

An exploration into students' perceptions regarding dropout within the Chiropractic programme at a University of Technology

Nqubeko Lizwilenkosi Buthelezi

Dissertation submitted in fulfilment of the requirements for the Master's Degree in Chiropractic at the Durban University of Technology

Supervisor: Dr T.S.P. Ngxongo

Co-supervisor: Dr J Ngobese-Ngubane

Date: August 2018

Declaration

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

Signature of student

Date

Approved for final submission by:

Dr T.S.P. Ngxongo
RN, RM, D: Nursing

Date

Dr J Ngobese-Ngubane
M. Tech. Homoeopathy

Date

Abstract

Introduction: Chiropractic is a health profession specialising in the diagnosis, treatment and prevention of disorders affecting the bones, joints, muscles and nerves in the body. It is a type of alternative or complimentary medicine concerned with the relationship between the body's structure and its functioning. The Durban University of Technology (DUT) and University of Johannesburg are the two internationally accredited academic institutions in South Africa to offer the chiropractic programme. The Chiropractic Department at the DUT is one of 13 departments within the Faculty of Health Sciences. A student who successfully completes the chiropractic-training programme becomes registered as doctor of chiropractic by the Allied Health Professions Council of South Africa under Act 63 of 1982 (as amended). However, a number of students drop out from the chiropractic programme before completion. Some of these students transfer to other programmes; others deregister and leave the university, while others are excluded because of the progression rule or because of having exceeded the maximum duration of the programme.

Aim of the study: The aim of the study was to explore and describe the perceptions of the students regarding dropping out from the chiropractic programme at the DUT. The study aimed to answer three research questions, which were: 1) what are the perceptions of students regarding dropout from the chiropractic programme at the DUT? 2) what are the determinants of student dropout from the chiropractic programme at the DUT? and 3) how can the dropout rate in the chiropractic programme at the DUT be minimised?

Methodology: A qualitative, explorative, descriptive and contextual design was employed. The DUT was used as a data collection site. Data was collected between May and June 2018 using one-on-one semi structured interviews with 12 former students who were previously registered for the chiropractic programme and dropped out before completion. Tesch's eight steps of data analysis guided thematic data analysis.

Findings: The students' perceptions regarding dropout from the chiropractic programme were grouped into five major themes and several subthemes. The major themes included financial constraints, post course employment, personal, course related and socio-cultural factors. All these themes were, according to the participants, determinants of student dropout from the chiropractic programme. Recommendation from the study findings focused on how the dropout rate in the chiropractic programme could be minimised.

Conclusion: The study discovered that, according to the students' perceptions, there are several determinants of the high dropout rate from the chiropractic programme. Some of these are intrinsic chiropractic programme factors such as course structure, workload and assessment strategy. However, other determinants are outside the programme and generic to all university disciplines/programmes. Nevertheless, it is still critical that attention be given to all determining factors to facilitate retention of students into the chiropractic programme.

Recommendations: The following recommendations with special reference to policy development and implementation, institutional management and practice, chiropractic education and further research, are presented. The national and institutional policies regarding application and administration of financial aid should be reviewed and guidelines for application and appeals procedures should be made known to students. Student teaching and assessment strategies should be reviewed periodically and input from students be invited. The Chiropractic Department should ensure that information about the programme and qualification is made available to the public. The chiropractic curriculum should include entrepreneurship to provide information and guidance on how to set up own private practice. The chiropractic programme should institute measures of decolonising the programme in order to address challenges of racial discrimination. A broader research study on reasons for student dropout is recommended.

Dedication

Ngiyabonga kakhulu kumndeni wami ngokuhlala unami njalo nangezikhathi ezinzima lakhona ngifisa nokuyeka.

JEREMIAH 29:11 For I know the plans I have for you," declares the LORD, "plans to prosper you and not to harm you, plans to give you hope and a future.

Acknowledgements

Ngiyabonga kakhulu kubahloli bami uSolwazi T.P.S. Ngxongo kanye noSolwazi J.C. Ngobese-Ngubane ngosizo abangiphe lona angiwuvali umlomo.

Ngiyabonga Solwazi Charmaine Korporaal ngokubeka phansi impilo yakho wenzela thinabafundi kuzesikwazi ukuba nathi odokotela bangomuso.

Ngiyabonga kakhulu kubobonke abathe babamba iqhaza kuzinhlolozo ebengizenza.

Ngibonga nabahlobo bami ebebengimisa idolo kuyona yonke leminyaka eyisithupha, ngithi isandla sidlula ikhanda

To my best friend Thobile Mchunu –Thanks a million for being with me the entire journey. I probably maybe would not have made it thus far

Table of Contents

Declaration	i
Abstract.....	ii
Dedication	iv
Acknowledgements	v
Table of Contents.....	vi
List of Tables.....	x
List of Appendices	xi
Glossary of Terms.....	xii
List of Acronyms.....	xiii
CHAPTER 1: OVERVIEW OF THE STUDY.....	1
1.1 INTRODUCTION AND BACKGROUND	1
1.2 DROPOUT FROM THE CHIROPRACTIC PROGRAMME	3
1.2.1 Students' choice of academic qualification to pursue	3
1.2.2 Opportunities of employment on completion of training.....	3
1.2.3 General factors responsible for university dropout	4
1.3 RESEARCH PROBLEM	4
1.4 RATIONALE FOR THIS STUDY.....	5
1.5 RESEARCH AIM.....	6
1.6 RESEARCH QUESTIONS.....	6
1.7 CHAPTER SUMMARY	7
CHAPTER 2: LITERATURE REVIEW	8
2.1 INTRODUCTION	8
2.2 STRATEGIES USED TO SEARCH FOR RELEVANT LITERATURE.....	8
2.3 CHIROPRACTIC SUPPORTIVE BODIES.....	8
2.4 CHIROPRACTIC AND ITS SCOPE OF PRACTICE	10
2.5 CHIROPRACTIC PHILOSOPHY	10
2.6 CHIROPRACTIC LEGISLATION IN SOUTH AFRICA.....	11

2.7	CHIROPRACTIC EDUCATION IN SOUTH AFRICA	11
2.8	THE CHIROPRACTIC PROGRAMME AT THE DUT.....	12
2.8.1	The Structure of the National Diploma: Chiropractic Programme	12
2.8.2	The Structure of the Bachelor of Technology: Chiropractic Programme....	12
2.8.3	The Structure of the Master’s in Technology: Chiropractic Programme	14
2.9	CHALLENGES FACING CHIROPRACTIC IN HEALTHCARE GLOBALLY AND IN SA, AND RESTRICTION OF THE SCOPE OF PRACTICE	17
2.10	STUDENTS DROPOUT RATE WITHIN THE GLOBAL CONTEXT	17
2.11	STUDENT DROPOUT RATE WITHIN THE SOUTH AFRICAN CONTEXT	18
2.12	GENERAL FACTORS INFLUENCING STUDENT DROPOUT.....	20
2.12.1	Financial constraints.....	20
2.12.2	Progression	22
2.12.3	Student related factors.....	22
2.12.4	Course related factors	24
2.12.5	Other contributory factors	25
CHAPTER 3: RESEARCH METHODOLOGY		29
3.1	INTRODUCTION	29
3.2	RESEARCH DESIGN	29
3.2.1	Qualitative Design	29
3.2.2	Explorative Design.....	29
3.2.3	Descriptive Design.....	29
3.2.4	Contextual Design	29
3.3	STUDY SETTING	30
3.4	STUDY POPULATION.....	30
3.4.1	Identification of study participants.....	31
3.5	SAMPLING PROCESS.....	30
3.5.1	Recruitment Procedure.....	31
3.6	DATA COLLECTION	32
3.7	DATA ANALYSIS.....	33
3.8	DATA MANAGEMENT AND STORAGE.....	35
3.9	SUMMARY OF RECRUITMENT, DATA COLLECTION AND ANALYSIS	35

3.10 RESEARCH RIGOUR.....	36
3.10.1 Credibility.....	36
3.10.2 Dependability.....	38
3.10.3 Confirmability.....	38
3.10.4 Authenticity.....	38
3.11 ETHICAL CONSIDERATIONS	39
3.12 CHAPTER SUMMARY	40
CHAPTER 4: PRESENTATION OF FINDINGS	40
4.1 INTRODUCTION	40
4.2 SAMPLE REALISATION.....	40
4.3 DEMOGRAPHIC DATA	40
4.4 THEMES AND SUBTHEMES	41
4.4.1 Major themes.....	41
4.4.2 Subthemes	41
4.5 PRESENTATION OF FINDINGS.....	42
4.5.1 Major theme 1: Financial constraints	42
4.5.2 Major theme 2: Post course employment related factors.....	44
4.5.3 Major theme 3: Personal factors.....	48
4.5.4 Major theme 4: Course related factors.....	49
4.5.5 Major theme 5: Socio-cultural factors	51
4.6 CHAPTER SUMMARY	53
CHAPTER 5: DISCUSSION OF FINDINGS.....	54
5.1 INTRODUCTION	54
5.2 OVERVIEW OF THE RESEARCH DISCUSSION	54
5.3 DEMOGRAPHIC INFORMATION.....	54
5.4 DISCUSSION OF RESULTS	55
5.4.1 Theme 1: Financial constraints.....	55
5.4.2 Theme 2: Post course employment related factors	59
5.4.3 Theme 3: Personal factors.....	60
5.4.4 Theme 4: Course related factors	62
5.4.5 Theme 5: Socio-cultural factors.....	64

5.5	CHAPTER SUMMARY	65
CHAPTER 6: SUMMARY OF FINDINGS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSIONS OF THE STUDY.....		
6.1	INTRODUCTION	66
6.2	SUMMARY OF FINDINGS	66
6.2.1	Perceptions of students regarding dropout from the chiropractic programme	66
6.2.2	Determinants of student dropout from the chiropractic programme.....	68
6.2.3	How the dropout rate in the chiropractic programme could be minimised .	69
6.3	LIMITATIONS	69
6.4	RECOMMENDATIONS.....	69
6.4.1	Policy development and implementation	69
6.4.2	Institutional management and practice	69
6.4.3	Chiropractic education	69
6.4.4	Further research.....	69
6.5	CONCLUSION.....	69
REFERENCES.....		71
APPENDICES.....		83

List of Tables

Table 1.1: Progression levels towards qualification as chiropractic practitioner	2
Table 1.2: Chapter outline	7
Table 2.1: summary of the course content and pre-clinical exposure of the chiropractic programme at the DUT	16
Table 4.1: Sample realisation (n=12)	40
Table 4.2: Demographic details of the participants (n=12)	41
Table 4.3: Themes and subthemes that emerged from the interviews	42

List of Appendices

Appendix 1: DUT ethics clearance	83
Appendix 2A: Letter to request gatekeeper permission.....	84
Appendix 2B: Gatekeeper permission	85
Appendix 3: Permission letter from the Executive Dean, Faculty Health Sciences	86
Appendix 4: Permission Application Letter to the Head of Chiropractic Department.....	87
Appendix 5A: Permission to Chiropractic Clinic Director to use clinic boardroom	88
Appendix 5B: Permission from Chiropractic Clinic Director to use clinic boardroom.....	89
Appendix 6A: Participant identification form	90
Appendix 6B: Participant identification form	91
Appendix 7A: Information letter and consent (English).....	92
Appendix 7B: Information letter and consent (IsiZulu).....	95
Appendix 8: Confidentiality statement	100
Appendix 9A: Semi structured interview guide (English)	101
Appendix 9B: Semi structured interview guide (SiZulu).....	102
Appendix 10: Editing certificate	103
Appendix 11A: Copy of transcript (English).....	104
Appendix 11B: Example of interview transcript (IsiZulu)	122

Glossary of Terms

Determinants are defined as things that decide whether or how something occurs in a given situation.

Dropout refers to a person who leaves school, college, or university before completing a qualification / a student who leaves school before finishing the course of instruction (Cambridge English Dictionary n.d.)

Extended Curriculum Programme is a mechanism funded by the national Department of Higher Education and Training, which aims to improve graduation and throughput rates in South African Universities.

Graduation in relation to this study, refers to the act of effectively finishing a university qualification (e.g. degree)

Mainstream programme is defined as group of students who start with a full academic load.

Perception is the process of selection, organisation and interpretation of stimuli from the environment (Milton 1981:22). In relation to this study, the perceptions discussed by students who dropped out of the chiropractic programme at the Durban University of Technology.

Qualitative research is a scientific method focusing primarily on developing explanations of social phenomena (Hancock, Ockleford and Windridge 2007).

List of Acronyms

Acronym	Full term
AHPCSA	Allied Health Professions Council of South Africa
B. Tech: Chiro	Bachelor of Technology: Chiropractic
CASA	Chiropractic Association of South Africa
CDC	Chiropractic Day Clinic
CHE	Council for Higher Education
Chiro	Chiropractic
CPP	Chiropractic Principles and Practice
DUT	Durban University of Technology
ECP	Extended Curriculum Programme
HoD	Head of Department
KZN	KwaZulu-Natal
M. Tech: Chiro	Masters of Technology: Chiropractic
N.Dip: Chiro	National Diploma: Chiropractic
NSFAS	National Student Financial Aid Scheme
SA	South Africa
UJ	University of Johannesburg
USA	United States of America
WFC	World Federation of Chiropractic
WHO	World Health Organisation
ZAR	South African Rand

CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

Chiropractic is a health profession specialising in the diagnosis, treatment and prevention of disorders affecting the bones, joints, muscles and nerves in the body (Department of Chiropractic and Somatology 2018). Chiropractic is a type of alternative or complimentary medicine concerned with the relationship between the body's structure and its functioning (Eustice 2018). According to Eustice (2018), chiropractors treat pinched nerves, chronic low back pain, arthritis, tilted pelvis, leg length differences and other conditions. According to the World Health Organisation (WHO) (2001:3), Daniel David Palmer, a magnetic therapist practicing in Iowa, United States of America, founded Chiropractic at the end of the 19th century. The WHO (2001: 3) goes on to say that chiropractic is based on an association between the spine and the nervous system and on the self-healing properties of the human body. Chiropractic is practiced in every region of the world and chiropractic training programmes are recognised by the World Federation of Chiropractic if they adopt international standards of education and require a minimum of four years of fulltime university-level education following entrance requirements (WHO 2001:3).

The Durban University of Technology (DUT) and the University of Johannesburg (UJ) are the two universities in South Africa that are internationally accredited to offer the chiropractic programme (Allied Health Professions Council of South Africa 2014:4). Although the internationally recognised level for registration as a doctor of Chiropractic by the Allied Health Professions Council of South Africa (AHPCSA) under Act 63 of 1982 (as amended), (South Africa 1982) is at the Master's degree level, the Chiropractic programme at DUT is offered at three qualification levels as follows:

- 1) National Diploma of Technology (N. Dip.) in Chiropractic;
- 2) Bachelor of Technology (B. Tech.) in Chiropractic; and
- 3) Master's Degree of Technology (M. Tech.) in Chiropractic.

The exit level for full qualification is Master's degree level (Department of Chiropractic and Somatology 2018). All three programmes are offered as full time programmes at

DUT. Students undertaking the chiropractic programme are required to complete all three levels to qualify for registration as professional chiropractic practitioners referred to as doctor of chiropractic. The students are required to successfully complete the national diploma (minimum three years for main stream students and four years for the students who are in the extended programme), the Bachelor of Technology degree (minimum one year), and the Master's degree (minimum one year). Thus, the minimum duration of the programme is five years for the mainstream and six years for the extended curriculum programme (ECP) (Table 1.1).

Table 1.1: Progression levels towards qualification as chiropractic practitioner

Level	Required entry level	Duration of Training	
		Main stream	ECP
Diploma in Chiropractic	Matriculation	3 years	4 years
B. Tech in Chiropractic	Diploma in Chiropractic	1 year	1 year
Master's in Chiropractic	B. Tech in Chiropractic	1 year	1 year

During the first two years of training, the subjects taught are generic subjects for all medical professions such as anatomy and physiology. This is standard for all medical/health professions. Specific chiropractic subjects are gradually introduced commencing from the third year level. Eustice (2018) attests that similar to medical school programmes, courses in anatomy and physiology (head, neck and thorax, abdomen, spine and extremities and pelvis anatomy) plus other foundational courses in biochemistry, cellular physiology, pathology, and microbiology are taught during the first years in the chiropractic programme. It is only later on the programme that training starts focusing on chiropractic specific issues which includes evaluation and manipulation of different parts of the body, how to use medical imaging to identify and diagnose health issues, various manual therapy and rehabilitation techniques, alternative medical principles like natural and botanical medicine, and the practice of chiropractic care which includes how to build relationships with patients, keep records, and run own practices (Eustice 2018). Towards the end of training, the programme starts to focus on clinical training, and students complete several clinical internships that allow them to put their learning into practice with real patients under the supervision of experienced chiropractors.

1.2 DROPOUT FROM THE CHIROPRACTIC PROGRAMME

The dropout rates for 2015 to 2017 have been reported as 19%, 13% and 19% respectively and the graduation rate has remained 26% throughout these years (DUT 2018). Although the dropout rate remains below the university benchmark of 32%, the Chiropractic Department has not been able to maintain the university target of 2% decrease in annual dropout rates (DUT 2018). Nevertheless, the graduation rate remains within the institutional goal of 24% and Department of Higher Education and Training (2012) of 22.5%.

1.2.1 Students' choice of academic qualification to pursue

Studies have shown that most of the students who are accepted into the chiropractic programme have this programme as third or fourth choice from their list of preferred careers (Kent 2012). They only get into the programme after not being accepted in their first choice programmes. Therefore, some of the new students have no or limited interest in the chiropractic programme. This result in a number of students failing to pursue the programme to the end and either dropping out from the University or deciding to change their career path (Kent 2012).

1.2.2 Opportunities of employment on completion of training

In South Africa, history has shown limited to no guarantee of paid employment at the end of training in the chiropractic field. Most often after graduation, graduates either go straight to open private practices or join other chiropractors who are already in the field (Black 2008: 52). The professional life of the chiropractic practitioners is further challenged by the fact that chiropractic services are not well known in the population, especially amongst the black population. However, the National Health Interview Survey Report (2015) found that chiropractic is the fourth most commonly used alternative approach used by Americans.

Black (2008: 52) attests that financing a practice was considered an obstacle to some respondents when setting up practice. According to Black (2008:52), the majority of graduates setting up practice were dependent on funding through loans (48.4%) followed by minimising set-up costs (54.8%), personal savings (35.5%), support from parents (29%) and spouse or partner (9.7%).

1.2.3 General factors responsible for university dropout

Other non-chiropractic factors could be responsible for the high dropout rate. These include factors affecting all students in the university such as first-time university experience, transition from the disciplined/protected environment of family and high school life and other personal factors. Health care students are exposed to a diversity of pressures, many of which may cause stress. Several authors agree that enrolling into higher education is usually challenging and intimidating for most students (Dent and Harden 2005; Folse, DaRosa and Folse 1985). Conway (2004) states that the majority of students find it difficult to deal with the transition from the disciplined environment of family and high school to an environment where the individual has to accept personal responsibility for the personal, social and academic aspects of their lives. The first-time exposure to university life and urban life creates a big transition gap in their lives that is usually very difficult to fulfil or deal with. This first-time experience away from the sheltered care by parents and guardians comes with a lot of responsibility and decision making which for the majority of students is not an easy task. The decisions made at this time influence the life of a student either positively or negatively. Many students, especially black students from rural areas, are exposed to the chiropractic environment for the first time.

Ditcher and Tetley (1999) stated that the reasons for fulltime students leaving university prematurely included lack of self-motivation, insufficient effort, poor time management, inability to manage stress, poor literacy skills, heavy course workload, inadequate resources, inability to balance study and social commitments, lack of academic ability, family difficulties and lack of maturity.

1.3 RESEARCH PROBLEM

Dropout from a student perspective is used to describe departure, withdrawal, academic failure and non-continuance without first obtaining a qualification. Letseka and Maile (2014) agree that the chiropractic programme is not an easy course of study, even for people who are able to pass the prerequisite chemistry, biology and physics. According to Letseka and Maile, because the entry requirement for chiropractic is lower than for other types of medical schools, it allows entry of many marginally capable students into the chiropractic programme, and therefore a high dropout rate. Letseka and Maile (2008) also state that another reason the dropout rate is high is that

many students start chiropractic school because they cannot get into medical school and they think of chiropractic school as a substitute.

Letseka and Maile (2008) stated that numerous students declared that the reason why they had to leave university prematurely was the fact that they had to find work while studying to supplement their resources. This 'working' element added a great deal of stress and distracted them from their studies. Furthermore, Koen (2007) expressed the view that dropping out damages the self-esteem and self-image of students since the completion of undergraduate and postgraduate experience are lost. Koen (2007) avers that dropping out arises from an inadequate schooling system which does not provide students with the skills and knowledge required to succeed at university. McKenna (2006) stated that delays in attaining qualification is also the reason for dropouts and this has negative financial consequences for both the students involved as well as for the institution, as well as the South African economy, as the government sponsors tertiary education. In addition, dropout rate affects funding of the university and department (McKenna 2006) Pretorius and Le Roux (1998) observed that exposure of Black people to chiropractic is still deficient, with Whites and Indians being more exposed. These authors go on to say that, many students get into chiropractic without fully understanding what it really is, which can contribute to the dropout rate. Ditcher and Tetley (1999) revealed that full time students regard the following factors to be the major reasons of why they had to leave university prematurely: lack of self-motivation, insufficient effort, poor time management, inability to manage stress, poor literacy skills, heavy course workload, inadequate resources, inability to balance study and social commitments, lack of academic ability, family difficulties and lack of maturity. Undeniably, there is little information known about the perceptions of students regarding dropping out from the chiropractic programme at the DUT, and from university in general (Koen 2007). Hence, there is a clear need to address the matter through focused research.

1.4 RATIONALE FOR THIS STUDY

Perceptions of students who dropped out are valuable in determining various factors that influenced them to do so. Awareness of the perceptions of students regarding dropout from the chiropractic programme may help the department to address and identify possible retention strategies. This would assist in the improvement of

chiropractic education and training of the students and therefore the growth of the chiropractic profession. This research study provides a basis upon which the subsequent studies may focus on improving the throughput of chiropractic students.

1.5 RESEARCH AIM

The aim of the study was to explore and describe the perceptions of students regarding dropout from the chiropractic programme at the DUT.

1.6 RESEARCH QUESTIONS

The study aimed to answer the following research questions:

- What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?
- What are the determinants of student dropout from the chiropractic programme at the DUT?
- How could the dropout rate in the chiropractic programme at the DUT be minimised?

Table 1.2 presents an outline of the chapters in the dissertation.

Table 1.2: Chapter outline

CHAPTER	TITLE	CONTENTS
1	Overview of the study	This chapter provides a brief overview of the study. It highlights the research questions; the significance; limitations and delimitations as well as the scope of the study.
2	Literature Review	This chapter reviews available literature related to the topic in order to uncover a gap and the need to conduct this study.
3	Research methodology	In this chapter, the research methodology and design used for this study are explained in detail, with regard to sampling procedures, data collection tools, data collection procedures and ethical issues.
4	Presentation of findings	This chapter presents the results obtained from the interviews.
5	Discussion of findings	In this chapter, the findings are analysed and discussed in terms of relevant supporting literature.
6	Conclusion, recommendations and limitations	This chapter includes a conclusion and recommendations. It is a summary of the main points of the research findings as well as recommendations and proposals for future studies.

