I don't think a computer or any technology can ever replace the value of a person. I think even if they have a specific video then there is an information session which can also be on the video or DVD where a person will explain to them what was done in that video or what was said in that video, but once again, I think then the students should have the opportunity to reflect on that session.	General agreement
F	Number 7, you want to comment on that?	
7	I also, my view is also, we're busy with Y generation, but they also have different learning styles and with different personalities, and we have to take that into account when we are looking at our learning methods, or teaching methods, so you have to look at that.	General agreement
F	Any other comments on this? How can we use technology without discarding the personal contact? Number 2.	
2	Ja, just to add onto that, I totally agree: we can't use technology without feedback, without personal, but sometimes with us it happens, it's a clinical person who is a service provider who must come and give a lecture. He can't be there, he's in the clinic, in the hospital, wherever, so what he can do is, you can make a video of that lecture of him, and you can show it in a class to the students, but while somebody else is there to answer these questions. But now you don't have the problem of not having that person at all; you still have his expertise and the other thing is now you give that same thing to all the students, because that's also what we see what happens, if the same type of lecture is given, like number 1 said earlier, by 6 different people, what, are, well we have outcomes, but are the students really getting the same information? We saw that it didn't happen like that, so that helps a lot by creating the same information for all students. But again not only, there must be a person there while they are watching it.	Emphatic, general agreement
F	Right, any other comments, number 6, in concluding this question?	
6	No, just in conclusion, to conclude, my father-in-law's textbooks from the 1950s, you know, there is no single picture in it, and you know, ja, I think it's a wonderful world that we live in where you can actually with technology bring the patient sometimes into the classroom, where you would never be able to do that before, you know, so I think it's just about being very creative about it.	
F	Right, OK, anything else? Right, thank you so we can conclude. Number 10 now you can have your tea. OK, thank you so we will continue in about 20 minutes. Thank you.	
	TEA BREAK	
F	Right, so we are back, and we're going now to look at the last few questions. **And we are at question 10 if I'm not mistaken. Right,**	

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	in what way can students' needs for a structured, organised environment be met? In what ways can students' needs for a structured, organised environment be met? Ah, number 3.	
3	I just want to repeat what I've said about a module guide and workbooks. We work like that and tell them that's structured that's really structured. We also structured our workbooks in themes, like many perhaps did, but we use the structure we begin with the more common to the most difficult and everything is in that and to be more structured also your communication with them, when you see them, when you work with them that they, that you are structured in the ways that you tell them what to do and don't just talk. They want to know that you said why must I do that and I think the structured thing is perhaps also doing with this, that why they are doing this, being structured helps.	Emphatic, general agreement
F	Right. Thank you. Number 5.	
5	I think the students also have a need for comprehensive assessment rubrics. If they don't have that rubric, then they're lost, they don't know where to go, so I think that it's also part of the structure.	1 enters the room General agreement
F	Comprehensive rubrics. Right. Agreement on that statement on the rubrics. Any other comments? Number 4.	
4	I definitely think that you should brief them on the outcomes, even though the outcomes are provided in all the module guides, when you start with your lecture you must tell them, these are the outcomes that we're going to reach today, this is how we're going to do it, and ja, otherwise, and this is how you're going to be assessed more or less, otherwise they are lost.	Strong agreement
F	So you are more enforcing what is in the module guide.	
4	Ja, what is in the module guide.	
6	I think with every, whether it's a formal lecture or a discussion or a practical, you need to tie what's going to happen today with what has happened before, you know, where in, what do we apply of the things that we've learned even it's years before, if it's the physiology that you did, but just so they can see where everything fits into the whole picture.	General agreement
2	I think that's very important because what we see with the students usually when they've written and they've done with the subject or a module, I've written the exam and I've passed it, now it's gone, I don't have to know that work again, I don't need to go back to it again. And to really reinforce that idea, there was a reason why you did that before we are coming to today; you need that work as well. I think that's very important.	General agreement
F	Important. Number 7.	
7	I also see that with our students they want to have a structuring thing from the first year on, know what is going on in the first year and how it's going to be in the fourth year and how it links and that we have to recap every year, to tell them you did that last year and now	General agreement