1.7 CHAPTER SUMMARY

Chapter 1 presented an overview of the study. The background regarding the chiropractic programme, the problem statement, rationale and aim of the study and the research questions were presented. The next chapter will present the literature review.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Chapter 2 presents all literature that was reviewed about the chiropractic programme and dropouts. The literature reviewed in this chapter includes reports on possible determinants of students who have dropped out globally and in the South African context within the chiropractic discipline and in general across other university programmes.

2.2 STRATEGIES USED TO SEARCH FOR RELEVANT LITERATURE

A set of keywords and phrases was decided upon before engaging in the search. The keywords and phrases that were used as search terms included; chiropractic, chiropractic programme, becoming a chiropractor, challenges, dropout rate, factors influencing, perceptions of students. Each of the search terms were initially used individually, and then combined using Boolean operators AND, OR and NOT which are the three widely used to expand or delimit a search (Polit and Beck 2012: 99). The resources that were available for the literature search were books and journals, which included both hardcopy and electronic databases. The initial hardcopy library search did not reveal many current sources; therefore, the primary focus was on searching various electronic databases. The main electronic search engines used included Google scholar and Science Direct. The DUT's library resources including institutional repository were also used. The librarian assisted with access to local and international input through the inter-library loan system, which enabled the researcher to obtain documentary and electronic information only available from other academic institutions, and organisations to which the DUT library is affiliated.

2.3 CHIROPRACTIC SUPPORTIVE BODIES

The WHO emphasises that national policies are the basis for defining the role of traditional and complementary/alternative medicine in national health care programme and that the necessary regulatory and legal mechanisms are created for promoting and maintaining good practice; assuring authenticity, safety and efficacy of traditional and complementary/alternative therapies, and providing equitable access to health

care resources and information about those resources (WHO 2001: ix). Gqaleni *et al.* (2007) states that formal recognition of complementary and alternative medicine practitioners in South Africa has taken many years. The major forms of complementary and alternative medicines are chiropractors, phytotherpists, homoeopaths, naturopaths and osteopaths who were able to register in 1974 (Gqaleni *et al.* 2007). The Allied Health Professions Act (Act 63 of 1982) (South Africa 1982) provided for the establishment of the South African Associated Health Service Professions Board (Gqaleni *et al.* 2007).

South Africa regulates chiropractors under the Associated Health Service Professions Act of 1982, as amended. Applicants for registration as chiropractors are required to show they hold an appropriate level qualification (Master's degree) demonstrating sufficient proficiency in chiropractic. The Associated Health Service Professions Board may, on an individual basis, impose restrictions on the kind of work that can be carried out by chiropractors or require applicants for registration to obtain further practical experience, on terms stipulated by the Board.

The AHPCSA is a statutory health body and juristic person established in terms of the Allied Health Professions Act, 63 of 1982 in order to regulate allied health professions, or, according to international terminology, complementary healthcare professions (AHPCSA 2014). AHPCSA is mandated in terms of the Act, 63 of 1982 to:

- Promote and protect the health of the public
- Manage, administer and set policies relating to the professions registered with the AHPCSA
- Investigate complaints relating to the professional conduct of practitioners, interns and students
- Administer the registration of persons governed by the AHPCSA and
- Set standards for the education and training of intending practitioners (AHPCSA 2014).

All persons registered with the AHPCSA have the right and privilege to practice those allied health professions for which they have been registered in terms of the Act, 63 of 1982 (AHPCSA 2014).

2.4 CHIROPRACTIC AND ITS SCOPE OF PRACTICE

Chiropractic is a primarily health care discipline that deals with the prevention, diagnosis, treatment and management of disorders affecting the neuromuscular skeletal system and general health (World Federation of Chiropractic [WFC] 2012). According to the AHPCSA (2014:3), registration with the AHPCSA confers on registered persons the right and privilege to practice for gain those allied health professions for which they have been registered in terms of the Act. Therefore, in line with this statement any person wishing to practice chiropractic in South Africa must be registered as a chiropractic practitioner with the AHPCSA. Chiropractic focuses primarily on treating conditions that are neuro-musculoskeletal related by means of the utilisation of spinal manipulation as well as rehabilitation exercises, patient education, lifestyle alteration, soft tissue therapy, electrotherapy (e.g. therapeutic ultrasound), orthotics and other helpful devices (WFC 2012).

2.5 CHIROPRACTIC PHILOSOPHY

According to Chapman-Smith (2000), the chiropractic profession has been seeking to be recognised and established in the health care system since its formation 1985. Differences in the profession's approach in terms of treating and managing patients has led to a lack of unity in the profession (Keating 2005; Senzon 2014). Keating (2005) stated that there are straight and mixed chiropractic philosophical approaches.

Straight chiropractic approach

Straight chiropractors believe that improper motions in the spinal vertebrae are principal risk factors for various diseases. Moreover, their primary focus is to correct vertebral subluxation by spinal manipulation usage in order to restore the normal movement and consequently optimal functioning and health (Keating 2005).

Mixer chiropractic approach

Conversely, mixer chiropractors integrate therapeutic interventions such as electro-modalities and soft tissue therapy and a range of diagnostic interventions to help and sustain wellness and health (Keating 2005). In South Africa, the mixer philosophical approach is used in chiropractic education and practice.

2.6 CHIROPRACTIC LEGISLATION IN SOUTH AFRICA

In South Africa, Chiropractic Profession is regulated by the AHPCSA and overseen by Act 63 of 1982 (South Africa 1982). Members of AHPCSA are not forbidden by this Act to participate in the public healthcare system but the National Department of Health Policy stops them being stakeholders in public health systems (Mullinder 2017). In South Africa, chiropractic is documented under the canopy laws for Complementary and Alternative Medicine (WFC 2012).

The chiropractic programme at the DUT and the UJ has been accredited internationally by the councils on Chiropractic Education International, through the European Council on Chiropractic Education. Also, nationally by the Council for Higher Education (CHE) and the AHPCSA. Chiropractic graduates' qualifications are highly regarded and internationally recognised (Chiropractic Association of South Africa [CASA] Competition Commission Report 2016). Increasing development in healthcare demands that chiropractic graduates have the essential capabilities to effectively and efficiently practice in the competitive healthcare system in South Africa (Smith *et al.* 2001). In addition, it is the responsibility of every educational institution to make sure that their faculties, programmes and students as a whole meet the criteria of quality control, that is, they exceed the expectations of the community and add value to the country through their skills and experience obtained when studying (Somenarain, Akkaraju and Gharbaran 2010).

2.7 CHIROPRACTIC EDUCATION IN SOUTH AFRICA

Presently, chiropractic education is offered in 41 countries worldwide (WFC 2012). There are two tertiary institutions that are internationally accredited to offer chiropractic in South Africa, namely, the DUT and the UJ. The DUT started offering chiropractic education in 1989 and the UJ started offering chiropractic education in 1994.

South Africa offers professional training at the level required for the practicing of chiropractic as a primary contact health profession in accordance with the scope of practice of the profession (WHO 2001:33).

2.8 THE CHIROPRACTIC PROGRAMME AT THE DUT

Centre for Quality Promotion and Assurance (CQPA) assures quality, recommends and submits chiropractic programme to the relevant authorities at the DUT for internal approval to offer the programme. This is one of the university strategies to ensure that the chiropractic programme meets the required standards set by national and international accrediting bodies before being acknowledged by the statutory council, the AHPCSA (Korporaal 2017).

2.8.1 The Structure of the National Diploma: Chiropractic Programme

During the first and the second years of study, subjects taught are pure science (e.g. physics, biochemistry and chemistry), basic medical science (e.g. biology, human anatomy and physiology) and chiropractic (topographic anatomy and philosophy). From the third year onwards to the final year, there is a shift from pure science to clinical (e.g. Diagnostics III, Systemic Pathology III). Chiropractic Principles and Practice III (CPP III) is a chiropractic discipline-specific subject in which spinal manipulations, also known as adjustments techniques are taught. Auxiliary Therapeutics teaches therapeutic modalities that are complementary to spinal manipulation including therapeutic ultrasound, massage, and cryotherapy. By way of comparison, the first two years of chiropractic education offered at the King Saud University in Saudi Arabia is basic science based and not patient based (Alam 2011).

2.8.2 The Structure of the Bachelor of Technology: Chiropractic Programme

After the National Diploma (three years), the B. Tech chiropractic programme is introduced, which is one year and constitutes the pre-clinical phase of the chiropractic course. During this year there is more emphasis on patient examination and students are taught how to arrive at a diagnosis, as taught in Diagnostics IV. CPP IV students are taught rehabilitation and adjustment that is a continuation from CPP III thereby fine-tuning student's skills in preparation for clinic. Diseases affecting the spine and other bones in general, mechanical low back pain and headaches are covered. Students are also taught how to take radiographs and their interpretations. In addition, during this year students visit hospitals every week, do observation in the clinic, prepare case summaries, and do mock patient assessments at the end of the year.

Details of hospital visits: case taking and assessment of patients

Hospital rounds involving the chiropractic students during the B. Tech chiropractic level are different from traditional ward rounds of medical students. Medical students work with clinical staff to conduct investigations, come up with a diagnosis, develop a treatment plan, formulate an ongoing management plan and share the information with the patient and their relatives and other healthcare professionals (Rowlands *et al.* 2014).

All chiropractic B. Tech students are required to complete a minimum number of patient case histories in a selected government hospital once a week. Students take a history and assess the patients in the medical wards, under the supervision of the relevant DUT staff member who is accompanying the students. After taking case history students present the case, then work to assess the relevant systems, come up with differential diagnoses, and formulate a management plan for the patient, which they present to the staff member. This is written up as a case summary. The hospital portfolio counts towards a student's year mark for Diagnostics IV.

While students are on these hospital visits, they are exposed to a wide variety of pathologies and patient profiles. Many of these pathologies are not seen at the DUT Chiropractic Day Clinic (CDC) due to the limitations of the scope of practice, which is the basis upon which patients make their appointments at the clinic. Chiropractic is not integrated with the government public healthcare system unlike medicine and physiotherapy, for instance. Medical students are privileged that they receive insights and training from the professors and registrars who work in the hospitals. Although there is no formal interaction between chiropractic personnel and the hospital staff. DUT chiropractic clinicians are highly experienced. They bring their experience to enrich the programme from private practice. The cases seen in the hospitals are beyond chiropractic scope of practice and chiropractic students do not rotate through specialty disciplines such as paediatrics, radiology, orthopaedics and rheumatology. This is different to chiropractic students in the United States of America (USA) who are exposed to a wide range of patients as a crucial part of their chiropractic training. According to Wyatt *et al.*, (2005), chiropractic students work with medical doctors in several fields of specialty in order to gain experience on how patients are being managed.

The observer programme

Chiropractic students at B. Tech. level (fourth year) are required to observe fifth years (juniors) and sixth years (seniors) so as to be exposed to chiropractic procedures and protocols, patient care and techniques. They are required to observe a minimum of three new patients, ten spinal complaints and three extremity complaints.

Students rank this element of the training programme very highly because they learn about the process of becoming a doctor of chiropractic and the practices of medicine and the nature of real patients (Alford and Currie 2004).

Mock patient assessments

Towards the end of the B. Tech year students are required to do three case evaluations on what are called “mock patients”, usually their friends. This is done so that they get a feel for, and become familiar with, the clinic environment. This is also preparation for the following year, which is a clinical year. A full case history, physical (e.g. vitals) and regional examination (e.g. orthopaedic tests) are performed on the mock-patients. Time spent assessing the patient is approximately two-and-a-half to three hours. The students go back and forth reporting to the clinician on duty their findings. In researcher’s experience these assessments, students are expected to do them on their own.

2.8.3 The Structure of the Master’s in Technology: Chiropractic Programme

Chiropractic students are required to finish a triad of academic, clinical and research components. The academic component involves attending lectures, practical, assignments, tests and examinations. The clinical component involves seeing patients and taking care of them at the DUT CDC, going to sports events, visiting satellite community clinics in various areas. The research component involves conducting a research study and compiling a dissertation.

During the first year of the Master’s programme at the DUT (fifth year), students attend lectures from the morning until midday, then attend the CDC as the roster demands, alternating shifts according to their groups throughout the year. If students do not finish the required number of cases, they come back the following year to finish. Skovholt and Ronnestad (2003) indicated that students have the challenge of coping with and

handling the anxiety and stressful situation of seeing patients in the clinic despite the fact that they are still gaining clinical experience. During the first year of the Master's programme, students face many disappointments as well as pleasures because it is an achievement to be at Master's level (Kihara *et al.* 2003). Students learn how to manage your time effectively and how to handle stress. Table 2.1 shows how the chiropractic programme is structured.

Table 2.1: summary of the course content and pre-clinical exposure of the chiropractic programme at the DUT

Year of study	Qualification	Subjects	Degree of pre-clinical exposure	Level
1	National Diploma: Chiropractic	Anatomy I Biology I Physiology I Chemistry I Physics I Philosophy, History and Principles (Modules I and II)	First year students undergo physical examination by Master's students at the DUT CDC	Undergraduate
2	National Diploma: Chiropractic	Anatomy II Biochemistry II Epidemiology II General Pathology II Medical Microbiology II Physiology II Social studies II	None	Undergraduate
3	National Diploma: Chiropractic	Auxiliary Therapeutics III Diagnostics III Psychopathology II Chiropractic Principles and Practice III Systemic Pathology III	Observation of B. Tech. students Appraisal and assessment of patients in a public hospital	Undergraduate
4	Bachelor of Technology: Chiropractic	Diagnostics IV Clinical Biomechanics and Kinesiology IV Clinical Chiropractic IV Chiropractic Principles and Practice IV Radiology IV Research Methods and Techniques I	Appraisal and assessment of patients in a public hospital Sport events (limited) Observer programme Mock patient assessments	Undergraduate
5	Master's in Technology: Chiropractic	Clinical Biomechanics and Kinesiology V Clinical Chiropractic V Chiropractic Principles and Practice V Research Project and Dissertation Practice Management and Jurisprudence V	Clinical practicum	Postgraduate

2.9 CHALLENGES FACING CHIROPRACTIC IN HEALTHCARE GLOBALLY AND IN SA, AND RESTRICTION OF THE SCOPE OF PRACTICE

It has been a struggle to get chiropractic into the public sector and prevent it from being marginalised by the mainstream medical professions, the crux of which are the laws and regulations restricting its scope of practice and licensure (Cooper and McKee 2003:107-138). Furthermore, there is competition with other healthcare disciplines, for instance physical therapy, in gaining recognition as a primary care discipline (Mior and Laporte 2007:104-113). In practice, legislation is restrictive concerning the use of advertising, marketing and medical aid reimbursement, which further disadvantages chiropractors in SA (CASA Competition Commission Report 2016).

2.10 STUDENTS DROPOUT RATE WITHIN THE GLOBAL CONTEXT

The problem of student dropout has been an issue not only in the SA context but globally. In countries such as the United States, the United Kingdom, and Brazil, student dropout has been investigated from several standpoints in order to discover the causes, consequences and reasoning behind dropping out of students (Costa *et al.* 2018). The programmes ideally are structured in a way that no student dropouts occur as this has a negative impact when students do not finish their courses or extend their normal programme time. The negative impacts associated with dropout in Brazilian public universities are worse because universities are exclusively financed by the state (Costa *et al.* 2018), so the negative impacts are a waste of public money and are social losses.

Willcockson and Phelps (2004) gathered data that pointed out that those students in institutions of higher learning drop out in courses that do not have a high variety and broad spectrum of opportunities. Students seek to enrol for careers that are intellectually demanding and engaging in helping people. Park *et al.* (2003) conducted a research study to investigate the factors that determine the attractiveness of physiotherapy as a career choice. Physiotherapy students and qualified physiotherapists were interviewed. They concluded at the end of the research project that all individuals stated that variety of work was very important.

Male and female civil engineering students in the United Kingdom were investigated in order to find the reasons behind leaving studying before completion (Wilkinson 1996). It was reported that women's decisions to enter their careers related to the type of work,

the variety of job opportunities and the features or characteristics of the job, and the broad spectrum of opportunities on offer.

Ososki *et al.* (2006) indicated that students viewed radiography as a career that has limited job opportunities, poor career progression and limited promotion opportunities. Students became discouraged as to where they were going to work and earn a living. This as a result leads student to drop out and to leave school prematurely. Jones and Larke (2005) administered a questionnaire among all Hispanic and African American graduates who received an undergraduate degree in agriculture and life sciences at Texas University, USA, on their prospect of agriculture being a prosperous career. The results revealed that participants perceived the opportunities in agriculture-related fields as being very limited. The job opportunities in agriculture and related sciences were perceived to be limited and this led the respondents in this study to select other careers.

Ditcher and Tetley (1999), revealed that full time undergraduates students and lecturing staff at the University of Canterbury rated the following factors as the reasons contributing to the dropout of the students: inability to manage stress; immaturity; irregular attendance at lectures; sicknesses; financial difficulties; insufficient resources; incapability to balance study and social commitments; lack of academic ability; poor literacy skills; poor time management; lack of motivation; lack of job opportunities; insufficient effort; inappropriate assessment procedures; misunderstanding course requirements; personal or family difficulties, scarcity of learning support programmes; irregular and insufficient feedback; lecturers poorly structured presentations; lecturers not caring of student's needs and weighty course workload.

2.11 STUDENT DROPOUT RATE WITHIN THE SOUTH AFRICAN CONTEXT

According to De Beer (2005), dropping out from higher education in South Africa is perceived to be caused by issues of identity, and the economic, political, and educational paradigms within which the learner develops. De Beer (2005) goes on to mention that these factors may differ from institution to institution. Although these are universal factors in the South African context, it is unclear whether these are appropriate or apply to chiropractic students dropping out.

The challenges that students of higher education face in South Africa are formidable in spite of substantial government funding incentives, institutional efforts and numerous

policy initiatives Saint (2004). Addressing a high national and institutional priority and a key focus of the government's outcome-based funding and enrolment planning framework (Saint 2004). Most students come to institutions of higher learning under-prepared as the result of the ongoing legacy of apartheid and predominantly substandard schooling system (Saint 2004).

De Beer (2005) reported the following reasons for the lack of progression of students in higher education: inability and lack of school preparation; failure to accept responsibility; psychological problems namely depression; lack of personal standards for quality; poor or lack of language skills; not understanding course requirements; not balancing social activities with school work; and poor distance education delivery.

Rendón, Jalomo, and Nora (1999) concluded that the following factors hindered student's academic progression: married students with family commitments; students raised by single parent; students who spent huge amount of time out of school; first student in the family to attend an institution of higher education; students who never liked high school or who were rebellious in high school; students who have had bad experiences with staff in their former elementary and secondary schools; students who were not involved in academic activities or student groups during high school; students who did not participate in school-based social activities or learner's programmes during high school; students who are afraid of or feel out of place in the mainstream college culture; students who have had negative interactions with college faculty or administrative staff; students who have a hard time adjusting to the fast pace of college; and students who take evening courses when little or no services are available.

Plant *et al.* (2004) point out the benefit of attending lectures because they motivate, share information and knowledge. Attendance at lectures enables the student to understand the methods that lecturers use when lecturing, and understand course requirements better as they talk you through how to approach question and/or problems when dealing with them during studying, during tests and examinations. Attendance can be irregular for students who live far away from campus due to transport problems, resulting in their absence from lectures.

Ditcher and Tetley (1999) agree with the view of Plant *et al.* (2004), stating that students who attend 90% of lectures throughout the year tend to perform better if not best, and those attending irregularly perform poorly unless they work very hard. Ditcher and Tetley

(1999) state that mature students easily adapt or get used to the study environment as well as to the pressures of heavy or challenging academic workloads. A lack of maturity plays a huge role in academic failure according to Ditcher and Tetley (1999). However, mature learners are more vulnerable to withdrawing from selected courses of study. Similarly, Fleming and McKee (2005) state that mature learners, despite their motivation, are disadvantaged by the fact that they have not been involved in education for several years.

2.12 GENERAL FACTORS INFLUENCING STUDENT DROPOUT

2.12.1 Financial constraints

Inaccessibility and unavailability of financial aid

There is an increase in access into institutions has not resulted in increased success even though government and other systems that provide financial assistance have increased their support. A high number of students fail to finish their qualifications in record time and many students drop out completely (Halperin and Mashiach-Eizenberg 2014).

Scarcity of sufficient funding have been constantly cited as a key explanation as to why students decide to leave their degrees without first completing them (South Africa, 2005; Letseka and Maile 2008). The Presidential Task Team in 2016 emphasised the fact that higher education institutions are underfunded in the context of ever increasing student enrolment growth which means that the majority of institutions pass this burden onto students. This financial load on students is one of the reasons for students to drop out prematurely (Halperin and Mashiach-Eizenberg 2014).

Scarbecz and Ross (2006) stated that the availability of bursaries could positively motivate a student to choose a particular profession especially if the tuition fees are financially demanding. Rubin and Biekeman (1999) reported that chiropractic students do not have the same opportunities in terms of funding and bursaries compared to students studying other professions, for instance commerce, medicine, law and other scientific field of study. In addition, a study conducted by Young *et al.* (1997) showed that factors such as the availability of bursaries are vitally important in influencing students to continue their studies and complete their studies without dropping out.

Nakajima *et al.* (2012) indicated that higher education fees make a significant impact dropout and retention rates. A study by Bynum (2010) indicated that some students leave their studies temporarily to seek employment to earn money and then they re-enrol, continuing with their studies. However, not all the students who do this return to continue their studies. Bynum (2010) also noted that students who receive financial support are more likely to stay in college to complete their degree. Similarly, Clark *et al.* (2012) and Bharath (2009) found that the costs of learning was the number one factor that leads college students to drop out.

Insufficient family income

In the last three decades, a massive decline in higher education completion has been observed in the USA among low-income students (Bound, Lovenheim and Turner 2010, 2012). This was mainly due to the increase in higher education costs and the rise in the number of hours students needed to work to earn an income to counter these costs. Family income for university enrolments was found to be of importance in the USA between 1980s and 2000s for supplementation of student in higher education for avoidance of dropout (Belley and Lochner 2007; Lochner and Monge-Naranjo 2011). In South Africa, with increased levels of unemployment, families cannot easily assist students (De Beer, Pienaar and Rothmann 2016). Bad economic conditions and reduced family income (especially among Africans) has resulted in the inability of families to fund their children's tertiary education (De Beer *et al.* 2016). There is a clear need for government financial support to assist students to complete their degrees.

High university costs

A study at Regina School in Saskatchewan found that lack of funding or money influenced graduates' career decisions (Sukovieff 1991). The researcher concluded that funding is an important factor in committing and making decisions on choosing a career.

Young *et al.* (1997) investigated 729 grade 11 and 12 science students' career ambitions from 20 rural and urban high schools in Western Australia. The results showed that finances or availability of money were a very important factor in determining a student's career choice. Cost of the programme has an impact in influencing the students to drop out and look for alternatives (Bryant *et al.* 2005).

2.12.2 Progression

The DUT G17 rule provides for exclusion of students who have exceeded the maximum duration of the programme (DUT Handbook 2018). Progression is of importance in higher learning institutions (Shahiri, Husain and Rashid 2015). De Beer (2005) emphasised that the inability and lack of school preparation; failure to accept responsibility; psychological problems like depression; lack of personal standards for quality; poor or lacking language skills; not understanding course requirements; not balancing social activities with school work and poor distance education delivery are reasons for poor progression of students in higher education. De Beer (2005) went on to say that although poor progression is a universal problem in higher education institutions, these factors may differ from one institution to another.

2.12.3 Student related factors

Several student-related factors include comprehension, pregnancy, health status; personal freedom and poor time management have resulted in students dropping out from higher education institutions.

Comprehension

Students are dissatisfied with the assistance they are given in higher education institutions regarding preparation and training for tests and examinations (Courage 2006). Study skills are crucial in a student's life and the lack of this results in failure to progress and dropout or exclusion (Courage 2006). Entwistle (1992) agrees that there is a need for training regarding study skills and time-management, as well as in understanding what the course requires.

Pregnancy

Pregnancy is a cause of female students dropping out although it receives less attention and there is a paucity of literature focusing on it. Roberts, McGill and Hyland (2012) link this issue to the issue of disadvantaged background where there is not much support financially, and the female student is left with no choice other than to drop out from their studies until they give birth. They continue to say that it is unlikely that such students return and continue with their studies because they would have to take care of their babies. This is prominent in African communities (Roberts, McGill and Hyland 2012).

Health status

Any kind of sickness can lead to the weakening of health of a student, which can have an effect on their ability to retain focus and concentrate on his/her education. For this reason, they may be forced to leave studying prematurely. In South Africa the issues linked to HIV-AIDS are widespread and continue to increase (Gouws and van der Merwe 2004; Dorrington, Bradshaw and Budlender 2002).

Personal freedom

Dent and Harden (2005) and Folsie *et al.* (1985) concur that starting higher education is usually challenging and intimidating for most students. According to Conway (2004), the majority of students find it difficult to deal with the transition from the disciplined environment of family and high school to an environment where the individual has to accept personal responsibility for the personal, social and academic aspects of their lives. On the other hand, Baboolal and Hutchinson (2007) believe that socialising is an important factor in students' lives. According to these authors, it is important for students to spend some time with family, friends, significant others, peers, visiting professionals, guidance counsellors and health practitioners in student life and to spend time watching television, media and the internet as a way of releasing stress.

Time management

Time management is a very significant factor and time lost cannot be recovered again. Students are required to attend lectures during the day, study during the evenings and still do some other personal chores such as washing, cooking etc. Thus, being able to organise and manage their time accordingly is very crucial. Pretorius and Lemmer (1998) define time management as planning and organising activities and fitting them into available time and declare that this helps a person to work productively. Poor time management skills for both students and academics have been highlighted by Ditcher and Tetley (1999) and rated the third highest contributory cause to academic failure.

Most students find it difficult to balance studying and private life (Ditcher and Tetley 1999). Entwistle (1992) found that students who are entering higher education for the first time find it hard to manage the amount of freedom offered by higher education. Students who spent less time studying and learning usually perform poorly and have poor academic progress. On the other hand, students who possess good time

management skills are goal driven type of learners who focus on their education and studying, and tend to perform well (Britton and Tesser as cited by Plant *et al.* 2004). The shift from sheltered family life during high school years to the relative freedom of higher education institutions can create anxiety and distress (Conway 2004).

2.12.4 Course related factors

A number of programme related factor have been reported to be responsible for student dropout from higher education institutions. Some of these include the programme workload and course content, shortage of learning resources, and learning/teaching/assessment strategies.

Course workload and course content

Allensworth *et al.* (2009), Harris and Tienda (2012) and LeBeau *et al.* (2012) agree that the workload in higher education institutions is partly responsible for student dropout. De Beer *et al.* (2016) attest that programme workload is a significant cause of dropout due to inability to cope with the work. These authors further state that heavy programme workloads can affect the physical, mental, and emotional state of a student.

Shortage of learning resources

Ditcher and Tetley (1999) highlighted shortage of resources as a contributing factor to academic failure and consequently dropout. However, at DUT there is limitless access to a fully equipped and running library, internet access, and numerous other learning facilities. There may be an issue for students who are coming from rural areas where there are no learning facilities (e.g. libraries) because when they come to university they unfamiliar with how to make use of such facilities.

Learning/teaching/assessment strategies

Learning, teaching and assessment strategies are also regarded as contributing factors that lead students to drop out of their studies without first completing their qualifications. Students who do not pass their first year in institutions of higher education seem to find it difficult to re-enroll again unless they change their course of study (Bailey 2009:11-30). The same author states that the issue of course assessment has an impact on dropout. Students who obtain low grades in their assessment due to failure to cope and adapt to university life are highly unlikely to continue studying and this leads to increased

dropout of the students from their courses (Bailey 2009:11-30). De Beer *et al.* (2016) notes that a lack of motivation and enthusiasm from both students and teachers in terms of making teaching and learning more interesting can cause students to drop out. A healthy relationship between lecturers and students is important because this creates a productive environment and restores students' strength to carry on with the degree while at the same time reducing pressure on teachers to work longer hours.

According to Mda and Mothata (2000:156-158), many lecturers in South Africa complain of the lack of the necessary skills of students required for higher education. Volbrecht (2002) indicated that SA's illiteracy and semi-literacy rate is high, which is why it is so hard for students in the higher education to adapt and move at the same pace to that of the lecturers. When arguing the point for learning and/or teaching skills, Pretorius and Lemmer (1998) highlighted that it may seem obvious that lack of academic ability is the cause of academic failure and consequently dropout, and they suggested again that it might be influenced by motivational factors.

McEvoy and Welker (2000) state that there is a relationship between student failure academically and the assessment methods used to discover what students know and how well they know it. Felder and Brent (1999) state that tests that are perceived to be unfair may be a leading cause of student's poor evaluation of teaching and learning.

2.12.5 Other contributory factors

Orientation regarding the programme before registration

Most students pursue professional programmes without sufficient knowledge regarding the programme and what the training entails. Johnston (2010) highlighted that scarcity of information and awareness of the requirements of the profession, and the failure of students to grasp what is required of them by the profession, contribute to student dropout. Van As (2005) conducted a study to assess school guidance counsellors' knowledge and perception concerning the chiropractic profession in South Africa, and revealed a lack of awareness among school guidance counsellors of the chiropractic profession in South Africa. Similarly, the study conducted by Jones and Larke (2005) found that there were few deficient career opportunities in agriculture and agriculture related fields by virtue of the lack of awareness and limited knowledge concerning these fields of study. Lack of available information concerning selected professions was

reported in a study by Young *et al.* (1997) who further clarified that the significant factors were a lack of information regarding sources, admission requirement and admission procedures. According to Young *et al.* (1997) in Western Australia lack of information was found to be higher in rural schools than in urban schools.

Halperin and Mashiach-Eizenberg (2014) state that prior healthcare exposure greatly influences the students' choice of career and limits the level of dropout. The students who have had prior exposure to a programme describe their prior personal experiences as a motivating factor for their choice of career and something of value that helped them to not leave studying prematurely, as they entered the programme fully aware of what it entails.

Choice of the programme

Kent (2012) attests that more students are entering the chiropractic profession with little or no direct experience of chiropractic, but simply on the basis that chiropractic is a good career choice for a variety of reasons such as being able to use the title "doctor". However, such students were often unwilling to commit the time and resources required to complete the academic programme and residency training. They originally wished to become doctors but lacked the grades and other qualifications to enter medical school. Dwyer (2014) concurs with the view that many students start chiropractic school because they cannot get into medical school and they think of chiropractic school as a substitute.

Cultural factors

De Beer *et al.* (2016) propose that it is not possible to resolve the problem of dropout if other factors such as underpreparedness are not considered. Brown and Schafft (2011) state that combatting this issue from a cultural standpoint (e.g. with a range of policies, initiatives and interventions internationally) has shown promise as an effective way of reducing student dropout.

The indigenous African population, especially in South Africa, consider a practitioner as being ineffective if the practitioner was not able to give a prescription after a consultation (Makhubu 2000). According to Makhubu (2000), this is because the majority of indigenous Africans believe in the necessity of getting medication after consulting either a traditional healer and/or a doctor. This may account for the high dropout rate in

professional programmes such as the chiropractic, because students fear that they will not have enough patients because they will not be licensed to dispense medication.

The investigation on agriculture and agriculture related careers by Jones and Larke (2005) were found that Hispanics view these courses negatively. In this field there is a demand for graduates, especially Hispanics and other people of colour. Jones and Larke (2005) reported that participants perceived that there were limited job opportunities in general but the career opportunities in agriculture and related fields are actually good.

Singaravelu *et al.* (2005) found that academic excellence in courses such as engineering and medicine bring honour to the family of that particular student, whereas shorter course such as teaching were not seen in the same light. Minorities in the United States identified environmental factors like culture, church, and community as having an important influence in career development behaviour (Singaravelu *et al.* 2005). Students tend to choose courses that they hope will make themselves comfortable and will please their families. Kerka (2003) found that ethnic groups value different fields of study and choice of study is influenced by guidance counsellors at school, community, race and gender of the individual.

2.13 CHAPTER SUMMARY

Chapter 2 presented the literature that was reviewed in support of the current study and a description of how the literature search was conducted. The next chapter focuses on the design and methodology that was used to conduct the study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter discusses the methodology used to design and execute this study. It sheds light on various aspects of the research method, including research design, sample size and population, ethics, research rigour, and the process of data collection.

3.2 RESEARCH DESIGN

Polit and Beck (2012:99) describe a research design as being the overall plan for addressing a research question, including specifications for enhancing the study's integrity. De Vos *et al.* (2011) concur with Polit and Beck (2012:99) that a research design focuses on the end product and all the steps in the process to achieve the anticipated outcome. In this study, a qualitative, explorative, descriptive and contextual design was employed.

3.2.1 Qualitative Design

Qualitative research aims to assist in understanding of social concepts and exploration of matters for example perception, views, perceptions, opinions, attitudes and experiences. A qualitative paradigm using an exploratory, descriptive and contextual design was used for this study.

3.2.2 Explorative Design

Explorative study design involves the identification of key issues and variables of a phenomenon (Polit and Beck 2012:99). An exploratory design is applicable in cases where there is inadequacy in the existing literature relating to a topic, or/and when there are no existing studies that can be used as references (Streb 2010). Given that there is a scarcity of literature relating to chiropractic student dropout, it was fitting to use an exploratory design.

3.2.3 Descriptive Design

A descriptive design is a description of experiences or events. The researcher used the descriptive design to investigate the "who, what and where" of events or experiences

and how these aspects are related to the research topic (Sandelowski 2010). As this study tried to explore student's perceptions regarding dropout within the chiropractic programme at a University of Technology, a descriptive design was suitable for addressing the aim and key research questions of this study.

3.2.4 Contextual Design

This research design was described as contextual because the study was made up of incidences in their immediate context or environment. Context implies the conditions and situations of an event (Mouton 1998). This study was contextual in that it focused on an exploration of students' perceptions regarding dropout within the chiropractic programme at a University of Technology.

3.3 STUDY SETTING

The nature of the study did not allow a delineated study site because it involved both the students who were still studying at the DUT and those that had left the institution. The DUT offered the site for identification of the participants (retrospective record review) and was used as the data collection site. The face-to-face interviews and the Skype interviews were conducted in a private room at the DUT. The DUT is one of the universities of technologies in KwaZulu-Natal (KZN). The DUT was established in April 2002 as a result of the merger of Technikon Natal and M.L. Sultan Technikon (South Africa, 2002: Gazette number 23065), and in 2006 it became the Durban University of Technology. The university has six major faculties namely: Faculty of Health Sciences, Faculty of Engineering and the Built Environment, Faculty of Accounting and Informatics, Faculty of Arts and Design, Faculty of Applied Sciences and Faculty of Management Sciences. The Chiropractic Department is one of the thirteen Departments in the Faculty of Sciences. The DUT has several campuses all situated in KZN and distributed between the districts of UMgungundlovu and eThekweni. The chiropractic programme is offered at the Ritson Campus in eThekweni.

3.4 STUDY POPULATION

The target population for the current study were all former chiropractic students who were registered between 2010 and 2017 but dropped out of the programme for whatever reason be it deregistration, transfer, absconded, failure or exclusion. This period was

chosen simple because it facilitated access to students who had been recently registered on the programme and therefore ensured that that the information gathered was current and still relevant. The eight-year period allowed the researcher access to students who dropped out at different level of study. The participants included the students who were still studying at DUT but were in other programmes, and those that had left the institution.

3.4.1 Identification of study participants

Immediately on receipt of ethics clearance from the DUT Institutional Research Committee (Rec 146/17) and the gate keeper permission from the DUT Research Office (Appendix 1, 2A and 2B), permission was requested from the Executive Dean of Faculty of Health Sciences and the Head of Chiropractic Department (HoD) to review relevant records including the files of potential participants (Appendix 3 and 4). They both responded telephonically and approved the request on the basis that the gatekeeper permission had been granted as detailed above. Identification of prospective participants was done in two phases. The first phase involved identification of potential participants from the departmental records. The researcher searched from the registers for students and compiled a list of all the students who had dropped out of the chiropractic programme during the targeted period (2010-2017). Information that was extrapolated from the registers included the name and surname of the student, the student number, first year of registration, year of dropping out, level of training at the time of dropping out and reasons for dropping out. Appendix 6A was used to collate this information. The HoD was requested to verify the accuracy of the list compiled. The second part of identification of the prospective participants involved a review of the files of the potential participants to get their contact details. Appendix 6B was used to record the additional information regarding contact details, telephone number, email and postal addresses. Other information extracted included reasons for dropping out.

3.5 SAMPLING PROCESS

Purposive sampling was utilised. Purposive is a sampling technique in which the researcher relies on their judgement when choosing members of a population to participate in the study (Saunders, Lewis and Thornhill 2012). The sample size was guided by data saturation. This was because the goal of this study was to seek out

themes and not to measure responses, and this was done until a point of data saturation. However, the intention was to ensure a minimum of 12 participants irrespective of data saturation to ensure that the sample size could yield results that could be representative of the area being studied.

Inclusion criteria

- All students who were registered and subsequently dropped out from the chiropractic programme at the DUT between 2010 and 2017.

Exclusion criteria

- All students who dropped out from any other programme at DUT other than chiropractic.

3.5.1 Recruitment Procedure

The researcher used the contact details for the potential participants that were extracted from the files during record review to contact the potential participants. The researcher contacted all potential participants telephonically to request them to participate in the study. Participation was purely voluntary. Details of the study were discussed with the prospective participants during this telephonic conversation. At this stage the participants who were willing to take part in the study gave verbal consent and a date, time and form and venue of the interview was discussed and scheduled. The researcher discussed with the prospective participant the most suitable way for the information letter and consent form (Appendix 7A and 7B) to be dispatched to them (hand delivered, sent by post or email). All participants had access to email so everyone was emailed the documents. Furthermore, the participants were advised that although they had given verbal consent telephonically, they were still required to sign a consent form which they could do by signing the form and emailing it any time before the start of the interview.

The participants that were undecided regarding whether they were willing to take part in the study were requested to think about it and to inform the researcher either telephonically or by email should they change their mind. The researcher sent the information letters and consent forms to all the prospective participants and offered to meet with them face-to-face to give more clarity regarding the study and to iron out any

concerns. However, no prospective participant requested this face-to-face information session; they were all satisfied with the telephonic conversation.

The researcher made a second round of telephone calls to all the participants who indicated their willingness to take part in the study, to make appointments for the date, time, and venue for the interview and to agree on the form of the interview whether face-to-face or via Skype. A call was made to all other prospective participants to check if they had changed their minds.

3.6 DATA COLLECTION

Interviewing is the most common method of data collection used in qualitative research. This data collection method was used to explore the views, experiences, beliefs and motivations for the participants (Gill *et al.* 2008). The researcher arranged a private room in the DUT Chiropractic Day clinic which was used for all interviews whether Skype or face-to-face. Permission to use this room was granted by the Clinic Director (Appendix 5A and 5B). This was to ensure that all interviews were conducted in a quiet and private space to allow comfort and privacy so that participants could feel free to discuss relevant topics without any distraction.

All the interviews were conducted by the researcher and were guided by an interview guide to ensure uniformity and consistency. The researcher had prepared to conduct the interview in either English or IsiZulu depending on the language chosen by participant and had prepared two interview guides, one in English and another in IsiZulu (Appendix 9A and 9B). The South African Population Census of 2001 (Lehohla 2001) indicates that main home language in KZN is isiZulu (80.9%) followed by English (13.6%) hence the researcher chose to conduct the study in either of the languages. This afforded the participants language preference to ensure that participants freely expressed themselves throughout the interview session with the researcher. Eleven interviews were conducted in English and one was conducted in IsiZulu. Both interview guides had exactly the same information with one main question and a few probing questions in order to ensure consistency for all study participants.

Before the interview commenced, the researcher confirmed that consent form was signed and that the participant was still willing to take part in the study, and then assured him/her regarding the ethical principles of anonymity and confidentiality. The

participants were advised that they could withdraw at any point if they felt the need to do so. Gill *et al.* (2008) suggest that ethical assurance increases the likelihood for honesty and interviews should be conducted in an area that is free from distraction and at the time and location that is suitable for a participant. Each participant was assigned a number as a code to ensure confidentiality and anonymity. This code was voice recorded (the researcher pronounced the number) and documented it on the field notes.

The first step of data collection included collection of demographic information as detailed in the interview guide (Appendix 9A and 9B). This was manually recorded on the field notes. This information included race, gender, age, marital status, nationality, level of study at the time of drop out, reasons for dropout and the person who decided on the drop out. This information complemented and added value to the information collected during the interviews and was beneficial in relation to the analysis and interpretation of the study findings. At the time of the interview all the documents that contained the participant's details that had been used for preselection had been stored away in order to ensure that there was no link/association between the participant's personal information and the interview data.

Each interview session took 30-45 minutes. All interviews were audio recorded and field notes were taken to support the recorded information and to capture non-verbal cues noted during the interviews such as pauses, gestures etc. Permission to record the interviews and to take field notes was obtained from the participant at the onset of each interview session. Data collection took place until a point of saturation, which was reached after nine interviews but a further three participants were interviewed to confirm data saturation. According to Polit and Beck (2012:99) saturation is said to take place when each category is conceptually dense, when variations in data are identifiable and explainable, and when no new data relevant to the existing categories emerges during collection.

3.7 DATA ANALYSIS

Data analysis was done concurrently with data collection. Immediately after the interview on the same day analysis was done. This was to ensure that the researcher had a better understanding of the recorded information and that the whole interview session was still clear in the researcher's mind. The only interview that was analysed later was the one interview that was conducted in IsiZulu because this interview needed

to go through the translation process before being analysed. All the audio-recorded information was listened to and transcribed as MS Word documents. The transcribed document was read against the field notes with the intention of complementing and marrying the two data sets. This was followed by thematic analysis using Tesch's eight steps of qualitative data analysis and coding. The data in IsiZulu was read, compared to the field notes and translated into English before analysing (Appendix 11B). The two research supervisors who are fluent in both Languages (English and IsiZulu) verified the translation process.

In order to identify the emerging themes, the researcher personally analysed data under the guidance of the supervisors who are experts in qualitative research. Thematic and Tesch's eight-step procedure of data analysis was applied (Tesch cited in Cresswell 2009) as follows:

- Interviews were transcribed verbatim and analysed by the researcher.
- The researcher read the transcripts, compared them with the audiotaped interviews, and used the field notes to confirm their selected information.
- The researcher read and reread the transcript to identify and fully understand the underlying meaning.
- The researcher then selected the most interesting and informative interview and made notes in the margins of the transcribed interview. The process was repeated for the rest of the interviews.
- Similar topics were then clustered together under topics.
- From these topics, the researcher formed themes and subthemes.
- An experienced person in the field of qualitative research, which in this case were the two research supervisors, double-checked and confirmed the data separately and the identified themes were discussed and agreed upon between the researcher and the supervisors.
- Merging themes and subthemes were identified and confirmed by the researcher and the supervisors and are presented in Chapter 4 where they are supported by verbatim statements by the participants. These were triangulated with demographic information to gain a deeper understanding of the study findings. Finally, literature was reviewed to verify and support the findings and to draw conclusions as presented in Chapter 5.

3.8 DATA MANAGEMENT AND STORAGE

Data collected was stored in a manner that ensured that participants' confidentiality and anonymity was maintained throughout the study. During the interviews the participant's personal details were not recorded on any of the interviews, field notes or audio recordings. At the onset of the study numbers were assigned to participants. A record of each participant's name and assigned code were held by the researcher only.

The collected data was kept in a safe, secure area for the research duration and is stored in a locked office of research study personnel at the DUT, Department of Chiropractic, and will be destroyed after 5 years. Permission to access the stored data can be given only to the researcher and supervisors. Participants' confidentiality was maintained and all efforts were made to ensure that no information identifying the participant is revealed.

3.9 SUMMARY OF RECRUITMENT, DATA COLLECTION AND ANALYSIS

- ❖ **Step one:** The researcher extracted information from departmental records and compiled a list of the students who dropped off from the chiropractic programme between 2010 and 2017 (**Appendix 6A**).
- ❖ **Step two:** The Head of Department verified that the information extracted was correct.
- ❖ **Step three:** The researcher was then given access to the students' files under the supervision of the Head of Department and the departmental secretary to extract contact details and other relevant information for all the former students as per list compiled in step1(**Appendix 6B**). The files were not removed from the department and only contact details and information on reasons for dropping out was extracted from the files– no other students' personal details were made available to the researcher for ethical and confidentiality reasons.
- ❖ **Step four:** The researcher contacted the potential participants telephonically for inclusion in the study and gave them information about the study.
- ❖ **Step five:** The participants were given the information letter and consent form to sign (**Appendix 7A or 7B**).
- ❖ **Step six:** Second telephonic call was made to secure the interview on the date, time and place that was convenience to the participant.

- ❖ **Step seven:** On the day of the interview, the participants were informed about the study and had an opportunity to ask more questions about the study. Participants were informed that there would be no remuneration for taking part in the study and that they could withdraw at any time during the study without any prejudice. Permission was requested to record the interview and to take notes during the interview.
- ❖ **Step eight:** Interview session conducted by the researcher guided by an interview guide
- ❖ **Step nine:** Transcription of recorded data and translation of the data from IsiZulu to English
- ❖ **Step ten:** Verification of transcription and translation by supervisors
- ❖ **Step eleven:** Data analysis done guided Tesch's eight steps of data analysis.

3.10 RESEARCH RIGOUR

According to Burns and Grove (2009), research rigour is defined as striving for excellence through the use of disciplined, reliable adherence to detail and strict accuracy. Polit and Beck (2012:99) attest to this as they describe research rigour as the extent to which appropriate inferences can be made about the study. Trustworthiness is the most critical inference in qualitative research regarding research rigour. Strategies employed by the researcher are crucial to ensuring trustworthiness of the data collected and subsequent theory generated. Lincoln and Guba (1985) suggest four criteria for developing the trustworthiness of a qualitative inquiry, namely, credibility, dependability, confirmability and transferability. These authors later on added authenticity. Four of the five criterion were considered and adhered to, to ensure trustworthiness in the current study as detailed in the subsections below. The fifth criterion, transferability was not adhered to due to the nature of the study being qualitative and therefore not allowing transferability of findings to different settings.

3.10.1 Credibility

Credibility is described as the truthfulness and reliability of the data and its associated interpretations (Polit and Beck 2012:99). In order to ensure credibility of the study, the researcher discussed the research process and the findings with the supervisors who were qualified and competent in the field and could give insight into factors about which

the researcher may have been concerned. The researcher used an audio recorder to collect data, the data was transcribed, and the researcher made sure that the transcribed notes were a true reflection of the participants' experiences.