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	you follow on that. So they can see what they are going to do at the end and what is meant to be done.	
6	I think it slots in with the idea that learning, you know, each person's own learning is a knowledge construct that he builds so they need to be able to see you know where am I working towards because sometimes they think, "Why am I doing chemistry?" you know. They don't even understand where it's going to so you need to give them an idea of why you are doing this and then you know go back in the third and the fourth year to that knowledge that they've already constructed because now they learned it, they were assessed on it so they've made a certain construct in their minds to be able to take that and build it into what they now need to do.	7 agrees
4	I think in most of the modules, they have an orientation time. I know that for the second years and the third years and the fourth years they go through a week of orientation before they enter into the formal module starting with the formal module, and that helps quite a lot to brief them on what's going to happen with them. Either in the classroom situation or in the practical environment.	
F	Any other options?	
10	I think also it translates into small things like punctuality, and you know, being available when you should be and so on, if that goes astray you know it becomes totally disorganised. So, I think sometimes briefing them about outcomes is great but we also have to be available to do it at times that they expect you to do it.	General agreement
F	Right, covering the formal aspects.	
10	Ja, ja.	
1	What we've found, that initially we didn't have a very structured programme for our third year students and we found that learning did not really take place and this year we completely redesigned it where they've got scheduled, specific scheduled sessions for every day and the feedback that we have from the students is, was that they like that. They like to know what they are going to do at any specific time. But I think initially we try, or when we try to move from more a lecturer-based to a student-based learning system, I think we immediately assumed that students do not need any structure, or they will be able to learn by themselves without having formal sessions scheduled. And in reality that did not work. And I think if we understand that the students actually need that, and we provide it to them, and most probably discuss it with them not only give it to them as a hand-out, then we will find that they become much more positive.	Emphatic, general agreement
F	Any other comments on this one? Right, can we continue, and in order to save time, I'm not really going to summarise it. **Looking at question 11 then: "Students express a desire for mentoring by empathetic role models. What is the staff member's responsibility in this regard?** What do you think, what are your responsibilities? Silence. Number 6, it seems like…	

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6	Well, I think first of all one needs to be that empathetic role model yourself, but then also, you know, if I think about the third and fourth year clinical in our profession, I'm sure it's the same for the others to make available such people, you know, say like we've got, we've always had the feedback third year - a lot of the theoretical clinical basis has to happen there that you know even with the case studies and so that we gave. The students all felt that they didn't get enough exposure to the hospital setting. You know, to contract somebody from the outside who is just responsible, you know, for taking them into that hospital setting every week and they still do the same case studies but it's become alive because she's there to ask and you know they're in that environment where they're going to ask questions that they can't necessarily do with the paper. So I think one must look for ways to provide for such people, besides the lecturers.	Agreement
F	So you're coming back to face-to-face, there must be someone.	
6	Ja, there must be somebody.	
F	Right, general agreement. Number 7.	
7	I agree with her, but also we have to be aware of the fact that we don't become therapists. Because we can't be assessors and therapists at the same time. There's a big difference between therapist and mentoring. And it has to be staying as you have to be a mentor, not a therapist.	Emphatic
F	Number 4 and then number 2.	
4	Yes, I agree with number 6 on providing support in this regard, and this is why we have a mentor programme in the School of Nursing and even the first years, when they go to the hospital for the first time they are mentored by their peer groups and we hope that that is a sort of a support structure for them to help them through that first encounter in the hospital.	
2	I actually want to come back to number 7.	
F	Please.	
2	Yes, we can't be their therapists (?)the whole time. But the students must be aware that there are people like that that they can go to, because what I find is, well in our situation is, that they don't know there are these people that they can go to, they struggle through, their assessments go down but they don't know there is help out there, so they try to do it all on their own. So I think it's very important to tell the students at the beginning of the year or when they start not the module, but their curriculum, where they can go to and maybe emphasise that throughout the year, especially with the assessments at the end of the year, because we do find that students really have these, not very mental issues or problems, but there are things that burden them that keep them from continuing their studies but they don't know what to do about it, they try to do it all on their own.	Laughs initially, 5 agrees, all agree
F	So do you think it's your responsibility to refer them?	
2	I think so, yes.	
F	Agreement? Number 8.	