3.10.2 Dependability

Dependability refers to the stability and solidity of data over time (Polit and Beck 2012:99). Thus, the researcher asked the same questions of all participants in order to be consistent. An audit trail was maintained through safekeeping of raw data of each interview for future reference.

3.10.3 Confirmability

Confirmability is related to the independence of the data, meaning that there should be correspondence and coherence between two or more independent people concerning the accuracy of the data (Polit and Beck 2012:99). Following the transcription of the voice-recorded interviews, each participant was given an opportunity to review the notes to confirm if they were a true reflection of his/her views regarding their experiences. Voice recordings were conducted in order to reflect the participants' voices (Graneheim and Lundman 2004).

3.10.4 Authenticity

Authenticity is instituted through approach of the credibility, by which the researcher discovers the "lived experiences" of the participants. The researcher applied truth-value by allowing sufficient time for interviewees to build trust, encouraging open conversations and expressing heartfelt gratitude on how meaningful the participation of participants was (De Vos *et al.* 2011).

3.11 ETHICAL CONSIDERATIONS

The study was carried out according to the approved DUT protocol and standards. Data collection commenced only after full ethics approval had been granted by the DUT Institutional Research Ethic Committee (Rec 146/17), and permission obtained from the gatekeepers to access records, use DUT as a data collection site and to collect data from DUT students. Permission letters were sent to the relevant individuals (Appendix 1, 2A and 2B).

Participating in this study was purely voluntary with no coercion to be part of the study by the researcher or the supervisors. Participants were informed that they could withdraw from participation at any point if they wished to do so. After prospective participants were informed of all the known possible risks involved, permission was obtained from those who agreed to take part in the study; they were requested to sign an informed consent form (Appendix 7A and 7B). Participants were informed during the information giving sessions that there was no monetary reward for participating in the study. An option to meet the participant at places closer to them was given. Nevertheless all participants agreed to come to DUT for a meeting without any compensation for travelling costs.

The three basic ethical principles, namely, respect for persons, beneficence, and justice, were adhered to at all times. Respect for persons refers to respecting their autonomy and that if they have reduced autonomy, respect that they are entitled to protection. Beneficence refers to doing no harm and to giving consideration to the potential benefits and/or risks that the individual may encounter as a result of this research. The researcher should also look for ways to maximise any possible benefits that the research may embody for research participants while still upholding the principle of justice. Of utmost importance was the maintenance of the safety and confidentiality of all the participants, both in the data analysis and discussion and dissemination of findings (Polit and Beck 2012:99).

All data collected from participants was handled with strictest confidence. Only the supervisors and the researcher had access to the participant's contact details. Participants' particulars that were not relevant to the study such as names and student numbers were not made available to the public. All data was coded in numbers and all electronic data was initially secured with a password only known to the researcher. At the end of the study all electronic data and audio-recorded data was transferred onto a disc which is securely stored together with the paper-based data. The original electronic data and voice recorded data was wiped off/deleted. The data collected is being stored in a safe place with the Department of Chiropractic and will be destroyed appropriately after five years as per DUT regulations. All paper-based records will be shredded and the disc will be destroyed.

3.12 CHAPTER SUMMARY

This chapter explained the research procedure used in this study and provided clarity on how the data was obtained and analysed. The next chapter presents the findings of the study.

CHAPTER 4: PRESENTATION OF FINDINGS

4.1 INTRODUCTION

In line with the methodology described in Chapter 3, raw data was collected using semi-structured interviews. The results obtained from the thematic analysis of semi-structured interviews performed on chiropractic students are presented in this chapter and supported with verbatim statements from the participants.

4.2 SAMPLE REALISATION

Twelve interviews were conducted. All 12 interview were face to face and no interviews were done through telecommunication, using skype. Data saturation was reached after nine interviews and three more interviews were conducted to confirm data saturation. **Table 4.1** presents sample realisation based on location of the participants and interview type.

Table 4.1: Sample realisation (n=12)

Participants Location		Interview type		Total
		Face to face	Teleconference	
Still studying at DUT (n=6)		6	0	6
Has left DUT(n=6)	Studying elsewhere	3	0	3
	Not studying Employed	2	0	2
	Neither studying nor employed	1	0	1
Total		12	0	12

4.3 DEMOGRAPHIC DATA

All participants were African out of which seven were females and five were males. The mean age of the participants was 24.6 years and the range were 20-27 years. Five students were first registered in the programme in 2012, six joined in 2013 and one in 2016. There were three students that deregistered in 2013, four in 2015, two in 2016 and three in 2017. The majority (5) of the student dropped out in the 2nd year, four dropped out in the 3rd year, two in the 4th year and one in the 1st year. Table 4.2 presents demographic details of participants.

Table 4.2: Demographic details of the participants (n=12)

Participant Number	Gender	Age years	Race	First year of registration	Year of dropping out	Level of training at the time of dropping out in years	Reason for dropping out
1.	Male	26	African	2012	2013	2 nd	Financial reason
2.	Female	25	African	2012	2013	2 nd	Lost motivation
3.	Female	26	African	2012	2017	4 th	Exclusion (G17)
4.	Male	25	African	2013	2013	1 st	Difficulty of the course and job opportunities
5.	Male	20	African	2016	2017	2 nd	Financial reason
6.	Male	25	African	2012	2015	4 th	Difficulty of the course
7.	Female	24	African	2012	2016	2 nd	Difficulty of the course
8.	Female	24	African	2013	2015	3 rd	Duration of the course
9.	Female	24	African	2013	2016	2 nd	Racial discrimination
10.	Male	27	African	2013	2017	3 rd	Difficulty of the course
11.	Female	26	African	2013	2015	3 rd	Foundation phase
12.	Female	24	African	2013	2015	3 rd	Difficulty of the course and pregnancy

4.4 THEMES AND SUBTHEMES

4.4.1 Major themes

Five major themes emerged from the interviews with the participants. These included the following:

- Financial constraints
- Post course employment related factors
- Personal factors
- Course related factors
- Socio-cultural factors

4.4.2 Subthemes

Several sub themes emerged in line with each major theme. The subthemes are presented against each major theme in Table 4.3.

Table 4.3: Themes and subthemes that emerged from the interviews

MAJOR THEMES	Subthemes
Financial constraints	Financial aid (Bursaries/Scholarships) Family income Cost of the programme
Post course employment opportunities	Job opportunities Difficulty to set your practice Future Income Chiropractic in different health sectors Restrictions of the scope of practice
Personal factors	Progression Pregnancy Health status Comprehension Personal freedom and social life
Course related factors	Duration of the course Course workload Course content Shortage of resources Stigma related to Foundation Phase Learning/Teaching/Assessment strategies
Socio cultural factors	Awareness and information about the profession Race discrimination and inequality Other cultural factors

4.5 PRESENTATION OF FINDINGS

4.5.1 Major theme 1: Financial constraints

The participants highlighted several issues related to financial constraints as being responsible for their dropping out from the chiropractic programme. These issues included financial aid, family income and cost of the chiropractic programme.

Sub-theme 1.1: Financial aid

The majority of the students verbalised that they had to terminate their studies because they could not secure any financial aid. Others were not approved for National Students Financial Assistance Scheme (NSFAS) while others commented about not being approved for bursaries. This was evident in the following excerpts from the participants:

There were problems with the financial aid that is why I had to drop out. I tried to appeal but was unsuccessful. Unfortunately, I did not have money to register while I was waiting for the outcome of my appeal. Participant 1

Finding funds such as bursaries and financial aid is not always easy and if you get in the first year, it is hard to maintain them. Participant 3

It is a very big challenges when it comes to bursaries, priority is given to selected programmes like engineering and medicine, it is very hard to get good bursaries to study chiropractic. Participant 5

Sub-theme 1.2: Family income

Limited family income was expressed as a reason for dropping out. Some students left the chiropractic programme because there was insufficient family income to fund their studies. On the other hand, some students stated they had to drop out in order to find a job to assist and support their families. The participants who declared they dropped out because the families could not afford the university fees shared the following:

My father is the only breadwinner in the house with very limited income, he was unable to settle outstanding fees and so I was not allowed to register for the new year.’ Participant 5

Most of us black students come from very poor families; our parents are unable to afford high university fees especially for the course this long. Participant 11

The participants who had to drop out of the programme because they needed to find jobs to assist with family income verbalised this in the following statements:

I will talk about myself, at home we are disadvantaged financially so I had to make sure that I find a job early therefore had to find another programme that I can complete early and in which I am guaranteed a job. Participant 8

Sometimes you need to be realistic and true to yourself. I love chiropractic but there was no way I could continue with it with my family background I needed to find something more appropriate for my situation. Participant 9

When you are many in the family, you need to think also for your other sibling, especially as orphan so I had no choice but. Participant 10

Sub-theme 1.3: Cost of the programme

The majority of the participants were concerned that the cost for the chiropractic programme was too high. This was compounded by many factors such as the duration of the course and unavailability of financial aid. This is presented in the following quotations:

Students finds the course expensive besides tuition and accommodation fees, there are so many other things required during the course such as diagnostic kit, books etc. which are also very costly because you have to buy it yourself. Participant 7

Everything about chiropractic is a challenge, too much workload, expensive fees; course is too long and expensive to start a practice because furniture and equipment are expensive. Participant 8

Cost of the course is also very high, but the most frustrating part is when one fails just one subject and more years are added to the course which become a financial challenge. Participant 11

4.5.2 Major theme 2: Post course employment related factors

The participants emphasised several issues related to post-course employment as being responsible for their dropping out from the chiropractic programme. These issues included job opportunities, difficulty in setting up practice, future income, chiropractic in different health sectors, restrictions of the scope of practice.

Sub-theme 2.1: Job opportunities

The vast majority of participants verbalised the scarcity of job opportunities as a factor that caused them to leave the chiropractic programme prematurely. This was apparent in the following passages:

Lack of job opportunities in chiropractic. Everyone wishes find a job immediately on completion now with this programme it is either you open your own practice or you are unemployed. Participant 4

Some leave because they get concerned that they will not find jobs, or they will not be able to get money to open up their practice. Participant 6

In addition, what causes students to leave is due to the scarcity of job opportunities. In fact it is not that there is scarcity of jobs the reality is there are no jobs. Participant seven.

Sub-theme 2.2: Difficulty to set your practice

Students left the chiropractic programme because of the predicament of starting their own practice after obtaining qualification. This was evident in the following extracts:

The problem is that most students do not have money or enough strength to start their own business after graduation and that causes students to leave chiropractic for courses with better job opportunities. Participant 4

Looking at the later stage after completion of the course, graduates fail to finance themselves to start their own practices. Participant 5

This is like taking a chance if you consider how difficult it is to start a new business successfully. There are more businesses that have failed than those that have survived so the future for the chiropractic practitioners is very risky. Participant 6

Sub-theme 2.3: Future income

Future income for certain students was of importance as they highlighted that they were from disadvantaged background financially. Hence, their families expected of them to come out of university after graduating and start working to support them. This is apparent in the following quotations:

Therefore, for my reasons besides financial reasons it was also the fact that my background. I had to search for something that is going to be able to provide an income. At that moment, I was not going to be able to stay long because you know if you look at chiropractic, its period it takes about probably seven years. I needed something, I needed an income, and I needed a course, which was going to take me at least a period of three years not more than that so I can be able to support my family. Participant 1

Even if you manage to start a business, you are not guaranteed an income because it all depends on the success of your practice. In fact, it brings that sense of relief to know that every month you get salary. Participant 3

Individual would want to consider something with less duration and less demanding so that they can get a job and be supportive to their families or at least be independent financially. Participant 10

While you are coming from underprivileged background you need a job that will pay you well. This even affect your studies you think what is a point ... mh ... and you end up failing your studies. Participant 12

Sub-theme 2.4: Chiropractic in different health sectors

The issue of unavailability of chiropractic services in different health sectors especially government sectors was raised as a concern by most participants. They stated the programme was unpopular and unknown and thus not accessible to most of the people. For this reason, they were concerned that even if they open a private practice they would not be guaranteed to have enough patients. This was evident in the following statements:

Still a problem and I think the South African government should consider chiropractic as one of the essential health service and make it accessible to all the people. Have it available in the hospitals at least. Participant 1

For as long as chiropractic is still under private sector, nothing will be done to reduce the dropout rate. There is no market for this service so. Participant 5.

Sub-theme 2.5: Restrictions of the scope of practice

Participant 2 felt that chiropractic is too limiting as it only focuses on three systems, namely, nervous, muscular, and skeletal systems. She added that if there were more than that she probably would have stayed. These were some of the concerns from the participants:

I for one wanted to be in the health profession so that I can be of service to humanity. I felt that with chiropractic I cannot treat everything that I want to treat. I can only stick to the musculoskeletal system. Participant 2

What you can do as a chiropractitioner is very limited, it is like you are the subservient for other professional like the Doctors. Participant 7

I realised it is not what I thought the profession was about, there is so little that you can do, it is not satisfying. Participant 5

4.5.3 Major theme 3: Personal factors

A number of participants indicated during interviews that they had no choice but to terminate their studies because they could not withstand the pressure personally that came along with the course. These issues included progression, pregnancy, health status, comprehension, and personal freedom and social life.

Sub-theme 3.1: Progression

The issue of progression was a prominent one mentioned by the majority of the participants. Some participants realised on their own that progression was too slow because they had to repeat modules. However, other participants were required by the institution to terminate their studies because of slow progress and repeated failing. This was evident in the following statements from the students:

I feel that other students probably dropped out because of the fact that chiropractic is quite difficult as well. Most students fail and repeat modules and university do not permit such. Participant 2

You know progression is a big issue, if you fail there is so much that is affected even NSFAS does not pay you, progression is slow the duration of the course gets extended and you get to a point where you are requested by the university to terminate your studies. I think many students in the chiropractic programme experience this. Participant 6

Sub-theme 3.2: Pregnancy

Participants 8, 9 and 12 commented on pregnancy as a reason for dropping out of programme. This is attested in the following statements:

A number of female students fall pregnant and are forced to terminate her studies most especially because it became very difficult to cope with clinical practice when you are pregnant. Participant 8

It is a reality, a number of us dropout because of pregnancy, this is what happened to me. Participant 12

Another huge problem is pregnancy especially for young girls, they go away to give birth and you do not see them coming back to complete the course. Participant 9

Sub-theme 3.3: Health status

The participant verbalised that they witnessed a number of students who dropped out because of ill-health. The programme is heavily packed and stressful and does not afford them time to focus on their health. One of the students left chiropractic because she was very worried that if she was ever in an accident and lost her hand, what would happen to her? She was worried because she would not be able to practice. Health concerns were articulated as follows:

Hey, you do not know, this programme is packed you have no time to yourself, poor and sick students they get even sicker and they are forced to drop out. Participant 1

Unfortunately you cannot be in such a heavily packed program and being sick, for an example, I am not a sickly person but during exams I used to suffer severe headaches and I had to think for my life and I terminated my studies. A number of other students dropped out because of ill-health they were unable to cope their studies. Participant 2

Sub-theme 3.4: Comprehension

One student commented on comprehension, as language used in the chiropractic programme is primarily English. She also commented on the complexity of the course content, making it difficult to understand. Comments regarding comprehension are as follows:

The language barrier that exists does not allow every student to understand course content because other students are not from urban schools. Participant 3

Some of the students are not good in English worse when it also include the medical terms; comprehension becomes a challenge. Some students do not pass not because they are slow learners but because they were unable to comprehend or to express themselves. Participant 10

Sub-theme 3.5: Personal freedom and social life

A number of students felt that the course robbed them of their freedom and social time. This was verbalised as follows:

Course is not exciting. Course alone is serious we do not have events that causes students to relax and know each other better. There is no communication among us as chiropractic students. We stay in small groups. Participant 3

Chiropractic is a very demanding course in terms of time, and it makes an individual not to be socially active with friends because you hardly get time to spend with them and sometimes even time to relax. The demand keeps on increasing as the level of study increases. Participant 10

4.5.4 Major theme 4: Course related factors

The participants touched on several course related factors they perceived to be responsible for their dropping out from the chiropractic programme. These issues included duration of the course, course workload, course content, shortage of resources, stigma related to foundation phase, learning/teaching/assessment strategies.

Sub-theme 4.1: Duration of the course

This was one of the issues most commented on by participants, that due to the lengthy duration of the course, dropping out was a good decision for them. This was expressed as follows:

I believe that most student leave chiropractic because of the number of years that the course takes to finish. Participant 6

I believe what really causes most students to drop out is the course duration is too long. Students are fond of just doing 3-4 year courses and finish. Participant 7

Sub-theme 4.2: Course workload

Course workload is a factor that affected students as they stated that the programme has too much work. The following quotations depicts this:

There is a belief that students will always complain about the workload but really; this is more than necessary. My life is much better now that I am doing a different programme but still in the health discipline. Participant 4

Althought first year was heavily packed, but second year was a nightmare. I was not surprised when I failed almost all the modules. Participant 8

I feel what makes the work too much and too difficult is this self-directed learning may be if we just had formal lectures than you know what to study it would be much better. I am sure I would have passed, that is how I managed in high school. Participant 12

Sub-theme 4.3: Course content

A number of participants commented on the way the course is structured. This was evident in the following excerpts from the students:

The way the programme is structured makes it difficult to finish in record time.
Participant 3

Maybe it would help if they could re-evaluate syllabus and remove unnecessary subjects. Participant 9

Sub-theme 4.4: Shortage of resources

Shortage of essential resources for studying some of which were sourced by the institution and others by the students themselves was another reason for dropping out. The university sourced resources included inadequate numbers of equipment, and shortage of laboratory assistance to orientate and support students on how to operate laboratory equipment. These comments were evident in the following expressions from the students:

Limited availability of technician to guide and mentor students in the use of complicated equipment in the skill laboratory is a challenge. Some of us end up failing clinical skills because we have been unable to practice. Participant 4

My friends could not afford a laptop; the fact that notes and study tools are only available to use with data and laptop. Now not everyone is fortunate to get a laptop and some of us have but no data no internet except if you are on campus where you can use WIFI or internet in the library ... I ended up failing and I was expelled.
Participant 11

Sub-theme 4.5: Challenges related to foundation programme (extended curriculum)

Some participants brought the foundation programme referred to as the Extended Curriculum Programme forth as the reason for dropping out. The following were some of the statements by the participants in this regard:

I felt it was not fair that I was put on the foundation programme. I met all the minimum admission criteria. I was very hurt I had to leave. *Participant 3*

Students look at you as if you are stupid if you are in the ECP programme, I could not take it. *Participant 6*

Sub-theme 4.6: Learning, teaching and assessment strategies

Some of the participant were not happy about the way learning, teaching and assessments were done in the chiropractic programme. They were quoted as follows:

In chiropractic, it seems like you journey alone for 5 or 6 years alone, it is up to you whether you consult lecturers for mentoring. As I am now at a different university, the situation is much different. There are tutorials that are compulsory without them it is impossible to get the DP [duly performed certificate] even if you have passed greatly. Tutorials are of much importance because that is where you get to do your homework and get clarity, understanding and scope as well. In addition, a chance to ask questions if you are afraid to ask in the class. Participant 5

Perhaps if they used a variety of teaching and assessment strategy, yes we understand it is a university programme but formal teaching will benefit some of us somehow ... and assessment should not always be written test because some of us are not so good in writing and memorizing. Participant 12

The workload is a lot and often not easy for people to understand, as well as the methods of evaluation competence. Participant 9

4.5.5 Major theme 5: Socio-cultural factors

The participants raised several socio-cultural factors such as awareness and information on the profession, racial inequality and discrimination and other cultural factors in the programme as being responsible for their dropping out from the chiropractic programme.

Sub-theme 5.1: Awareness and information on the profession

It was evident from the participants that some of the students registered for the programme without being fully aware of what it entails concerning duration, course content and job opportunities. The majority of them decided to deregister as they became more and more informed about all these issues. The following are some of the statements from participants:

The undisputed truth is that some racial groups are not exposed to chiropractic and consequently they lack information about the course. I became interested from the little information that I saw in the handbook, later on I discovered so many unpleasant things about this course, and I felt no no, not for me. Participant 4

There is very little information out there about the course so most of us out of being desperate about something to do, we find ourselves in the situation that we are unable to deal with. Participant 10

I left the course because, at first, I did not know what the course was all about, and I discover about its demands that the workload is so overwhelming and then I decide to quit. Participant 6

One participant added his view on how chiropractic awareness can be raised, expressed in the following excerpt:

What can help is teaching learners in high schools about chiropractic so that if it happens that they want to enroll in chiropractic they know what is expected of them. Participant 4

Sub-theme 5.2: Racial discrimination and inequality

Participants felt that racial discrimination had an effect on their dropping out; they felt inferior whenever in class. Their views are as follows:

This is the profession for the whites and Indians, as a black student you feel that even during training. Participant 3

I really also felt that the department as a whole did not have care towards us as students and I don't want to make it a racial issue but as African students we did not get the support and care just like white students did. If you for example, I failed physics, I never got any assistance in terms of how we can assist you so that you can move on and better your situation but instead. Yet other students, other races always taken good care of. Participant 2

Sub-theme 5.3: Other Cultural factors

The participants verbalised that the chiropractic programme is a white dominated programme. There are very few African students. These were some of the concerns from the participants:

There is no communication amongst us as chiropractic students. We stay in small groups even the circulation of information does not reach every student. Participant 3

The programme is white dominated and often result in students of colour feeling unwelcome. Participant 9

Feeling incompetent and inadequate in a white dominated profession makes you want nothing but to find something better for yourself. Participant 1

4.6 CHAPTER SUMMARY

Chapter 4 presented the findings on data analysis. Five major themes and several subthemes that emerged on data analysis were presented. Discussion of the study findings is presented in the next chapter.

CHAPTER 5: DISCUSSION OF FINDINGS

5.1 INTRODUCTION

This chapter is intended to discuss and interpret the study findings in the context of the existing literature. However, the researcher was able to source only a limited number of studies providing a review and evaluation on chiropractic education. The researcher noted the scarcity of empirical data exploring chiropractic education, especially chiropractic student dropouts, which is evidence that chiropractic education has received little attention especially with regards to dropouts. Therefore, most of the literature used in the discussion of the findings is from studies pertaining to health care professional disciplines other than chiropractic.

5.2 OVERVIEW OF THE RESEARCH DISCUSSION

The aim of the study was to explore and describe the perceptions of students regarding dropout from the chiropractic programme at DUT. A qualitative, explorative, descriptive and contextual design was employed where data was collected using face-to-face semi-structured interviews with former chiropractic students who dropped out from the programme. The major themes that emerged included financial constraints, post course employment related factors, personal factors, course related factors and socio-cultural factors. The themes and associated subthemes are discussed and interpreted below, and they are authenticated by the relevant literature.

5.3 DEMOGRAPHIC INFORMATION

Several conclusions can be drawn from the demographic data of the participants, notwithstanding that several confounding factors are also possible for most demographic characteristics. Nevertheless, the researcher was able to source some literature in support of the conclusions drawn in this regard. The 12 participants with whom face-to-face interviews were conducted were all African. Pretorius and Le Roux (1998) attest to the fact that chiropractic is a white dominant profession with very few Africans in the profession. These authors further state that there is still deficient exposure of chiropractic to races other than white and Indian, leading to many African students getting into the chiropractic training programme without fully understanding

what it really is. This, according to these authors, results in increased levels of dropping out year after year. Although several confounding factors could be responsible for the fact that all students who have dropped out from the programme are African students, the coincidence is critical.

Regarding the issue of gender, the majority of the participants were female (n=7) with fewer male participants (n=5). These are very small numbers to be used to draw a conclusion. The ages of the participants were between 20 and 27 years meaning they were all young adults. Research has shown that young adults are confronted by several challenges in dealing/coping with transition from a sheltered family life to independent university life thus resulting in numerous challenges including dropout (Conway 2004). Ditcher and Tetley (1999) identified lack of maturity as being a reason for full time students leaving university prematurely. Several authors attest that going to higher education is challenging and intimidating for most students especially young adults (Dent and Harden 2005; Folse *et al.* 1985). Eustice (2018) highlights that the chiropractic programme is more generic during the first year and becomes more specific and complex from the second level onwards. Dwyer (2014) is of the view that many students start chiropractic school because they cannot get into medical school and they think of chiropractic school as a substitute. These findings could account for the larger proportion of the participants (n=5) who dropped out in their second year of study followed by four in the third level of study. There were less participants who dropped out during the first (n=1) year level. Two participants dropped off in the fourth level with no participants dropping out from the fifth level onwards.

5.4 DISCUSSION OF RESULTS

5.4.1 Theme 1: Financial constraints

Financial constraints were prominent in most interviewees' responses. Availability of finances is one of the basic requirements for students to study in higher education institutions. Halperin and Mashiach-Eizenberg (2014) attest that increased access into institutions has not resulted in increased success even though government and other systems provide financial assistance. This is troublesome especially because there is an increase in the number of students coming from disadvantaged backgrounds requiring financial assistance in order to access higher education institutions. The SA government has strategies to make sure that every child gets an education

(Holborn 2015). South Africa spends 20 percent of its budget on education, or 6.4 percent of gross domestic product (considerably more than many other emerging market economies) but SA is still reported to perform dismally in international comparisons (Holborn 2015).

Most of the participant declared financial constraints as the main reason for leaving the course before completion. Davidson (2016) agrees that rising college tuition is a personal challenge except for young adults from educated, middle-class families who will find a way to get through college despite the costs. In Davidson's view, the great national crisis in the USA is the fact that too many other young adults are not going to college or, if they do, do not graduate, in large part because they cannot afford it.

The participants also stated that financial constraints also result from insufficient family income. The government can do its part in assisting students, but it is also the responsibility of the families to make sure children gets an education. However, most families cannot afford to. This is evident in the report on the current SA employment status showing an unemployment rate of 27.2 percent with 6.08 million unemployed persons. Furthermore, the average wages in South Africa also are a cause for concern. The average wage was reported to have decreased to 19858 ZAR/Month in the first quarter of 2018 from 20060 ZAR/Month in the fourth quarter of 2017. The wages in South Africa averaged 12781.22 ZAR/Month from 2004 until 2018, reaching an all-time high of 20060 ZAR/Month in the fourth quarter of 2017 and a record low of 6742 ZAR/Month in the first quarter of 2005 (Trading Economics 2018).

The challenge of financial constraints in SA gave rise to the "fees must fall" initiative in 2015. South Africa saw the largest student protest in two decades as students demanding free education came face-to-face with police, arguing that they cannot afford tuition. According to the protesting students, apartheid may have formally ended, but the fees make attending university impossible for many black youth. However, the schools are saying they cannot provide free education for everyone (Cloete 2016).

Furthermore, the participants complained about the high cost of the programme. Leuning (2011) agrees that university fees are too high and blames this on the Government. Leuning states that there is no need for any of this to have happened had government required universities to demonstrate value for money in terms of

future incomes, then universities whose students do not go on to earn stellar salaries would not be allowed to charge fees disproportionate to their graduates' incomes.

Chitty (2009) pointed out that several factors contribute to the high demand for higher education and financial aid. These included higher education institutions beginning to see an uptick in adult learners returning to college concurrently with the graduation of the largest population of high school students looking to attend college but the economic downturn has hurt these students' ability to pay for college, causing more of them to apply and qualify for financial aid. Furthermore, financial aid offices at institutions of higher education across the country are seeing an increase in the number of students and families who are eligible for financial aid because of deteriorating financial situations like loss of income or declining assets.

Participants highlighted the fact that lack of financial assistance in the form of bursaries, scholarships and student loans made it difficult for them to continue studying and they had to leave to look for an alternative. The majority of the participants stated that chiropractic is a good course and they would have loved to successfully complete it if they not been financial disadvantaged. Most of these participants were using financial aid and they said at some point the NSFAS did not pay for them. This concurs with the report by Sobuwa (2018) in the Sunday World Sowetan Live Magazine that thousands of university students have been left in limbo after the NSFAS failed to pay their allowances for months. The NSFAS spokesperson Kagiso Mamabolo blames this to high demand for the service. Since former president Jacob Zuma made the announcement of free education, NSFAS has received over 420,000 requests for funding with more than 200,000 students already being informed that they are being subsidised. Additionally, more than 140,000 students have qualified for funding but have not received funding, needing to confirm their university registration and income figures (Kajee 2018).

Another way of financing higher education studies is through student loans. However, studies have revealed that even this avenue is not as accessible to students as it used to be. Chitty (2009) confirmed the instability in the student loan industry has caused much anxiety for students, financial aid officers, and lawmakers. According to Chitty, the freezing of the credit markets has caused many student loan providers to suspend lending and/or stop lending to certain students at certain types of higher education

institutions. Fox News (2009) reported a similar situation in the United States. At the time the country was struggling with budget shortfalls that reached into the billions, several states were making deep cuts in college financial aid programmes including those that provide a vital source of cash for students who most need the money. A number of states reduced award sizes, eliminated grants and tightened eligibility guidelines because of a lack of money. However, the number of students seeking aid was rising sharply as more people sought a college education and needed help paying their tuition bills because they or their parents had lost jobs and savings during the recession.

Some participants pointed out that they were receiving too much pressure and were looking for a course with shorter duration that would enable them to finish early and start working to provide for their families. This was because their families could not afford to help them so they dropped out. Family income was found to be of importance for supplementation of students in higher education to avoid dropping out (Belley and Lochner 2007; Lochner and Monge-Naranjo 2011). However, due to increased levels of unemployment, many families cannot give assistance to students (De Beer *et al.* 2016). Poor economic conditions, especially among Africans, has resulted in the inability of parents to fund their children's tertiary education (De Beer *et al.* 2016).

Some participants declared that the financial situation back home was bad to the extent that they could not afford to pay for university fees. Some of them were raised by a single parent or grandparents and had not been successful in getting financial assistance. South Africa has a number of unique circumstances that affect the structure and situation of families and single-parent households have become the norm (Eddy and Holborn 2011). According to Eddy and Holborn (2011), in South Africa a number of children are raised by their mother in a single-parent household, and most children also live in households with unemployed adults, while nearly 100 000 children live in child-headed households. In the USA, the Academy of Child and Adolescent Psychiatry (2016) reported that in many homes children are taken care of by grandparents because neither of the child's biological parents are present due to increasing numbers of single parent families, deportation of parents due to immigration issues, the high rate of divorce, teenage pregnancies, incarceration of parents, substance abuse by parents, illness, disability or death of parents or parental abuse or neglect.

5.4.2 Theme 2: Post course employment related factors

Some participants highlighted the lack of opportunities for employment after graduation as the driving factor towards dropping out from the chiropractic programme; as they became more aware of the programme, they gathered that job opportunities were very limited. The only job opportunity is to open up their own private practice. This poses many challenges including feasibility, finance and the consumer market which poses a big threat to sustainability should a person manage to open one. The majority of participants stated that it would be very difficult for them to open up private practice straight after graduation, yet this was the only job opportunity available with chiropractic. Other students were very concerned with future income after studying many years and then ending up earning low income. They added on this issue of future income that it brings a sense of relief being in a job and knowing that you will get a guaranteed income every month, compared to being self-employed and not being sure whether clients will like you or not. Some students complained of chiropractic being only in the private sector and not in public hospitals, believing that more job opportunities and security would be the case if the programme was government funded. They stated this is what caused them to have second thoughts about staying in the chiropractic programme. The participants agreed that there are very few successful chiropractors in practice. It is a norm that students try mostly to enroll for careers that are intellectually demanding and involve helping people, are prestigious and offer more and better job opportunities (Willcockson and Phelps 2004). The difficulty of setting your up own practice is supported by the study conducted by Solomon (2014) who found that graduates often fail to start-up a worthwhile practice because of a lack of management and entrepreneurial skills, as well as a sense of inferiority and unpreparedness.

The participants stated that it provides a sense of relief and security knowing that you have a permanent job and a fixed salary every month rather than being in private practice or self-employed. Usually private companies employ staff on part-time or a contract basis with a risk of being retrenched at any time. On the other hand, being self-employed has no guarantees for a fixed salary as it is dependent on the turnover of patients and running costs. Furthermore, the majority of participants would still be expected to pay back NSFAS and /or study loans when they start working over and above their daily living expense (Sweidan 2007; Solomon 2014).

Another issue was restriction of scope of practice by the laws and regulations i.e. only focusing on the neuromuscular skeletal system. Cooper and McKee (2003) state that since the beginning there have been challenges in getting chiropractic into the public sector and that it has been marginalised by the mainstream medical professions, which involves laws and regulations restricting their scope of practice and licensure. In addition, there is competition with other healthcare discipline for instance physical therapy, in terms of being a primary care discipline (Mior and Laporte 2007:104-113). The WHO (2001:34) lists a number of restrictions for chiropractors which confirms the limited scope for these professionals. The restrictions include the following:

- Chiropractors are prohibited from performing operations, administering injections (other than intramuscular or hypodermic injections), practicing obstetrics, and taking or analysing blood samples.
- They may not treat or offer to treat cancer or prescribe a remedy for cancer or pretend that any article, apparatus, or substance will or may be of value for the alleviation of the effects of or for the curing or treatment of cancer.
- They may not prevent or improperly discourage a person from obtaining treatment by an allopathic physician or health care professional.
- They are not permitted to performing internal examinations or readings or interpret Roentgen plates as part of a clinical diagnostic procedure.

According to Black (2008:52), the reasons for respondents' dissatisfaction with chiropractic as a career choice were the lack of recognition of the education and / or chiropractic as a profession and the lack of versatility and flexibility of the career.

5.4.3 Theme 3: Personal factors

The majority of participants raised personal factors. These include the issue of the difficulty of the course resulting in students failing modules which subsequently retarded progress which has financial implications and causes emotional stress. All these had further implications such as exclusion and/or voluntary drop out. The researcher as an actively registered chiropractic student can bear witness that chiropractic is not an easy programme, it is hard and requires much persistence, endurance, resilience and commitment.

Participants stated that repeatedly failing modules demoralised them and made them feel incompetent and useless. The years kept on adding as they failed more and more modules. Some modules are either pre- or co-requisite for the other modules thus hindering progression to the next level and further elongating the programme that is already too long. Shahiri, Husain and Rashid (2015) found that student progression is regarded as an important factor in assessing student performance and the effectiveness of the learning process. Unquestionably, progression builds up confidence, commitment and passion for the course. Selected factors as detailed by De Beer (2005), such as inability and lack of school preparation, failure to accept responsibility, psychological problems namely depression, lack of personal standards for quality, poor or lacking language skills, not understanding course requirements, not balancing social activities with school work and poor distance education delivery, compound the problem and make the programme even more difficult with a very high failure rate.

Some participants had to quit studying because they had fallen pregnant. Pregnancy rate in tertiary institutions is just as high as in any other sector. As described by Conway (2004), the majority of students find it difficult to deal with the transition from the disciplined environment of family and high school to an environment where the individual has to accept personal responsibility for their personal, social and academic aspects of their lives. For this reason, students end up indulging in certain unsafe practices such as alcohol abuse, drug abuse and unsafe sex. Roberts, McGill and Hyland (2012) regard this issue as sensitive and they link it with the issue of disadvantaged backgrounds where there is not much support especially financially. The female students are left with no choice other than to drop out from their studies until they give birth. The participants further explained that if they wish to continue studying they are unable to return post-delivery because of the added financial burden and the need to take care of the baby. Roberts, McGill and Hyland (2012) consider this as a prominent issue in most black African communities.

Studying demands a healthy body and a healthy mind. A number of students quit studying because of ill-health. Any kind of sickness can lead to the weakening in health status of the student and his/her ability to concentrate on their studies. In South Africa, diseases linked to HIV-AIDS are widespread and continue to increase (Gouws and van der Merwe 2004:252; Dorrington, Bradshaw and Budlender, 2002). A debilitating

condition such as human immunodeficiency syndrome, tuberculosis, cancer and many other ailments become physically emotionally and mentally challenging. This greatly influences studying, with the student failing to concentrate in class, study outside of class and perform selected tasks such as work integrated learning. Most often severely and or chronically ill students are forced to leave studying prematurely.

Failing to understand and cope with the course content was described as being a cause of dropout. This is compounded by the issue of language, especially for students coming from quantile schools where although the formal medium of instruction is meant to be English, the teachers usually communicates with learners in vernacular languages. One participant indicated that the language barrier was what most affected her academic performance, as the course is instructed strictly in English. As the chiropractic training programme advances (around the 3rd year) the course becomes more chiropractic focused and almost all subjects, because of their scientific nature, are dependent on a student's ability to learn a huge amount of scientific and medical terminology. This sometimes causes challenges to weak students and is hard enough for student who speak English as their home language. This issue is also compounded by the teaching strategies in higher education institutions where self-directed learning is adopted instead of lecturing. The majority of students are very dissatisfied with the assistance they are given in higher education institutions, believing educators are too lazy to do their jobs (Courage 2006). Entwistle (1992) proposes that there is still a lot of training needed regarding study skills that should be offered to students. Learning to balance social life and academic life is the key. Socialising when doing chiropractic seems to be impossible. Gathering with friends and spending time together is hard due to the lengthy hours of lectures. Families also find it hard to spend time with their child. Baboolal and Hutchinson (2007) emphasised the importance of socialising in student's life. They further elaborate that spending time with family, friends, significant others, and peers, releases stress and depression in a student's life.

5.4.4 Theme 4: Course related factors

Participants' responses pointed to many course related factors. The chiropractic programme is a hard course and needs much commitment. It is a very long course regardless of the stream you are in, either mainstream or extended programme.

African students in particular have difficulty in grasping the course content because of the language utilised. Participants complained of the long duration of the chiropractic programme and its difficulty.

Time management is a very significant factor and time lost cannot be gained again. Thus, being able to organise accordingly helps. Students are required to balance between attending lectures, study periods, and time for practical and social life. Pretorius and Lemmer (1998) expressed the view that time management can be defined as planning and organising activities and fitting them into available time which helps one to work smartly. Ditcher and Tetley (1999) discovered that poor time management skills were rated third highest and that poor time management skills contributed to academic failure for both students and academics. Similarly, Entwistle (1992) agrees that students, especially those who are entering higher education for the first time, find it hard to manage the amount of freedom available to them in higher education institutions.

The participants were overwhelmed by the extent of the workload, which made it hard for them to cope without being shown direction through mentorship. Self-directed learning was a big challenge. Allensworth *et al.* (2009), Harris and Tienda (2012) and LeBeau *et al.* (2012) concur that course workload is a major cause of dropout due to the student's inability to cope with the work.

Shortage of resources was highlighted as another determinant of dropping out. Most resources highlighted were those to be sourced by the students on their own such as books, study materials and practical equipment, as well as personal laptops and/or money to buy data for internet access. The financial constraints as described earlier were responsible for this. Although the academic institutions provide some of these resources, the participants verbalised limitless access to a fully equipped and running library, internet access, and numerous other learning facilities at DUT. The students who are coming from rural areas where there are no such learning facilities were mostly affected because over and above the challenge of limited resources they still needed technicians and mentors to assist them to operate the devices such as computers, advanced technological equipment in the skills laboratory and even getting access to internet. One participant was emotional stating she was behind in all her work because of being technologically challenged so she was unable to complete and

submit assignments on time, or continue practicing on her own in the skills laboratory during spare time. As a result, she failed and was excluded. It is an undeniable fact that students from rural area without resources like laboratories find it difficult to cope with and adapt to laboratory work, while privileged students get along quite easily and smoothly. Ditcher and Tetley (1999) agree that shortage of resources is a contributing factor to academic failure and consequently dropout.

The stigma of foundation phase has affected many students to the extent that some of them left the course. One student pointed out that other students who are in the mainstream and some educators projected that the foundation phase is for students who are not brilliant. This affected them emotionally and some ended up leaving the course. As highlighted by Hlengwa (2005), the foundation phase is meant to assist students with English communication, end-user computing, academic literacy and information literacy.

A number of participants believed that they failed and subsequently dropped out due to the stringent and unfavourable teaching, learning and assessment strategies. Lack of motivation and enthusiasm on the part of students and educators hinders the introduction of diverse teaching, learning and assessment methods suitable and/or favourable to all students. De Beer *et al.* (2016) propose that motivation and enthusiasm could be promoted through fostering healthy relationship between lecturers and students, creating a good learning environment and student centeredness. Volbrecht (2000) indicated that SAs illiteracy and semi-literacy rate is high, which is why it is so hard for students in higher education to adapt and move at the same pace as that of the lecturers.

5.4.5 Theme 5: Socio-cultural factors

The majority of the students stated that they had registered in the programme without being fully informed about the programme. Johnston (2010) highlighted that scarcity of information and awareness of the professional requirements usually results in reduced commitment, failure and dropout from the programme. Young *et al.* (1997) agree that students, especially those from rural areas, register in university programmes without being fully informed simply because the programme registered for is what is easily accessible to them. Most researchers stressed the importance of prior exposure before enrolment because it gives an orientation and motivation about

the intended programme and the challenges (Halperin and Mashiach-Eizenberg 2014).

Participants stated that being in a course that is white dominated made them feel inferior and incompetent because of the unfair treatment they had received. Racial discrimination is immense in terms of academic performance. They complained that the course was not supportive and it felt like they were in this journey alone because no mentorship was provided. Occasionally, students' experience of discrimination and unfair treatment caused them to drop out from the university without completing their degrees (Hall, Nishina and Lewis 2017). Students who experience discrimination due to their ethnic background have been reported to have poor academic performance, poor motivation, poor sense of belonging, and to subsequently dropout (Lee and Ahn (2012). Benner and Graham (2012) confirm an association between students experiencing discrimination from lecturers and poor academic performance and dropout. Lent *et al.* (1994:79-122) propose strategies to buffer racial discrimination and create a healthy learning environment.

5.5 CHAPTER SUMMARY

This chapter discussed the results of the study to illustrate the perceptions of the students regarding the dropout rate from the chiropractic programme at the DUT. This study provided deeper understanding into the perceptions, recommendations, trials and highlights of chiropractic students in SA. The next chapter summarises the intentions, results and discussion to conclude this research report.

CHAPTER 6: SUMMARY OF FINDINGS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSIONS OF THE STUDY

6.1 INTRODUCTION

The summary of findings shows how the three research questions were answered. The research questions were: 1) What are the perceptions of students regarding dropout from the chiropractic programme at the DUT? 2) What are the determinants of student dropout from the chiropractic programme at the DUT? and 3) How could the dropout rate in the chiropractic programme at the DUT be minimised? The chapter also includes the identified limitations, recommendations and conclusions drawn up from the study findings.

6.2 SUMMARY OF FINDINGS

The responses to the research questions demonstrate how the research aim was met. The findings regarding the first two research questions are interrelated

6.2.1 Perceptions of students regarding dropout from the chiropractic programme

Participants shared their perceptions regarding dropping out from the chiropractic programme. According to the participants, the chiropractic programme was too long, too expensive, with too large a workload, and was too difficult. The majority of them believed that dropouts resulted from financial constraints and inadequate access to financial aids bursaries and study loans. Perceptions related to post-training job opportunities and salaries were not favourable and caused them to not be keen to continue with the programme. The participants felt that the programme was predominantly white dominant and other racial groups, especially the black students, were discriminated against and some of them did not have a sense of belonging. The students in the foundation programme felt there was a stigma associated with being in that programme.

6.2.2 Determinants of student dropout from the chiropractic programme

Five key determinants of dropout from the chiropractic programme emerged as major themes. These were financial constraints, post course employment related factors, personal factors, course related factors, and socio-cultural factors.

Financial constraints included inaccessibility of financial aid bursaries, scholarships, study loans and family income. According to the participants, the cost of the programme and other essential learning materials such as books and practical equipment contributed to the financial constraints. Post-training employment salary opportunities were also included amongst financial constraints.

Post-course employment opportunities were another reason for dropping out from the programme. According to the students, there were limited job opportunities. The only possible job opportunities included either working in the private sector with less salary and job security or setting up your own private practice. The latter was, according to the participants, not feasible due to financial constraints and did not offer guaranteed employment and or income. Other participants had dropped out of the programme because they viewed the scope of practice as very limited and restrictive thus would not afford the desired job satisfaction as health care workers.

There were numerous personal factors peculiar to the students that were identified as determinants of dropping out. These were progression, pregnancy, health status comprehension and socialising. Progression was the one factor that was due to a university decision where students were excluded according to the university progression rule. All the other determinants were because of the students' own personal choice.

There were course related factors that were identified as determinants of dropping out from the chiropractic programme. These were duration of the course, course workload, course content, shortage of resources, stigma related to the foundation phase, and the learning, teaching and assessment strategies. Some participants dropped out from the course because the course was considered to be too long compared to other university programmes, the course had a high workload and the course content was too difficult. Some students dropped out because they could not afford learning resources like books and practical equipment. Others dropped out

because of the teaching, learning and assessment strategies which made them fail the assessments. A few students who had been enrolled in the foundation programme stated that they had dropped out because of the stigma associated with the foundation programme. Other students and educators mocked them for being in this programme.

The socio-cultural determinants included awareness and information about the profession and racial discrimination and inequality. Some students were not fully informed about the programme before registration and realised as they gradually learnt about the programme that they had chosen the wrong programme. The black students viewed the programme as white dominant and felt they had been discriminated against. Other participants stated that they felt they were not welcomed in the programme and were not getting adequate support from the educators.

6.2.3 How the dropout rate in the chiropractic programme could be minimised

How the dropout rate in the chiropractic programme could be minimised is presented in a series of recommendations arising from the study with a strong emphasis on policy development and implementation, institutional management and practice, chiropractic education and further research.

6.3 LIMITATIONS

- The study was qualitative with a small sample size and therefore cannot be generalised to other settings.
- The study did not include the lecturers. Information from this group of participants would have strengthened the research findings.
- The researcher found that some participants in their responses were very uncomfortable and hesitant because they were afraid of being tracked even though they were clearly told beforehand that their identities would not be revealed and that they would remain anonymous.

6.4 RECOMMENDATIONS

The following recommendations with special reference to policy development and implementation, institutional management and practice, chiropractic education and further research are presented.

6.4.1 Policy development and implementation

It is important that the national and institutional policies regarding application and administration of financial aid such as NSFAS to students be reviewed in order to address bottlenecks that interfere with access to deserving students, and that the guidelines for application and appeals procedure should be made known to students.

6.4.2 Institutional management and practice

Student teaching and assessment strategies should be reviewed periodically and input from students be invited when this is done.