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8	There is a nice concept which started actually in business. It is the concept of talent management. And basically it is that you use different people's different talents in applying training and whatever they're doing in a system. So if somebody has a very nice empathic, a good role model and is very empathic that person can be utilised more for this specific area in a department. So if you utilise talent management, different lecturers can do different things within their own abilities, and that works pretty well because then you cannot expect from somebody who's not empathic, not a role model, to do it with students; that will be disastrous.	General agreement
F	So you will say we will allocate responsibilities?	
8	Ja, you can allocate responsibilities to fulfil this need regarding talent in the department.	
F	General agreement.	
1	I often wonder if lecturers understand the impact that they have on students. I don't think everybody realises that a student sees a lecturer as a, in certain areas, as a role model. And I very often with my interaction with the students, they will tell me that a specific person was rude to them or they feel like they don't even feel like people around this specific person and I think it's our responsibility to make other people aware that they do have an impact on students, and they, even if they don't feel empathetic enough to supply that kind of support by themselves, they should become aware of the fact that they also should not do the opposite, because sometimes we try and get a positive environment out there and the next person who comes along just, the whole thing collapses, and the next thing Prof Pieter Nel phones me and says what's going on there, and that's one single little, one lecturer that sort of causes the problem. So I think a lot of people are not aware that we do have a responsibility, but maybe in agreement in different ways, but we shouldn't underestimate the fact that we have it.	Strong agreement, laughter
F	Okay, any others? Yes, number 9.	
9	I think also we need to admit that there are some of us as staff members who are just staying, you know, away from the students - we just want to give the lecture and then leave, or in most of us in the practical setting in the health professions we just want to deal with the patient and teach the student how to deal with the patient and we leave. So there are those different characters. So if there is in a department… we need to identify the people who are very empathetic, who are that kind of role model and keep away those who *(laughs)* are just another character that we cannot change.	Laughter
6	I think I can just quickly, you know, link onto that. In our department we, you know, definitely realise that the person that has the contact with the first years, you know, that is very, very important, you know, that that is a very, you know, vibrant and empathetic role model otherwise and certain to keep the others away from them. We have to really be very selective about who does the	

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	first years.	
1	But something interesting that I saw, and once again I think that is why student feedback is important, I think; a few years ago there was a specific department which was not very popular with the students. The students then identified the person, and I know that person actually got that feedback, and initially obviously was very angry, because they didn't perceive there to be a problem and subsequently there must have, something must have happened because recently without any sort of I didn't specifically ask the students about that person; by themselves they said he is one of the best teachers. So I think sometimes if you make somebody aware that there is a problem, you are going to change that person's behaviour.	
F	Right. Thank you. Can we continue? **Question 12. Both students and staff members agree that Generation Y grow up in a world with complex moral issues, excessive peer pressure and socio-political changes. How can students be supported in an academic environment to cope and grow as professionals in this environment?** Number 3, please.	
3	I think during your study and during your learning and teaching process in the years that they are with you, you must bring this in as ethical and moral questions but we usually do in our profession and there are some ethical things around that and they usually write for us a reflection report on this. And after the reflection reports we do a kind of debate in class on that certain topic and that's wonderful how they talk and we are there for them to get them again on that path. So it's important to bring those issues in your work and in your practical and show them and I think because, they say Generation Y, I think all of us, in every generation, have these three things there.	Smiling
F	Right, so you don't just ignore it.	
3	No.	
F	Bring it to your advantage; use it to your advantage.	
3	Ja, ja.	
F	Agreement. Any other methods how you can cope? Number 10?	
10	Once again, it's come up many times, role models are so important. We had certain great role models on all those issues; just they have no map, no one.	
F	Right, so the lecturer as role model. Anything else, how can a student be supported in the academic environment? Number 8.	
8	There's one, I don't have a clear answer, but there is a very important component that should be introduced in teaching or the philosophy or a way of thinking and that is to focus more on preparing the student for the world out there by bringing in more of real life examples into the training world that they can really experience what's happening while they're a student. They did quite a lot of research on this topic and I'm still reading on it, but I see the students who are coached on real life work before going into real life have a much better chance of survival than others so I'm not sure if I'm making myself very clear	Unsure