The Chiropractic Department should ensure that information about the programme and qualification is made available to the public by having information brochures, updated information on the internet, and running open days for high schools.

6.4.3 Chiropractic education

The chiropractic curriculum should include entrepreneurship to provide information and guidance on how to set up one's own private practice.

The chiropractic programme should institute measures to decolonise the programme in order to address the challenges of racial discrimination.

6.4.4 Further research

Further research study is required to investigate how students dropping out affect the institution, the students, the students' families and the government.

The chiropractic programme is presently undergoing restructuring, with a new curriculum to be implemented in the near future; it is strongly suggested that this study be conducted again after the curriculum changes, so that there can be a comparison between the curricula.

6.5 CONCLUSION

This qualitative study explored and described the perceptions of students regarding dropout from the chiropractic programme at DUT. The challenges and difficulties that chiropractic students encountered were brought to the fore. This is one of few qualitative studies conducted concerning chiropractic students' perceptions regarding

dropout especially at the DUT. Most of the findings of this study correspond with previous studies in the literature even though very few have been conducted in the context of chiropractic at the DUT. Some of the students gave their opinion that chiropractic is a good course and that it was unfortunate that they had to leave without first completing the course due to the challenges they mentioned (e.g. financial challenges). On the other hand, some students highlighted that their departure helped them so much and it opened opportunities for them and that they were happy with where they were at the time of this study. Students were very eager to see in some years to come chiropractors practicing in government hospitals and bursaries and scholarships besides NSFAS. There is a need for further investigation into various aspects of chiropractic education, curriculum, structure, content and the influence of these on students learning opportunities and experiences.

REFERENCES

- Academy of Child and Adolescent Psychiatry. 2016. Grandparents raising grandchildren. Available: https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Grandparents-Raising-Grandchildren-077.aspx (Accessed 18 July 2018).
- Alam, A. 2011. How do medical students in their clinical years perceive basic sciences course at King Saud University? *Annals of Saudi Medicine*, 31(1): 58-61.
- Alford, C.L. and Currie, D.M. 2004. Introducing first-year medical students to clinical practice by having those “shadow” third year clerks. *Teaching and Learning in Medicine*, 16(3): 260-263.
- Allensworth, E., Nomi, T., Montgomery, N. and Lee, V. 2009. College preparatory curriculum for all: academic consequences of requiring algebra and English I for ninth graders in Chicago. *Educational Evaluation and Policy Analysis*, 31(4): 367-391.
- Allied Health Professions Council of South Africa. 2014. Submission to the competition commission regarding the market inquiry into the private healthcare sector. Available: www.compcom.co.za (Accessed 8 July 2018).
- Baboolal, N.S and Hutchinson, G.A. 2007. Factors affecting future choice of speciality among first-year students of the University of the West Indies, Trinidad. *Journal of Medical Education*, 41: 50-56.
- Bailey, T. 2009. Challenge and opportunity: Rethinking the role and function of Developmental education in community college. *New Directions for Community Colleges*, 145: 11-30.
- Belley, P. and Lochner, L. 2007. The changing role of family income and ability in determining educational achievement. *Journal of Human Capital*, 1(1): 37-89.
- Benner, A.D and Graham, S. 2012. The antecedents and consequences of racial/ethnic discrimination during adolescence: does the source of discrimination matter? *Developmental Psychology*, 49(8): 1602–1613. Available: <http://dx.doi.org/10.1037/a0030557>

Bharath, D. 2009. Effects of student-faculty interactions on persistence of underprepared community college students. Doctoral thesis, Florida International University, Miami, USA.

Black, E. 2008. A retrospective survey of the career paths and demographics of Durban University of Technology (DUT) chiropractic graduates. Available from: <https://hdl.handle.net/10321/439> (Accessed 12 August 2018).

Bound, J., Lovenheim, M. F. and Turner, S. 2010. Why have college completion rates declined? An analysis of changing student preparation and collegiate resources. *American Economic Journal: Applied Economics*, 2(3): 129-157.

Brown, D.L. and Schafft, K.A. 2011. *Rural people and communities in the 21st century: resilience and transformation*. Malden, MA: Polity.

Bryant, B.K., Zvonkovic, A.M. and Reynolds, P. 2005. Parenting in relation to children and adolescent vocational development. *Journal of Vocational Behaviors*, 69: 149-175.

Burns, N. and Grove, S.K. 2009. *The practice of nursing research: appraisal, synthesis and generation of evidence*. 6th ed. Philadelphia: Elsevier Saunders.

Bynum, C. 2010. The relationship between state financial aid and student persistence and success in college: an examination of Hispanic undocumented students in Texas community colleges. Doctoral thesis, Florida State University, Tallahassee, South Africa.

Cambridge English Dictionary n.d. Dropout. Available from: <https://dictionary.cambridge.org/dictionary/english/dropou> (Accessed 12 August 2018).

Chapman-Smith, D. 2000. *The chiropractic profession*. Toronto: Harmony Printing Ltd.

Chiropractic Association of South Africa. 2016. Competition Commission report. Available at: www.compcom.co.za (Accessed 6 May 2017).

Chitty, H. 2009. The economy and student financial aid. Available: <https://www.universitybusiness.com/article/economy-and-student-financial-aid> (Available 17 July 2018).

- Clark, T.J., Waller, L.R., Lumadue, R. and Hendricks, L. 2012. A comparison of retention rates among America's 2-year institutions of higher education. *Focus on Colleges, Universities, and Schools*, 6(1): 1-17.
- Cloete, N. 2016. Free higher education: another self-destructive South African policy. Available: <http://www.chet.org.za/papers/free-hi...education> (Accessed 18 July 2018).
- Conway, A. 2004. Why do learners abandon programs prior to completion? Case study investigation of dropout learners from the diploma in hotel and catering management. DIT, All Ireland Society for Higher Education, Inauguration Conference 2004. Available from: <http://www.aishe.org/conf2004/proceedings/paper33.doc> (Accessed 18 September 2017).
- Cooper, R.A. and McKee, H.J. 2003. Chiropractic in the United States: trends and issues. *Milbank Quarterly*, 81(1): 107-138.
- Costa, F.J.D., Bispo, M.D.S and Pereira, R.D.C.S.F. 2018. Dropout and retention of undergraduate students in management: a study at a Brazilian Federal University. *RAUSP Management Journal*, 53, 74-85.
- Courage, M. 2006. A perceptual study to investigate subject failure as an academic reason for delayed qualification in Master's Degree in Technology: Homeopathy, Durban Institute of Technology. Master's Degree in Technology: Homeopathy, Durban Institute of Technology.
- Creswell, J.W. 2009. Research Design, Qualitative, Quantitative and Mixed Method Approaches. 3rd Edition. Sage Publications Inc.
- Davidson, A. 2015. Is college tuition really too high? *New York Times*, 13 September. Available: <https://www.nytimes.com/2015/09/13/magazine/is-college-tuition-too-high.html> (Accessed 18 July 2018).
- De Beer, K. 2005. Open Access, retention and throughput. 2005. SAARDHE Conference: University of KwaZulu-Natal. Available: <http://www.interaction.nu.ac.za/SAARDHE2005/full%20papers/DE%20BEER%20KALE.doc> (Accessed 7 May 2016).

De Beer, L.T., Pienaar, J. and Rothmann, S. 2016. Work overload, burnout, and psychological illhealth symptoms: a three-wave mediation model of the employee health impairment process. *Higher Education*, 29 (4): 387-399.

De Vos, A.S., Strydom, H., Fouche, C.B. and Delpont, C.S.L. 2011. *Research at grass roots for the social sciences and human service professions*. 4th ed. Pretoria: Van Schaik.

Dent, J.A. and Harden, M.H. 2005. *A practical guide for medical teachers*. 2nd ed. Philadelphia, PA: Elsevier Churchill Livingstone.

Department of Chiropractic and Somatology. 2018. *Chiropractic Handbook*. Faculty of Health Sciences. Available at: www.dut.ac.za/student_portal/handbooks (Accessed February 2018).

Ditcher, A. and Tetley, J. 1999. Factors influencing university students' academic success: what do students and academics think? Available: <http://www.herdsa.org.au/branches/vic/Cornerstones/pdf/Ditcher.PDF> (Accessed 16 May 2016).

Dorrington, R., Bradshaw, D. and Budlender, D. 2002. HIV/AIDS profile in the provinces of South Africa: indicators for 2002. Centre for Actuarial Research, University of Cape Town. Available: <http://www.mrc.ac.za/bod/bod.htm> (Accessed 20 July 2017).

Durban University of Technology (DUT) 2018. Faculty of Health Sciences Annual Performance Report (AQM) 2017. DUT: Durban.

Eddy, G. and Holborn, L. 2011. First steps to healing the south african family south african institute of race relations. Available: <https://irr.org.za/reports/occasional-reports/files/first-steps-to-healing-the-south-a> (Accessed 18 July 2018).

Entwistle, N. 1992. The impact of teaching on learning outcomes in higher education. Sheffield University: CVCP Universities' Staff Development Unit.

Eustice, C. 2018 Guide to chiropractic care and treatment. Available: <https://www.verywellhealth.com/guide-to-chiropractors-and-treatment-18954> (Accessed 17 July 2018).

Felder, R.E. and Brent, R. 1999. *Effective teaching*. North Carolina State University. Raleigh, North Carolina. USA.

Fleming, S. and McKee, G. 2005. The mature student question. *Nurse Education Today*. 25: 230-237.

Folse, M.L., DaRosa, D.A. and Folse, R. 1985. The relationship between stress and attitudes toward leisure among first year medical students. *Journal of Medical Education*, 60(8): 610-617.

Fox News US. 2009. States cut financial aid for students as demand booms. Available: <http://www.foxnews.com/us/2009/08/...financial-aid-students-demandbooms.htm> (Accessed 17 July 2018).

Gill, P., Stewart, K., Treasure, E. and Chadwick, B. 2008. Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, 204(6): 291-295. DOI: 10.1038/bdj.2008.192 204: 291-295

Gouws, S., and van der Merwe, A. 2004. Managing student retention through the assessment of cost of quality. *South African Journal of Higher Education*, 18(1): 252.

Gqaleni, N., Moodley, I., Kruger, H., Ntuli, A. and McLeod, H. 2007. Traditional and complementary medicine. *South Africa Health Review*, 12:175-188.

Graneheim, U.H. and Lundman, B., 2004. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, 24(2): 105-112. Available: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.490.2963&rep=rep1&type=pdf> (Accessed 25 July 2017).

Hall, A.R., Nishina, A. and Lewis, J.A. 2017. Discrimination, friendship diversity, and STEM-related outcomes for incoming ethnic minority college students. *Journal of Vocational Behavior*, 103: 76-87.

Halperin, O. and Mashiach-Eizenberg, M. 2014. Becoming a nurse — a study of career choice and professional adaptation among Israeli Jewish and Arab nursing students: a quantitative research study. *Nursing Education Today*, (34): 1330-1334.

- Hancock, B., Ockleford, E. and Windridge, K. 2007. An Introduction to Qualitative Research. Available: https://www.rdsyh.nihr.ac.uk/wpcontent/uploads/2013/05/5_Introduction (Accessed 19 July 2018).
- Harris, A.L. and Tienda, M. 2012. Hispanics in higher education and the Texas top 10% Law. *Race and Social Problems*, 4(1): 57-67.
- Hlengwa, M. 2005. DIT's Foundation Program report. Durban: Durban Institute of Technology, Centre for Higher Education Development (unpublished).
- Holborn, L. 2015. Article of the day: education in South Africa: where did it go wrong? Available: <https://cornerstone.ac.za/article-of-the-day-education-in-south-africa-where-did-it-go-wrong/> (Accessed 18 July 2018).
- Hughes, K.L. and Karp, M.M. 2004. *School-based career development: a synthesis of the literature*. New York, NY: Institute on Education and the Economy.
- Johnston, S. 2010. German post-Kantian idealism and Dewey's metaphysics: mutual themes. In: Fairfield, P. (ed). *John Dewey and continental philosophy*. Carbondale: Southern Illinois University Press.
- Jones, W.A. and Larke Jr, A. 2005. Enhancing the life for Hispanic individuals through career preparation. *Journal of Hispanic Higher Education*, 4(1): 5-18.
- Kajee, L. 2018. Teacher education students engaging with digital identity narratives. *South African Journal of Education*, 38(2): 1-9. Available: <https://doi.org/10.15700/saje.v38n2a1501>
- Keating, J.C. Jr. 2005. A brief history of the chiropractic profession. In Haldeman, S., Dagenais, S. and Budgell, B. *Principles and practice of chiropractic* (3rd ed.). McGraw-Hill, 23-40.
- Kent, C. 2012. Buyer's remorse in chiropractic as a career choice: what can we do? *Dynamic Chiropractic*, 30(2). Available: <https://www.dynamicchiropractic.com/mpacms/dc/article.php?id=55707> (Accessed 19 July 2018).

Kerka, S. 2003. Career development of diverse populations. ERIC Clearinghouse on adult career and vocational education. *ERIC Digest*. Eric Identifier: ED 482536.

Kihara, M., Matsuo, O., Kamisako, T., Fukuda, K., Ashida, T., Takemura, T., Iwamoto, I., Miyazaki, T. and Hashimoto, N. 2003. Effects of clinical clerkships on students' attitudes towards medical learning in Japan: a case study at Kinki University School of Medicine. *Pathophysiology*, 9(1): 111-113.

Koen, C. 2007. *Postgraduate retention and success: a South African case study*. Cape Town: Human Science Research Council Press.

Korporaal, C.M. 2017. Durban University of Technology Clinic Director: Personal communications with Ganesh, N. May 2017.

LeBeau, B., Harwell, M., Monson, D., Dupuis, D., Medhanie, A. and Post, T.R. 2012. Student and high-school characteristics related to completing a science, technology, engineering or mathematics (STEM) major in college. *Research in Science & Technological Education*, 30 (1): 17-28.

Lee, L. and Ahn, J. 2012. Attention to banner ads and their effectiveness: an eye-tracking approach, *International Journal of Electronic Commerce*, 17(1): 119-137. Available: DOI: 10.2753/JEC1086-4415170105

Lehohla, P. 2001. Census in brief. Statistics South Africa. Available: www.statssa.gov.za/census/census_2001/census_in_brief/CIB2001.pdf (Accessed 17 September 2017).

Lent, R., Brown, S. and Hackett, G. 1994. Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, (45): 79–122. Available: <http://doi.10.1006/jvbe.1994.1027>

Letseka, M. and Maile, S. 2008. *High university drop-out rates: a threat to South Africa's future*. Pretoria: HSRC.

Leuning, C.J. 2011. Transcultural nursing scholars' corner. Advancing our practice, changing our world. *Journal of Transcultural Nursing*, 22(4) Available: <https://doi.org/10.1177/1043659611414202>.

Lincoln, V.S. and Guba, E.G. 1985. *Naturalistic enquiry*. 2nd ed. Thousand Oaks, California: SAGE

Lochner, L.J. and Monge-Naranjo, A. 2011. The nature of credit constraints and human capital. *American Economic Review*, 101(6), 2487–2529.

Makhubu, L. 2000. *Traditional medicine: Swaziland*. Swaziland center for Research in medicinal and indigenous food plants. Kwasuleni: University of Swaziland.

McEvoy, A. and Welker, R. 2000. Antisocial behaviour, academic failure, and social climate: a critical review. *Journal of Emotional and Behavioural Disorders*, 8(3): 130.

McKenna, S. 2006. Personal communication with Bruce Grant.

Mda, T., and Mothata, S. 2000. *Critical issues in South African education after 1994*. Cape Town: Juta and Company Limited.

Milton, C.R. 1981. *Human behavior in organizations: three levels of behavior*. Englewood Cliffs, N.J.: Prentice Hall.

Mior, S.A. and Laporte, A. 2007. Economic and resource status of the chiropractic profession in Ontario, Canada: a challenge or an opportunity. *Journal of Manipulative and Physiological Therapeutics*, 31(2): 104-113.

Mouton, J. 1998. *Understanding Social Research*. Pretoria: Van Schaik.

Mullinder, L. 2017. Registrar: Allied Health Professions Council of South Africa. Personal communications with Ganesh, N. June 2017.

Nakajima, M A., Dembo, Myron H. and Mossler, R. 2012. Student persistence in community colleges. *Community College Journal of Research and Practice*, 36(8), 591-613.

National Health Interview Survey. 2015. Report on complementary health approaches (whatever that means). Available: [https://sciencebasedmedicine.org/2015-nhis-report-on-complementary-health-approaches-whatever-t 9](https://sciencebasedmedicine.org/2015-nhis-report-on-complementary-health-approaches-whatever-t-9) (Accessed 11 June 2018).

Ososki, A., White, J., Morago, S. and Van Sickle, J., 2006. Factors affecting science undergraduates' choice of teaching as a career: a case study at Humboldt State University. Available at:

http://www.academia.edu/9139978/Factors_Affecting_Science_Undergraduates_Ch

[oice of Teaching as a Career A Case Study at Humboldt State University2](#)

(Accessed 17 May 2017).

Park, J.R., Coombs, C.R., Wilkinson, A.J., Loan-Clarke, J., Arnold, J. and Preston, D. 2003. Attractiveness of physiotherapy in the National Health Service as a career choice. *Physiotherapy*, 89(10): 575-583.

Plant, A., Ericsson, K., Hill, L. and Asberg, K. 2004. Why study time does not predict grade point average across college students: implications of deliberate practice for academic performance. *Contemporary Educational Psychology*, 30(1): 96-116.

Polit, D.F. and Beck, C.T. 2012. *Nursing research: generating and assessing evidence for nursing practice*. 9th ed. Philadelphia: Lippincott Williams and Wilkins.

Pretorius, F. and Lemmer, E.M. 1998. *South African education and training: transition in a democratic era*. Johannesburg: Hodder and Stoughton.

Pretorius, J. and Le Roux, J. 1998. Milieu deprivation and its implications for education in the Republic of South Africa. *Adolescence*, 33(131): 689-698.

Rendón, L., Jalomo, R. and Nora, A. 1999. Theoretical considerations in the study of minority student retention in higher education. Available from: <http://courses.ed.asu.edu/rendon/theoretical.htm> (Accessed 23 September 2017).

Roberts, M., McGill, T. and Hyland, P. 2012. Dropout from Australian ICT degrees: why women leave. Paper presented at the Proceedings of the Fourteenth Australasian Computing Education Conference-Volume 123.

Rowlands, C., Griffiths, S.N., Blencowe, N.S., Brown, A., Hollowood, A., Hornby, S.T., Richards, S.K., Smith, J. and Strong, S. 2014. Surgical ward rounds in England: a trainee-led multi-centre study of current practice. *Patient Safety in Surgery*, 8(11): 2-5.

Rubin, D. and Biekeman, G. 1999. So you want to be a chiropractor. PowerPoint presentation. (Accessed 7 May 2016).

Saint, W. 2004. Higher education in Ethiopia: the vision and its challenges. *JHEA/RESA*, 2(3): 83-113.

- Sandelowski, M. 2010. What's in a name? Qualitative description revisited. *Research in Nursing and Health*, 33(1): 77-84.
- Saunders, M., Lewis, P. and Thornhill, A. 2012. *Research methods for business students*. Harlow: Pearson Education Ltd..
- Scarbecz, M. and Ross, J.A. 2006. Gender differences in first-year dental students' motivation to attend dental school. *Journal of Dental Education*, 66(8): 952-961.
- Senzon, S. 2014. Chiropractic professionalization and accreditation: an exploration of the history and conflicts between world views through the lens of developmental structuralism. *Journal of Chiropractic Humanities*, 21(1): 25-48.
- Shahiri, A.M., Husain, W. and Rashid, N.A. 2015. A review on predicting student's performance using data mining techniques. *Procedia Computer Science*, 72: 414-422.
- Singaravelu, H.D., White, L.J. and Bringaze, T.B. 2005. Factors influencing International students career choice. *Journal of Career Development*, 32(1): 45-59.
- Skovholt, T.M. and Ronnestad, M.H. 2003. Struggles of novice counsellor and therapists. *Journal of Career Development*, 30(1): 45-58.
- Smith, M., Long, C., Henderson, C. and Marchiori, D.M. 2001. Report on an innovative strategy for teaching evidence-based skills to chiropractic students. (Conference abstract) *Proceedings of the 2001 WFC Congress*, 6: 399-400.
- Sobuwa, Y. 2018 NSFAS fails to pay poor students' allowances. *The Sowetan*, 24 April. Available: <https://www.sowetanlive.co.za/news/south-africa/2018-04-24-nsfas>. (Accessed 17 July 2018).
- Solomon, E. M. 2014. The development of a model to facilitate success when establishing a homoeopathic private practice in South Africa. D.Tech, University of Johannesburg.
- Somenarain, L., Akkaraju, S. and Gharbaran, R. 2010. Student perceptions and learning outcomes in asynchronous and synchronous online learning environments in a biology course. *Journal of Online Learning and Teaching*, 6(2): 353-356.

South Africa, 2002. *Higher Education Act*. (Act No. 101 of 1997). Government Gazette No. 23065: 27 March.

South Africa, Department of Health. 1982. *Allied Health Professions Act 63 of 1982*, with reference Regulations R629, Government Gazette No 11221 of March 1988.

South Africa, Department of Education. 2005. *Education statistics in South Africa at a glance in 2004*. Pretoria: Government Printer.

Streb, C.K. 2010. Exploratory case study. encyclopedia of case study research. Available: <http://dx.doi.org/10.4135/9781412957397.n139>

Sukovieff, H.M. 1991. An investigation of influences on career decisions of High school graduates: A follow-up study. The University of Regina.

Sweidan, M. 2007. A retrospective survey of post-graduate career paths of Technikon Witwatersrand (TWR) homoeopathic graduates from 1998-2004. M.Tech, Durban Institute of Technology.

Trading Economics. 2018. South Africa GDP growth rate. Available: <https://tradingeconomics.com/south-africa/gdp-growth>. (Accessed 18 July 2018).

Van As, R.K. 2005. School guidance counsellors' knowledge and perception about the chiropractic profession in South Africa. M.Tech., Durban University of Technology.

Volbrecht, 2002. Plot and practice: a narrative inquiry into academic development, language policy and lifelong learning at the University of the Western Cape. PhD thesis, University of the Western Cape.

Wilkinson, S. 1996. The factors affecting the career choice of male and female civil engineering students in the UK. *Career Development International*, 1(5): 45-50.

Willcockson, I.U. and Phelps, C.L. 2004. Recruiting future neuroscientists: What asking the recruits can teach us. *The Neuroscientist*, 10(6): 594-597.

World Federation of Chiropractic (WFC) 2012. The current status of the chiropractic profession. Available at <https://www.wfc.org>. (Accessed May 2017).

World Health Organization. 2001. *Legal status of traditional medicine and complementary/alternative medicine: a worldwide review*. Geneva: World Health Organization.

Wyatt, L.H., Perle, S.M., Murphy, D.R. and Hyde T.E. 2005. The necessary future of chiropractic education: a North American perspective. *Chiropractic & Osteopathy*, 13(1): 10-15.

Young, D.J., Fraser, B.J. and Woolnough, B.E. 1997. Factors affecting student career choice in science: an Australian study of rural and urban schools. *Research in Science Education*, 27(2): 195-214.