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	on it but it's a concept that's becoming more and more important based on this whole concept of moral issues, political challenges, etc.	
2	The students must be told that all our students are going to work with people, patients and they have to know that those people are going to have different views as them, different moral ideas and they have to be able to cope with it, not just I'm the only one that's right, they have to learn that they're going to have different types, as you said, number 8. In the real world, they have to cope with it without, you know, judging people, you know, and as we said cope in those situations.	
F	Number 6.	
6	I want to link on that. What we've done for our fourth years, we've done it now the second year running, is have the Meyers-Briggs done on all of them, because we've got smaller student numbers, and that has been absolutely invaluable to them, because sometimes that's the first time that they really realise why I am the way I am, what my views are shaped by my personality type and, you know, how everybody else is different to that, and I know in Hematology they also do that with the post-graduate students, and, you know, it's things like that. They can really be given the opportunity, you know; we teach them Psychology but it's abstract, you know; they have to understand themselves as a different human being to the next person and how I can interact with another person without, you know, giving up something of myself. I think it's vital when you know the professions we're in.	
F	Any other questions? Right, can we move on? **Question 13, lucky 13, what are the key elements that should be included in the educational approach to undergraduate students' generation profile? What are the key elements that should be included in the educational approach to undergraduate students' generation profile?** Silence.	
6	Ja, we're still trying to understand the question.	
4	Ja, it must be clarified a little bit.	
F	Right. So, what are the important things that should be addressed in the Faculty regarding the teaching and learning for Generation Y? More than just technology that we're going to use. Right, it seems like you are struggling? Number 1.	
1	I'm just trying to still clarify.	
F	How do you understand it?	
1	Does this mean that by taking the generation profile into consideration, how can we actually structure our educational approach?	
F	Yes. Yes. What else would you like to see to address …	
1	OK, so …	
F	…this specific profile? Number 4?	
4	I would like to see a safe teaching and learning environment where	Smiling

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	students can really feel free and supported in their learning quest.	
F	Right number 7.	
7	I also link to that an environment with different learning approaches to accommodate the different learning styles within the generation.	
F	Right. Agreement. Number 1, now she's talking!	
1	I think first of all everyone should be made aware that there is this difference. I don't think all lecturers or staff always know this. I think when you start developing an interest in something you start to learn new things but I don't think everybody knows that there is a difference so somebody who doesn't realise that students from this generation have a specific way about them will not understand. So I think the first thing is to make people aware that there is this generation gap and because just looking at their assertiveness, very often somebody will come and say that student is very aggressive or he's disrupting his class because he's constantly asking questions, and that just shows me that this lecturer has no idea that a lot of these students have this way about them, and then they, very often that's also the enthusiastic student and the way that that lecturer then disregards him or becomes negative will take away that enthusiasm. So we should spread the word about this.	Strong agreement
F	Right, number 6. Now it seems like they're starting.	Laughter
6	I thinks it's not, you know, seen as a threat to you but rather to harness that, you know, the way about them, you know, to harness that and make them work for you, you know.	Smiling
F	Right number 4.	
4	I've got my…I'll come back.	
F	Ok, anything? Number 5, you are so quiet.	
5	I think they are also a generation that like to be informed so the communication is the basis for everything and I think the interpersonal and academic communication and also structure; they want that structure, so I think that's two things that are important.	Emphatic
F	Right, number 4, can we get back to you?	
4	Back to what number 1 said earlier about repetition of content, that so often happens in the curricula. I think what we should consider is bringing in electives so that students can select whatever according to their needs within a certain framework. I mean, they cannot select everything, obviously, but there should be a core curriculum and with a lot of electives and that if they don't want to go through a course about computer skills or something they should not be exposed to that, because I know especially from the medical students, first years, they get very bored with this one module that they do where they have to repeat stuff and so on. So I think electives could be maybe some answer to challenge the students and to address their different learning needs and styles.	Laughs, general agreement
F	Right. Agreement. It seems like it. Number 3? Right, I thought you do have something for us? Right, so any other key elements that you	

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	would like to see in this approach? I thought so, number 3!	
3	I think just, it must be a warm and empathetic environment; it must stay that and the role-modelling is very important. That is a key element in the whole teaching and learning, that you have this understanding and the warm feeling to your students, and the trust that is nurtured so that is, I think, an element, a key element.	Laughter from all
8	We have to be very careful: something that's happening in the world all over is people become recipe-based or tool-based and they want… the other day I had to give a lecture on how to treat borderline personality disorder, and when they came in they said, "Give us a quickrecipe how do you treat it". There is no one recipe to do it, and people want that more and more and we should move away from that or be aware of that in our training. We shouldn't be recipe-based, but should be developing of the skills of the student and in doing that in an interactive manner so our whole system should be interactive as much as possible to stay away from the danger of recipe-based teaching.	
6	The reason why people tend to want that recipe more and more, you know, if your information is so overwhelming and I think you know, students think the thing that they feel threatened most about is that overwhelming amount of information out there and what they really need from their studies, because things change all the time as well, is they need, you know, the basics, the basic coping skill and the discernment to know what is important and what not.	General agreement
F	Right, agreement on that one. Any comments? Right, so can we then conclude with question 14? Right, are there any additional important points that you would like to mention? Now it's open. Nothing specific. Number 8.	
8	Maybe, what I've been doing this year is that I give them a questionnaire where they can give feedback, an anonymous questionnaire. And I get a huge amount of information there, very interesting things, things like they commented, "Please cut the lawn outside; the grass is very…". And I looked out and saw, ja, the grass is quite, you know, it should be cut, all kinds of comments and being anonymous you really do get very interesting feedback, and so I would recommend that to get something from the students, that is very valuable.	Laughter, general agreement
9	Yes, I would say that this kind of educational approach that we need with this generation is that it must, everybody must, be catered for. Those who just want to learn and learn up to here, but there are top students whom we have to allow to explore and discover knowledge so we must take them in such a manner that we don't only look at the average, but also, we look at those who are, you know, we kind of make those who are up there to be more brighter, and those who are up to be up more, and those who are down to be uplifted, so this is kind of something that will make them to be scholars.	6 puts up hand
F	Do you have any suggestions?	

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
9	Electives could be one of the things that could be done. In when you do the assessment, those who get 100%, can allow those guys to get 100%, those who are the top. And not move the scale, but also have the question where you will cater for those who are up there. And you will find that, when you have those kind of question, the top student will come and say that was a nice one. And also, the way we teach, of having additional things that these students can grow, where you don't penalise them if for what they, additional references. And you know, at optometry we have our case presentations where they just get something that is like uncommon, where the textbooks say this is very uncommon, and they come and present and speculate on what is the rationale behind that condition or something like that.	Laughs with answer
F	Number 6, do you want to add to that?	
6	I was just thinking to link to what she was saying, in our fourth, as an example now how one can do this. In our fourth year programme the students have to write literature reviews, you know, so it's basically a practice in academic writing but also, in, you know, those topics that were not really covered, that new information and things that weren't in, you know, completely in the core curriculum, and then to, what we do is, we do select our students, when we give the topics out, you know, so things that are, you get better results, you know, if you give the challenging topics to the ones who are also the ones that like to be challenged, that will go out there and go that extra mile so it's ….	
F	Any other? Number 1. Concluding remark, thank you.	
1	I sometimes think when I speak to other people, sometimes they've got a very negative view of this generation. I think they are very often seen as being not really and this or this thing that they want to be in contact with the friends all the time, sometimes seem a bit strange to especially older generation people. And I think we should stop being negative about them; I think once we change our attitude towards them, we will most probably find that they are a group of people who have exceptional talents and who if we treat them in the correct way we can take or get them most, or the potential of them. And I think sometimes what they say, the change, if you want to change something, you should start changing yourself, and maybe it's time to rethink our attitude towards our students.	General agreement
F	Number 6, she wants to conclude!	General laughter
6	Ja, I was just thinking about Einstein that said you cannot solve a problem at the same level of knowledge or perception where it was created and this is this thing, they're going to have to solve the problems of this world, you know. When we leave, it's going to be their thing, and therefore, you know, their specific talents and ways about them, one should harness it, rather than, you know, because they can be very creative, far more, you know, than we were in the same educational system, so.	General agreement
F	OK. Thank you, seems like we've come to the end. I just want to	

PARTICIPANT	COMMENT	RESEARCHER OBSERVATION
	thank you for your time and your effort and your input. I hope [name mentioned, researcher] will use it very productively, and I'm going to hand over now to [name mentioned, researcher] to just to make the, some concluding remarks. Thank you.	
O	I would just like to thank everybody for being here and for your time. It was quite long and I realise it was exhausting as well. Just to give you an idea of the way forward, what I'm going to be doing now, is I will literally type out everything that was said today, and I will send it back to you so that you can actually see that it was a true reflection of what happened here, so you can check on that, and I will be in contact with you shortly, definitely not tomorrow, to give that information to you, and if you would be so kind to maybe just have a look at that so that we can make sure it is a true reflection.	
10	And we can reflect on our own status.	Laughter
O	And I just want to give you a small token of my appreciation for your time and your effort and your expertise, this morning. So, thank you very much; I'm just going to, it's a random order, and I hope you're going to enjoy this when you have the time to do so. Thank you.	Laughter, talking while handing out envelopes to participants
6	I also just wanted to say, you know, I know this is for your research and everything, it was a very, you know, nice experience, I think we all, for us as well, you know, you never get the chance to sit around a table and discuss these things.	General agreement
O	I understand everyone is very busy, so if you would like some more cake you are welcome, but thank you again for your time.	