APPENDICES

Appendix 1: DUT Ethics clearance:



Institutional Research Ethics Committee
Research and Innovation Support Directorate
2nd Floor, Breyten Court
Glen L. 5, 4013 Campus
Durban University of Technology
P O Box 1324 Durban, South Africa - 4013
Tel: 031 373 2375
Email: irec@dut.ac.za
http://www.dut.ac.za/research/ethics/irec/irec_ethics
www.dut.ac.za

16 August 2018

IREC Reference Number: **REC 146/17**

Mr N L Buthelezi
Thulasizwe Arca
P/ Bag X206
Ceza
3866

Dear Mr Buthelezi

An exploration into students perceptions regarding dropout within the Chiropractic programme at a University of Technology

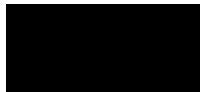
The Institutional Research Ethics Committee acknowledges receipt of your gatekeeper permission letter.

Please note that **FULL APPROVAL** is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC Standard Operating Procedures (SOP's).

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely,



Professor J. K. Adam
Chairperson: IREC



Appendix 2A: Gatekeeper Application Letter



Thulasizwe Area
P/BagX206
Ceza
3866

The Post Graduate Research Director
Post Graduate Research Office
Durban University of Technology
Durban
4001

Request for Permission to Conduct Research

Dear Professor C Napier

My name is Mr. Nqubeko Buthelezi (21242942), an M.Tech: Chiropractic student at the Durban University of Technology. The research I wish to conduct for my Masters dissertation is **An exploration into students perceptions regarding dropout within the Chiropractic programme at a University of Technology.**

I am hereby seeking your consent to conduct my research at the Chiropractic Day Clinic.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me on 0789787417 or at colbyju@gmail.com. Thank you for your time and consideration in this matter.

Yours sincerely,
Mr. Nqubeko Buthelezi
Durban University of Technology

Appendix 2B: Gatekeeper Permission



*Directorate for Research and Postgraduate Support
Durban University of Technology
Tromso Annex, Steve Biko Campus
P.O. Box 1334, Durban 4000
Tel.: 031-3732576/7
Fax: 031-3732948*

29th March 2018

Mr Lizwilenkosi Buthelezi
c/o Department of Chiropractic and Somatology
Faculty of Health Sciences
Durban University of Technology

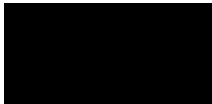
Dear Mr Buthelezi

PERMISSION TO CONDUCT RESEARCH AT THE DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research and Innovation Committee (IRIC) has granted full permission for you to conduct your research "Perceptions of students regarding attrition from the Chiropractic programme at a University of Technology in South Africa" at the Durban University of Technology.

We would be grateful if a summary of your key research findings can be submitted to the IRIC on completion of your studies.

Kindest regards.
Yours sincerely



PROF CARIN NAPIER
DIRECTOR (ACTING): RESEARCH AND POSTGRADUATE SUPPORT DIRECORATE

Appendix 3: Permission Application Letter to the Executive Dean Faculty of Health Sciences



Thulasizwe Area
P/BagX206
Ceza

Executive Dean-Faculty of Health Sciences
Department of Chiropractic
Durban University of Technology
Durban

Request for Permission to Conduct Research

Dear Prof. Sibiya

My name is Mr. Nqubeko Buthelezi (21242942), an M.Tech: Chiropractic student at the Durban University of Technology. The research I wish to conduct for my Masters dissertation is **an exploration into student's perceptions about dropout within the Chiropractic programme at a University of Technology.**

I am hereby seeking your consent to conduct my research at the Chiropractic Day Clinic.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me on 0789787417 or at colbyju@gmail.com. Thank you for your time and consideration in this matter.

Yours sincerely,

Mr. Nqubeko Buthelezi
Durban University of Technology

Appendix 4: Permission Application Letter to the Head of Chiropractic Department



Thulasizwe Area
P/BagX206
Ceza
3866

Clinic Director-coordinator
Department of Chiropractic
Durban University of Technology
Durban

Request for Permission to Conduct Research

Dear Dr Korporaal

My name is Mr. Nqubeko Buthelezi (21242942), an M.Tech: Chiropractic student at the Durban University of Technology. The research I wish to conduct for my Masters dissertation is **an exploration into student's perceptions about dropout within the Chiropractic programme at a University of Technology.**

I am hereby seeking your consent to conduct my research at the Chiropractic Day Clinic.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me on 0789787417 or at colbyju@gmail.com. Thank you for your time and consideration in this matter.

Yours sincerely,
Mr. Nqubeko Buthelezi
Durban University of Technology

Appendix 5A: Permission letter to use the Clinic Boardroom



Thulasizwe Area
P/BagX206
Ceza
3866

Head of Department
Department of Chiropractic
Durban University of Technology
Durban

Request for Permission to Conduct Research

Dear Dr Docrat

My name is Mr. Nqubeko Buthelezi (21242942), an M.Tech: Chiropractic student at the Durban University of Technology. The research I wish to conduct for my Masters dissertation is **an exploration into student's perceptions about dropout within the Chiropractic programme at a University of Technology.**

I am hereby seeking your consent to conduct my research at the Chiropractic Day Clinic.

I have provided you with a copy of my proposal which includes copies of the data collection tools and consent and/ or assent forms to be used in the research process, as well as a copy of the approval letter which I received from the Institutional Research Ethics Committee (IREC).

If you require any further information, please do not hesitate to contact me on 0789787417 or at colbyju@gmail.com. Thank you for your time and consideration in this matter.

Yours sincerely,
Mr. Nqubeko Buthelezi
Durban University of Technology

Appendix 5B: Permission to use Clinic Boardroom

MEMORANDUM

To : Prof Adam
Chair: IREC

From : Prof A Ross
Deputy Dean: Faculty of Health Sciences

Dr Charmaine Korpeera
Clinic Director: Chiropractic Day Clinic: Chiropractic and Somatology

Date : 15.04.2018

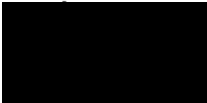
Re : Request for permission to use the Chiropractic Day Clinic for research purposes


Permission is hereby granted to :

Mr Nqubeko Lizwilenkosi Buthelezi (Student Number: 21242942)
Research title: "Perceptions of students regarding attrition from the Chiropractic programme at a University of Technology in South Africa."

Mr Buthelezi, is requested to submit a copy of his FRC / IREC approved proposal along with proof of his MTEch:Chiropractic registration to the Clinic Administrators before he starts with his research in order that any special procedures with regards to his research can be implemented prior to the commencement of his research.

Thank you for your time,
Kind regards


Prof AHA Ross
Deputy Dean
Faculty of Health Sciences


Dr Charmaine Korpeera
Clinic Director: Chiropractic Day Clinic:
Chiropractic and Somatology

Cc: Ms Lina Twigg: Chiropractic Day Clinic
Dr L O'Connor: Research co-ordinator and supervisor
Dr TSP Ngwenya and Dr J Ngobese Ngubane: Research supervisors

Appendix 6A: Participant identification form



Student Name	Student number	First year of registration	Year of dropping out	Level of training at the time of dropping out	Reasons for dropping out

Researcher's signature:

Date:

Verification by HoD:

Date:

Appendix 6B: Participant identification form



A: Student Details

Name and Surname:Student number:

First year of registration:

Year of dropping out:

Level of training at the time of dropping out:

Reason for dropping out:

.....
.....

B: CONTACT DETAILS:

Telephone Number: 1.....2.....

Email address:

Postal address.....

Appendix 7A: Information letter and consent (English)



Title of the Research Study: An exploration into student's perceptions regarding dropout within the Chiropractic programme at a University of Technology.

Principal Investigator/s/researcher: Mr. N. L. Buthelezi, B Tech: Chiropractic

Supervisor/s: Dr T.P.S. Ngxongo, Doctor of Nursing

Co-Investigator: Dr J.C. Ngobese-Ngubane, M. Tech: Homoeopathy

Brief Introduction and Purpose of the Study: Thank you for your interest in participating in this study. I am doing a research study of an exploration into the factors affecting student dropout within the Department of Chiropractic at the Durban University of Technology.

Outline of the Procedures: I am asking that you take part in a 45 minutes interview. The interview will take place at the DUT Chiropractic clinic. Participants will be interviewed in Zulu/ English depending on their language preference. The interview is informal, like a conversation. We will talk about your thoughts and experiences of the factors affecting student dropout within the Department of Chiropractic at the Durban University of Technology. With your permission, I would like to audio tape the interview; the recordings are only going to be used for the research purposes.

Risks or Discomforts to the Participant: There are no risks involved when participating in this study.

Benefits: The information that you will share with us during the interview, will contribute towards knowledge that will help in knowing the factors causing students to drop out.

Reason/s why the Participant May Be Withdrawn from the Study: I may stop you from taking part in the study at any time if I believe it is in your best interest or if the study stopped. Also, participants may choose to withdraw from the study at any time during the interview process with no adverse consequences for these participants.

Remuneration: Participants will not be remunerated for taking part in the study.

Costs of the Study: There is no cost involved for participants taking part in the study.

Confidentiality: Your personal details will not be disclosed at any stage of the study. The interview documents and audio recordings will be kept secure by the researcher for the duration of the research and then stored in a locked office of research study personnel at Durban University of Technology, Chiropractic department and destroyed within 5 years. Only people involved in the research will be able to access this information. None of the information you give me will be shared with your family members or anyone else outside of this research project, your name will not be used in any written reports or articles that result from this project.

Research-related Injury: Due to the nature of the research there is no anticipated risk for injury related to research. No compensation will be made for such claims.

Persons to Contact in the Event of Any Problems or Queries:

Please contact the researcher Nqubeko Buthelezi – BTech: Chiropractic (cell no. 0789787417), my supervisors Dr Ngxongo – Doctor of Nursing (tel no. 031 373 2609.) and Dr Ngobese-Ngubane – MTech: Homoeopathy (tel no. 031 373 2484) or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the Acting Director: Research and Postgraduate Support, Prof C E Napier on 031 373 2577 or carinn@dut.ac.za



Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, _____ (Nqubeko Buthelezi), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _____,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant Date Time Signature / Right Thumbprint

I, _____ (Nqubeko Buthelezi) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher Date Signature

Full Name of Witness (If applicable) Date Signature

Full Name of Legal Guardian (If applicable) Date Signature

Appendix 7B: Information letter and consent (IsiZulu)

Incwadi yolwazi ngokuzibandakanya nemvume



Isihloko socwaningo: ukuhlola imibono emayelana nezizathu ezibangela ukushiya phansi kwabafundi izifundo zabo emnyangweni wakwa- Chiropractic e-DUT.

Umcwaningi omkhulu: Mnumzane Nqubeko Buthelezi, B Tech: Chiropractic

Umdloli omkhulu: Solwazi T.P.S. Ngxongo, Doctor of Nursing

Isekela likamhloli: Solwazi J.C. Ngobese-Ngubane, M. Tech: Homoeopathy

Isingeniso kaye nenjongo yalolucwaningo: Ngiyabonga kakhulu ngokukhombisa intshisekelo yokuba yingxenywe yalolucwaningo. Ngenza ucwaningo mayelana nokuhlola imibono yabafundi mayelana nokushiya phansi kwabo ukufunda emnyangweni wakwa-Chiropractic esikhungweni semfundo ephakeme yezobuchwepheshe i- DUT.

Indlela uhlelo oluzohamba ngayo: Ngiyacela ukuthi ube yingxenywe yenkulumonhlolo ezothatha imizuzu engamashumi amane. Inkulumo nhlobo izobanjelwa emtholampilo wakwa – Chiropractic e-DUT. Umhlanganyeli uzobuzwa imibuzo ngesiZulu noma NgeSilungu kuye ngokuthi ukhetha liphi ulimi kulezi. Inkulumo ayinasimiso, injenge ngxoxo nje. Sizokkhuluma ngemicabango yakho nesipiliyoni sakho mayelana nemibono ebanga ukuthi abafundi bashiye phansi ukufunda e-DUT. Ngemvume yakho, singathanda ukugcina irekhodi lenkulumonhlolo; irekhodi izosetshenziselwa izinhloso zalolucwaningo kuphela.

Ubungozi encuphephe: Abukho ubungozi nengcuphephe eyaziwayo ngokuzibandakanya kulolucwaningo.

Inzuzo: Ulwazi ongasabela lona ngesikhathi senkulumoluhlolo, lizobamba iqhaza elikhulu olwazini nasekucaciseni izizathu ezibanga ukushiya phansi kwaba fundi. Lungasiza futhi ekwenzeni ngcono izinga labafundi abaphumelelayo ngokuzayo kulomnyango.

Izizathu zokushiya Ucwangingo kothe wazibandakanya: Uvumelekile ukuphuma ocwangingweni noma inini ngaphandle kwesijeziso. Umcwangingi angakumisa kulolucwangingo uma ebona ukuthi kangcono ukwenza njalo ukusiza wena. Wonke umuntu ozibandakanyayo angakhetha ukuyeka nanoma inini naphakathi kwemibuzo mpendulo, futhi lokho akunamiphumela emimbi eyovelela lowo okhetha ukuyeka.

Inani nokubiza kwalolucwangingo: Akukhokhwa mali futhi awulindelekile ukuba ukhokhe ngokuzibandakanya kulolucwangingo kumahala.

Ukuphepha nemfihlo: Imininingwane yakho iyimfihlo engenakudalulwa nanoma inini. Imininingwane yemibuzompendulo kanye nesiqophamazwi siyobekwa endaweni ephophile ngumcwangingi kuzekuphele Ucwangingo bese sibekwa egunjini lwezocwangingo esikhungweni sezemfundo ephakeme iDurban University of Technology, ngaphansi komnyango wezeChiropractic beselushatshaliswa noma lubhubhiswe emvakweminyaka eyisihlanu. Abantu abayingxenywe yalolucwangingo kuphela abayokubanalemininingwane. Akukho mininingwane eyodluliselwa kwabanye abangaphandle nabangaphakathi kulomtholampilo ngisho namalungu ondeni wakho imbala, Akukho ngamunye ngaphandle kwalabo ababandakanyeka kulolucwangingo. Igama lakho aliyikusetshenziswa nakanye kwimibhalo eshicilelweyo kanye nakumibiko eyophuma kulolucwangingo.

Ubungozi ngenxa yocwangingo: Ngenxa yendlela yalolucwangingo Abukho ubungozi obulindelekile nakulimala okulindelekile ngenxa yokuzibandakanya. Akukho nkokhelo eyokhishwa kulabo abakhala ngesimo esinjalo.

Bantu ongaxhumana nabo uma Kukhona ofuna ukukubuza noma uma kubanenkinga:

Uyacelwa ukuba uthinte umcwangingi: uNqubeko Buthelezi -BTech: Chiropractic (inomboloyocingo. 0789787417), umhloli omkhulu Dkt. Ngxongo -Doctor of Nursing (inombolo yocingo 031 373 2609.) no Dkt. Ngobese-Ngubane -MTech: Homoeopathy (inombolo yocingo. 031 3732 484) noma i-Institutional Research Ethics nomlawuli +27

31 373 2375 noma yimiphi imibuzo. Izikhalazo zingabikwa Kwibamba likaMqondisi:
Ucwaningo kanye nokusekela ama postgraduate, Prof C E Napier ku 031 373 2577
noma carinn@dut.ac.za



Isivumelwano sokuba yinxenye yocwaningo

- Nginesiqiniseko sokuthi umcwaningi _____ uNqubeko Buthelezi ungazisile ngendlela ucwaningo oluzohamba ngayo, isimo kanye nobungozi balolucwaningo – Research Ethic Clearance Number: _____,
- Ngitholile, ngafunda futhi ngaqonda ulwazi olubhalwe ngaphezulu oluchaza kabanzi ngalolucwaningo.
- Ngiyazi ukuthi imiphumela yalolucwaningo, ebandakanya imininingwane yami, ubulili, iminyaka, usukulwami lokuzalwa, iziqalo zamagama kanye nokugula kwami angeke kuvezwe kwimiphumela yalolucwaningo.
- Ngokubheka izinto ezidingwa yilolucwaningo, ngiyavuma ukuthi ulwazi oluzotholakala umakwenziwa lolucwaningo lucubungulwe ngengqondomshini ngumcwaningi.
- Ngingayeka ukubayinxenye yalolucwaningo noma inini, ngingasavumi ukubayinxenye.
- Ngilitholile ithuba elanele lokubuza imibuzo futhi ngilungele ukuba yinxenye yalolucwaningo.
- Ngiyaqonda ukuthi ulwazi olusha oluzotholakala ngizonikezwa ngokuba ngibeyinxenye yalolucwaningo.

Igama usuku isikhathi uphawu lwesivumelwano

Mina _____ (Nqubeko Buthelezi) ngiyaqinisekisa ukuthi ngiludlulsile ulwazi olugcwele ngendlela ucwaningo oluzohamba ngayo, isimo kanye nobungozi balolucwaningo.

Igama lomcwani gi usuku uphawu lwesivumelwano

Igama lofakazi usuku uphawu lwesivumelwano

Appendix 8: Confidentiality statement



CONFIDENTIALITY STATEMENT

This form needs to be completed by every member prior to the commencement of the interview meeting.

As a member of this interview I agree to abide by the following conditions:

1. All information contained in the research documents and any information discussed during the interview meeting will be kept private and confidential. This is especially binding to any information that may identify any of the participants in the research process.
2. None of the information shall be communicated to any other individual or organisation outside of this interview.
3. The information gathered from this interview by the researcher will be made public in terms of a mini dissertation and journal publication. The researcher will ensure that any participants in the research remain anonymous and confidential.
4. Once this form has been read and agreed to, please fill in the appropriate information below to acknowledge agreement.

Member's Name

.....

Contact Details:

.....

Signature: Date:

Appendix 9A: Semi structured interview guide (English)



Interview Date:

Participant code

Interviewer: **Study site:**

Participant's age

Race

Black
Colored
Indian
White

Participant's gender

Female
Male
Other

Year registered

Year Dropout

Level

Grand tour Question

What are your perceptions regarding dropout from the chiropractic programme at the DUT?

Probing questions

- 1) What do you think are the determinants of students' dropout from the Chiropractic programme at the DUT?
- 2) How could the dropout rate be minimized in the Chiropractic programme at the DUT?

NB: Further probing was done based on responses provided by each participant

Appendix 9B: Semi structured interview guide (IsiZulu)

Imininingwane ngemibuzo nkulumo yenhlolovo:



Usuku lwenhlolovo:..... Participant code

Umhleli wenhlolovo: Indawo yocwaningo:

Ubudala bomngweneli

Ubuzwe

Onsundu
Owebala
UMndiya
Omhlophe

Ubulili bomngweneli

Owesifazane
Owesilisa
Okunye

Unyaka ubhalisa

Unyaka ushiya

Izinga

Umbuzo okhulu wesingeniso

Imiphi imicabango yakho mayelana nokuphuma kumbe ukushiya phansi ukufunda emkhakheni we-Chiropractic e-DUT?

Imibuzo yokuphenyisisa

- 1) Iyiphi imicabango yabafundi ngokushiya emkhakheni we-Chiropractic esikhungweni semfundo ephakeme e-DUT?
- 2) Ngabe ucabanga ukuthi yiziphi izimbangela zokushiya phakathi ukufunda emikhakheni we-Chiropractic e-DUT?
- 3) Lingehliswa kanjani izinga lokushiya phakathi kwabafundi emikhakheni we-Chiropractic e-DUT?

NB: Eminye imibuzo yokuphenya yabuzwa kuya ngezimpendulo zalowo nalowo ongemele uhlelo

Appendix 10: Editing certificate

DR RICHARD STEELE

BA, HDE, MTech(Hom)

HOMEOPATH

Registration No. A07309 HM

Practice No. 0807524

Freelance academic editor

Associate member: Professional Editors'
Guild, South Africa

110 Cato Road
Glenwood, Durban 4001
031-201-6508/082-928-6208
Fax 031-201-4989
Postal: P.O. Box 30043, Mayville 4058
Email: rsteele@telkomsa.net

EDITING CERTIFICATE

Re: Nqubeko Lizwilenkosi Buthelezi

Master's dissertation: An exploration into students' perceptions regarding dropout within the Chiropractic programme at a University of Technology

I confirm that I have edited this dissertation and the references for clarity, language and layout. I am a freelance editor specialising in proofreading and editing academic documents. I returned the document to the author with track changes so correct implementation of the changes in the text and references is the responsibility of the author. My original tertiary degree which I obtained at the University of Cape Town was a B.A. with English as a major and I went on to complete an H.D.E. (P.G.) Sec. with English as my teaching subject. I obtained a distinction for my M.Tech. dissertation in the Department of Homeopathy at Technikon Natal in 1999 (now the Durban University of Technology). During my 13 years as a part-time lecturer in the Department of Homoeopathy at the Durban University of Technology I supervised numerous Master's degree dissertations.

Dr Richard Steele

25 August 2018

per email

Appendix 11A: Transcript (English)

PARTICIPANT 1 (P1) MALE 26

Interview questions	Responses	Themes	Major themes	subthemes
<p>What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?</p>	<p>I don't know man but ...ah based on my dropping out from chiropractic is a nice course, is a good course. My reason of dropping out it was not because I didn't like Chiropractic, but I do like Chiropractic even still now. I think the reason why, it was more of my circumstances, my challenges and stuff. I still regard chiropractic as the best course it just needs a little bit of exposure out there and in different places looking at the social background and stuff. It just needs more exposure to places. My reason for dropping out was financial reason and it was also more than that. It was also other reasons not only financial reason because I managed to get back to university again but also coming back to join different route of career. So, for my reasons besides financial reasons it was also the fact that my background. I had to search for something that's going to be able to provide an income at the moment because I wasn't going to be able to stay long because you know if you look at Chiropractic its period it takes about probably seven years. I needed something, I needed an income, and I needed a course which was going to take me at least a period of three years not more than that so I can be able to support my family.</p>	<ul style="list-style-type: none"> • Personal factors financial • Need for outside exposure • Income • Duration of the course 	<ul style="list-style-type: none"> • Finances 	<ul style="list-style-type: none"> • Future income

<p>What are the determinants of student's dropout from the Chiropractic programme at the DUT?</p>	<p>At first, my first year was fine everything was paid up for. Second year everything went well but for third year I came back NSfAS, there were problems with the financial aid. I had to appeal. I did my appeal and at that moment I didn't have money for registration. So, when you go to financial aid they tell you to wait for the SMS so that you can go to register and then everything will be fine but for me I waited so long. I didn't have money to register and then I ended up dropping out. Because I was not registered I would come in, but the SMS took forever I think that's the year where fees must fall campaign began because it's like it wasn't only me. It was also like other students as well. So, I think is the main reason I dropped out.</p>	<ul style="list-style-type: none"> • Problem with financial aid 	<ul style="list-style-type: none"> • Finances 	<ul style="list-style-type: none"> • Financial aid and Financial status of family
<p>How could the dropout rate in the Chiropractic programme at the DUT be minimized?</p>	<p>First, I think the years need to be reduced. Let's say maybe diploma is three years. How long is the diploma? Interviewer: three years. P1: And then your Btech? Interviewer: Add one year. P1: You add one year if it's, so I think its fine but for the extended programme it's for people with low marks. I don't know man, but I am still thinking. I am trying to find reason. But I think Chiropractic dropout, I think those things can be minimized by things like job security because for us under privileged group. It is very difficult for us. Let say you complete the course and then after that you have to open your own practice, you know. It's still a problem and I think as South African government should consider Chiropractic as one of the best careers. It must also be in the hospitals. Let's say when you go to public</p>	<ul style="list-style-type: none"> • Job security • Reduction of course' years • Should be in hospitals 	<ul style="list-style-type: none"> • Work related factors • Course related factors 	<ul style="list-style-type: none"> • Job opportunities • Duration of the course

	<p>hospital. If you having a problem relating, which can be solve by a Chiropractic doctor and then you consult the doctor you know. The many reasons like, there's so many things which I can't think of right now. But I know when I was on my way to house. I'd always think about them. As you know If things were like this maybe by dropout would be minimized and stuff.</p>			
--	---	--	--	--

PARTICIPANT 2 (P2) FEMALE 25

Interview questions	Responses	Themes	Major themes	Subthemes
<p>What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?</p>	<p>Okay for my first for my first question. For me the reason I feel that people actually dropped out from Chiro. It's because I'll just take my own reason as to why. Number1, I felt that with Chiro I cannot treat everything that I want to treat. I can only stick to the musculoskeletal system and I really felt that if ever I'm in an accident and I lose my hands I'd never be able to treat again. So, I felt that I really need to move to Homoeopathy because it's still a mild form of treatment and I'm treating naturally and it still something that I want to do to minimize side effects that patients actually have. So, then I moved to homeopathy, so my perceptions on students regarding dropout from Chiro obviously students have different reasons as to why but that was my reason. And I feel that other students probably dropped out because of the fact that it's quite difficult as well. It's for you to be able to pass Chiro every single module that you have without being held</p>	<ul style="list-style-type: none"> • Limitation and restriction of Chiropractic in terms of treating • Trauma • Difficulty of the course and failing of students 	<ul style="list-style-type: none"> • Course related factors • Personal factors 	<ul style="list-style-type: none"> • Health risks • Difficulty of the course • Restriction of the scope of practice • Failure

	<p>back. I really feel that way as well.</p> <p>P2: Do you have anything to say to me?</p> <p>Interviewer: no.</p> <p>P2: Is that enough for the first answer?</p> <p>Interviewer: yes.</p>			
<p>What are the determinants of student's dropout from the Chiropractic programme at the DUT?</p>	<p>For the second answer what determines us as students dropping out from Chiro for me obviously. I looked at the risks that if I lose my hands I won't be able to treat and looked at the fact that what can I treat with Chiro and looked at how limiting the profession is because I really felt that you know for me being able to just treat the musculoskeletal system only I'm really limited to just one specialization whereas in another field I can treat everything and anything. And then if I feel that a patient really needs a Chiro in terms of the fact that they need an adjustment or certain manipulation then I can refer off to a Chiro. So that was the things that determined me. I looked at the risks and limitations of the programme and of the profession as a whole. And I looked at health risks on my side. You know that if certain things were to happen on me and obviously I lose my hands at that time. I also had problem with my wrist there's this thing that I have here so my wrist on my right hand side is quite weak. So if I had patients that were robust males I wouldn't do my duties fully.</p>	<ul style="list-style-type: none"> •Inability to treat •Limitations in the profession only in musculoskeletal system 	<ul style="list-style-type: none"> •Personal factors 	<ul style="list-style-type: none"> •Health risks •Restrictions of the scope of practice
<p>How could the dropout rate in the Chiropractic programme at the DUT be minimized?</p>	<p>So how can the rate be minimised? You know for example for me if there was an insurance that either the Chiropractic profession as a whole would have that in case you lose you know your right or in case you lose your hands then there's</p>	<ul style="list-style-type: none"> •Insurance in case of unanticipated •Broader scope of practice 	<ul style="list-style-type: none"> •Course related factors 	<ul style="list-style-type: none"> •Insurance •Restrictions of the scope of practice

	<p>surety that you would, you know be able to pay you out or whatever so that's one of the ways that if there has such a thing at that time. I would have continued because my main concern was losing what I use. You understand to heal people. Another thing if Chiro were to be broader and say I know that as profession Chiro has always just specialized in the musculoskeletal system. But if the profession itself were to be able to include you know a wide range of diseases that you can treat and then I would have stayed as well because now I am not only limited to one system but maybe there are three or other four systems that I can treat, that's the way they could have limited dropout on my side because I don't want to generalize. So, for me that's it.</p>			
	<p>May I also add, I really also felt that department as a whole did not have care towards us as students and I don't want to make it a race situation, a racial issue but as African students we did not get the support and a care just like white students did. If you for example, I failed physics I never, when I went to them, I never got any assistance in terms of how we can assist you so that you can move on and better your situation but instead nobody did that and that's another thing the department of Chiro is cold. It is a cold department and for me that is the other thing that amplified me to leave because I did not feel welcome there. I did not feel in place there at all.</p>	<ul style="list-style-type: none"> •Lack of care and support for the African students •Coldness of Chiropractic programme • 	<ul style="list-style-type: none"> •Personal factors •Cultural factors 	<ul style="list-style-type: none"> •Lack of support and care •Inequality in the programme •

PARTICIPANT 3 (P3) FEMALE 26

Interview questions	Responses	Themes	Major themes	Subthemes
<p>What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?</p>	<p>At first you feel guilty for leaving prematurely depending on the number of years you've studied. Probably maybe you leave like myself from fourth year in the programme and suppose you needed to be doing fifth year you feel that pressure and guilt that it seems like you were wasting time. But at the same time, you get that sense of relief that maybe it was not something that was meant for you. Thus, considering many challenges in Chiropractic and considering an African student like me raised by a single parent and that I must finish and go straight to work. Those are thoughts that comes that's when get that relief that maybe it was for the best that I left. Speaking of pressure, pressure is too much you really can't handle it, the way the programme is structured make it difficult to finish in record time. Other perceptions would be finding funds such as bursaries and financial aid and hard to maintain them. The other thing is the issue of inequality that alone depresses.</p>	<ul style="list-style-type: none"> • challenges in Chiropractic • inability to handle pressure the way cause is structured • difficulty finishing in record time • FUNDS: Bursaries and financial aid (getting them and maintaining them) • Inequality in the programme 	<ul style="list-style-type: none"> • Work related factors • Finances • Cultural factors 	<ul style="list-style-type: none"> • Financial aid and Financial status of family • Job opportunities • Inequality in the programme
<p>What are the determinants of student's dropout from the Chiropractic programme at the DUT?</p>	<p>The way the course is structured it is very possible for a person to do first year while in actual fact is supposed to be doing third year or have four years in the programme but still be doing second year. Funding are not so much as they should and sponsors as well, even those funds that are available doesn't get to us as we are the under privileged and</p>	<ul style="list-style-type: none"> • Issue of failure • Funding and Sponsors as well • Language barrier • Scarcity of Job opportunities 	<ul style="list-style-type: none"> • Course related factors • Finances • Personal factors • Work related factors 	<ul style="list-style-type: none"> • Difficulty of the course • Financial aid • Bursaries/Scolarships • Language barrier • Job opportunities

	<p>African (black) students. The language barrier that exists doesn't allow every student to understand course content because other students are not from urban schools and job opportunities are very much lacking, scarce rather. To progress to the following year as to fourth year is impossible when you've failed a module in third year and fourth year so forth. It is very possible to attain high practical marks but in theory get low marks. The way the course is structured is difficult.</p>			
<p>How could the dropout rate in the Chiropractic programme at the DUT be minimized?</p>	<p>Firstly, there should be funding such as bursaries, mentorship programs in Chiropractic because it seems like you journey alone for 5 or 6 years alone it's up to you whether you consult lecturers for mentoring. As I am now at Howard I can easily compare. There are tutorials that are compulsory without them it's impossible to get the DP even if you've passed greatly. Tutorials are of much importance because that's where you get to do your homework and get clarity, understanding and scope as well. And a chance to ask questions if you're afraid to ask in the class.</p> <p>There must be also rewards not to be in course for 6 years without any or even merit certificate. Course is not exciting. Course alone is serious we don't have events that causes students to relax and know each other better. There's no communication among us as Chiropractic students. We stay in small groups even the circulation of information doesn't reach every student. For instance, due to the lack of information</p>	<ul style="list-style-type: none"> • Funding • Mentorship and orientation programs • Tutorials • Rewards • Course awareness. 	<ul style="list-style-type: none"> • Finances • Course related factors • Personal factors • Socio-economic factors 	<ul style="list-style-type: none"> • Bursaries/ Scholarships • Learning/Teaching/Assessment • Motivation (rewards) • Lack of joy in the profession • The lack of awareness and information of profession

	<p>even if there is funding you won't hear about it because you don't get along with the other group. So those are things must change and introduce mentorship and orientation programs specifically for Chiropractic where students are being taught about Chiropractic. This should be a vibrant course; more notices and students be well informed about what to expect. You only find out at about forth year when you just become so passionate about the course the things like you will have to write national board exams at some point which are very expensive and opening a practice. There's a clear need for mentor you can't do everything by yourself. Even if you finish it. It is possible to stuck and don't know what to do thereafter.</p>			
--	--	--	--	--

***PARTICIPANT 4 (P4) MALE 25 INTERVIEW DONE IN ISIZULU (SEE APPENDIX 11B)**

Interview questions	Responses	Themes	Major themes	Subthemes
<p>What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?</p>	<p>The leaving of students prematurely from Chiropractic is due to work over load. This tends to be much for other students and less to some. Also, the undisputed truth is that some racial groups are not exposed to Chiropractic and consequently they lack information about the course. So, students do apply and given firm offer to study, and they discover that the course duration is lengthy and lose momentum and work load as well. Some students are coming from remote rural area's schools where there's no civilization and technologies that are found in urban area's</p>	<ul style="list-style-type: none"> • Work overload • Exposure of certain races • Lack of awareness and information • Duration of the course • Lack of Exposure to advancement of technology (Labs) 	<ul style="list-style-type: none"> • Course related factors • Socio-economic factors 	<ul style="list-style-type: none"> • Course is overloaded • Duration of the course • The lack of awareness and of information of profession • Exposure to technology

	<p>school. When they get to varsities they are introduced into laboratories, some of them is their first time working in laboratories. And with students from rural areas it's very difficult but for those from urban areas they find it easy to adapt due to the exposure to laboratories they had in high schools. This brings too much fear and doubts if they will be able to progress and pass Chiropractic.</p>			
<p>What are the determinants of student's dropout from the Chiropractic programme at the DUT?</p>	<p>The reasons why students leave from Chiropractic is due to the work workload, is too much. Also, lack of job opportunities in Chiropractic. Most of the students believe that after getting your qualification you go straight for work not starting the business. But the problem is that most students don't have money or enough strength to start their own business after graduation and that causes students to leave Chiropractic for courses with much opportunities.</p>	<ul style="list-style-type: none"> • Work over load • Scarcity of Job opportunities • Finances to start practice 	<ul style="list-style-type: none"> • Course related factors • Work related factors • Finances 	<ul style="list-style-type: none"> • Course is overloaded • Job opportunities • Lack of finance to start the practice
<p>How could the dropout rate in the Chiropractic programme at the DUT be minimized?</p>	<p>What can help is teaching learners in high schools about Chiropractic so that if it happens that they want to enrol in Chiropractic they know what is expected of them. Also, life skills module be introduced where students are helped on how to be able to handle the pressure.</p>	<ul style="list-style-type: none"> • Career expos for high schools • Introducing life skills module (teaching how to handle pressure) 	<ul style="list-style-type: none"> • Course related factors 	<ul style="list-style-type: none"> • Seminars • Learning/Teaching/Assessment

PARTICIPANT 5 (P5) MALE 20

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	The chiropractic programme is a very interesting course but due to it being uncommon, I could not pursue it because of the shortage of job opportunities after completion. It is a very big challenge firstly to receive funding or a bursary to study chiropractic. Secondly, looking at the later stage after completion of the course, graduates fail to finance themselves to start their own practices.	<ul style="list-style-type: none"> • Shortage of job opportunities • Challenge: funding or bursary • Financing your own practice 	<ul style="list-style-type: none"> • Finances • Work related factors 	<ul style="list-style-type: none"> • Job opportunities • Bursaries/Scholarships • Financial aid • Lack of finance to start the practice
What are the determinants of student's dropout from the Chiropractic programme at the DUT?	Among the students, there is a very big inequality and discrimination because of skin colour or race. When there is a certain activity that needs to be completed as a group, white students group themselves according their friendship statuses, African students also do the same as well as Indians.	<ul style="list-style-type: none"> • Inequality and discrimination that exists because of skin colour 	<ul style="list-style-type: none"> • Cultural factors 	<ul style="list-style-type: none"> • Inequality in the programme
How could the dropout rate in the Chiropractic programme at the DUT be minimized?	For as long as chiropractic is still under private sector, nothing will be done to reduce the drop-out rate but in an attempt to minimize this rate, the programme together with the programme authorities should balance the number of students belonging to different races and make means of reducing segregation among learners.	<ul style="list-style-type: none"> • Chiropractic functioning privately 	<ul style="list-style-type: none"> • Work related factors 	<ul style="list-style-type: none"> • Chiropractic in private sector

PARTICIPANT 6 (P6) MALE 25

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	I believe that most student leave chiropractic because of the more years spent that the course takes to finish it and its work volume or demands due to the many tests that are written. Some student leaves the chiropractic course because of financial reasons since NSFAS does not pay for them if they happen to fail and required to repeat a year. Some students leave the chiropractic course because of failing many times and they then get to the point that the university kicks them out of the programme. Some leave because they get concerned that they will not find jobs, or they will not be able to get money to open up their practice.	<ul style="list-style-type: none"> • Course duration • Work volume in Chiropractic • The toughness of the demands of the course • Financial • Failing of the students and G17 • Job security • Work related factors (Employment) 	<ul style="list-style-type: none"> • Course related factors • Finances • Personal factors • Work related factors 	<ul style="list-style-type: none"> • Course duration is lengthy • Course is overloaded • Difficulty of the course • Financial aid • Failure • Job opportunities • Lack of finance to start the practice
What are the determinants of student's dropout from the Chiropractic programme at the DUT?	I left the course because, at first, I did not know what the course was all about, and I discover about its demands that the workload is so overwhelming and then I decide to quit. In addition, I left the course because chiropractors are not allowed to work in government hospitals here in South Africa so finding jobs was always going to be hard for me.	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Socio-economic factors • Work related factors 	<ul style="list-style-type: none"> • Lack of awareness and information • Course is overloaded • Scarcity of job opportunities
How could the dropout rate in the Chiropractic programme at the DUT be minimized?	I think dropout can be minimised by making sure that all the chiropractic students get the financial support that they need and also if allied health organization can allow chiropractors in government hospitals. The dropout can also be minimised by minimising the number of years taken to complete the	<ul style="list-style-type: none"> • Financial support for students • Chiropractic should be in hospital • Reduction of years taking to complete course 	<ul style="list-style-type: none"> • Finances • Work related factors • Course related factors 	<ul style="list-style-type: none"> • Financial aid And Bursaries/Scholarships • Job opportunities • Duration of the course

	programme that is making it a degree course.			
--	--	--	--	--

PARTICIPANT 7 (P7) FEMALE 24

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	I believe the perceptions that causes the students to dropout, to name a few, course duration is too long. Students are fond of just doing 3-year course and finish. Also, what causes students to leave is due to the scarcity of job opportunities. It brings that sense of relief to know that every month you get salary. Let alone struggling after studying more than five years and then experiencing predicaments in finding capital to start a practice. Prominently, the course is difficult. Students finds the course expensive besides tuition and accommodation fees due to the things required during the course duration such as diagnostic kit. Because you have to buy it yourself.	<ul style="list-style-type: none"> • Course duration is too long • Difficulty in finding jobs • Salary issues • Starting your own practice • Course difficulty • Course is too costly 	<ul style="list-style-type: none"> • Course related factors • Work related factors • Finances 	<ul style="list-style-type: none"> • Duration of the course • Course is difficult • Course is too expensive • Scarcity of job opportunities • Future income
What are the determinants of student's dropout from the Chiropractic programme at the DUT?	Personally, I had to quit because the staff of Chiropractic programme is not so welcoming and easily approachable. For instance, for academic purposes there's no care and support even if I'd be absent for the entire month no one would ask or phone you to know your where about. The course is difficult that's why I left. And I lost motivation in the process.	<ul style="list-style-type: none"> • Lack of care and support • Difficulty of the course • Loss of motivation 	<ul style="list-style-type: none"> • Personal factors • Course related factors 	<ul style="list-style-type: none"> • Loss of motivation • Lack of support and care • Difficulty of the course
How could the dropout rate in the Chiropractic programme at the DUT be minimized?	Lecturers ought to be supportive towards students in order for them to pass and not leave before finishing the course. That's all I can say.	<ul style="list-style-type: none"> • Support and assistance for them to succeed 	<ul style="list-style-type: none"> • Personal factors 	<ul style="list-style-type: none"> • Assistance for students

PARTICIPANT 8 (P8) FEMALE 24

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	Too much work load, expensive fees, course is too long and expensive to start a practice because furniture and equipment are expensive. We don't get enough time to do research, so the course end up being prolonged. Too many hours and patients number, making it hard to complete the course. We work hard making awareness of Chiropractic so that we can get the minimum number of patients required only for them to be deducted for slightest mistakes like signatures. Lack of funding e.g. bursary.	<ul style="list-style-type: none"> • Too much work load, expensive fees and course is too long • Expensive to start the practice • Don't get enough time to do research • Lack of bursaries 	<ul style="list-style-type: none"> • Course related factors • Work related factors • Finances 	<ul style="list-style-type: none"> • Duration of the course • Course is costly • Course is overloaded • Difficulty to set your practice • Research • Bursaries/Scholarship
What are the determinants of student's dropout from the Chiropractic programme at the DUT?	I will talk about myself, at home we're disadvantaged financially so I had to make sure that I find a job early, the research too long and I ended up not finishing.	<ul style="list-style-type: none"> • Financial disadvantage background – home • Research too long 	<ul style="list-style-type: none"> • Finances • Course related factors 	<ul style="list-style-type: none"> • Family finance • Research
How could the dropout rate in the Chiropractic programme at the DUT be minimized?	Minimize number of patients seen in the clinic, I think that will help.	<ul style="list-style-type: none"> • Minimize number of patients seen in the clinic 	<ul style="list-style-type: none"> • Course related factors 	<ul style="list-style-type: none"> • Reduction of patient's number seen in the patient as required by the DUT

PARTICIPANT 9 (P9) FEMALE 24

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	Options for employment seem narrow and close to impossible. The programme has a lot of content that one needs to go through in order to qualify. The work load is a lot and often not easy for people to understand, as well as the methods of evaluation competence. The programme is white dominated and often result in students of colour feeling un-welcome.	<ul style="list-style-type: none"> • Narrowed option for employment • Enormous course content • Methods of evaluation • Cultural unevenness 	<ul style="list-style-type: none"> • Work related factors • Course related factors • Cultural factors 	<ul style="list-style-type: none"> • Scarcity of job opportunities • Course is overloaded • Teaching/Assessment • Racial iscrimination
What are the determinants of student's dropout from the Chiropractic programme at the DUT?	Unclear picture of the future opportunities that will be available following the hard work. Financially disadvantaged background making the feasibility of going into private practice seem impractical especially in black community. Pressing need to have insurance for financial stability following so many years of study. Feeling incompetent and inadequate in a white dominated profession. Background, where there are many dependents and the lengthy nature of the course puts an emotional strain on the learner causing depression plus anxiety	<ul style="list-style-type: none"> • Vivid picture of future opportunities-employment • Private practice • Financially disadvantaged – family, dependents • Feeling of being un-welcomed racially (balance in races) • Course is too lengthy – emotional strain (depression and Anxiety) 	<ul style="list-style-type: none"> • Work related factors • Finances • Cultural factor • Course related factors • Personal factors 	<ul style="list-style-type: none"> • Scarcity of job opportunities • Family finance • Race • Duration of the course • Depression and Anxiety
How could the dropout rate in the	Re-evaluate syllabus and remove unnecessary	<ul style="list-style-type: none"> • Re-evaluate syllabus and remove 	<ul style="list-style-type: none"> • Course related factors 	<ul style="list-style-type: none"> • Evaluation of the curriculum

Chiropractic programme at the DUT be minimized?	subjects. Employ more black educators in the program. Authorization of Chiropractors in public hospitals, to guarantee and provide a sense of job security confidence for less privileged aspiring students. Research should be optional as well, not all people have the passion and drive for it.	unnecessary subjects <ul style="list-style-type: none"> • Employment of more African citizens in the programme • Authorization of Chiropractors in public hospitals • Job security • Research should be optional 	<ul style="list-style-type: none"> • Work related factors 	<ul style="list-style-type: none"> • Job opportunities • Research
---	---	---	--	---

PARTICIPANT 10 (P10) MALE 27

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	There are various reasons to this situation, but main one would be the stress due to demand of the course as a whole. Also, you can have challenges in someone who is supported by NSFAS for an example, home situation financially not stable, this individual would want to consider something with less duration and less demanding so that they can get a job and be supportive to their families.	<ul style="list-style-type: none"> • stress due to demand of the course and • challenges – NSFAS supported students, home financial instability • Job security • Course duration 	<ul style="list-style-type: none"> • Finances • Work related factors • Course related factors 	<ul style="list-style-type: none"> • Financial aid • Family income • Future income • Job opportunities • Duration of the course
What are the determinants of student's dropout from the Chiropractic programme at the DUT?	Chiropractic is a very demanding course in terms of time, and it makes an individual to not be socially active with friends because you hardly get time to spend with them and sometimes even time to relax. The demand keeps on increasing as the level of study	<ul style="list-style-type: none"> • demanding course in terms of time – course is long • stress development – financial, socio-economic (job) and personal 	<ul style="list-style-type: none"> • Course related factors • Personal factors • Socio-economic factors • Work related factors 	<ul style="list-style-type: none"> • Duration of the course is long • Stress • Spending time with peers • Job security

	increases that alone put the individual in a fragile situation for stress development let alone other possible causes of stress like financial, socio-economic, and personal. Sometimes the individual may have to achieve their dreams and get a job so that they can start providing to their parents and siblings, so Chiropractic is a long course			
How could the dropout rate in the Chiropractic programme at the DUT be minimized?	The course could lead to increase in stress levels alone, so if maybe there could be programs developed to help the students deal with stress level, this would be of benefit in terms of academic performances and well-being.	<ul style="list-style-type: none"> • Establishment of programs to assist students to deal with stress for good academic performance and wellbeing 	<ul style="list-style-type: none"> • Course related factors 	<ul style="list-style-type: none"> • Learning/ Teaching

PARTICIPANT 11 (P11) FEMALE 26

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	I'd just be brief in an attempt in answering this question. Lack of motivation was one the things I perceived that resulted in student's dropout. Financial aid you know without it, it is very difficult to finish the course as it is very demanding financial. It is very long and no job opportunities at the end while you are coming from underprivileged background. Those are the things are troubling because at the end you need job to support your family and do things.	<ul style="list-style-type: none"> • Lack of motivation • Not holding financial aid • very long and no job opportunities 	<ul style="list-style-type: none"> • Personal factors • Finances • Work related factors 	<ul style="list-style-type: none"> • Lack motivation • Financial aid • Future income • Job opportunities

<p>What are the determinants of student's dropout from the Chiropractic programme at the DUT?</p>	<p>The reason why I left Chiropractic is because of the foundation phase in my opinion takes more time to finish. If one fails single subject, then they are expected to repeat it the following year which is very costly. The fact that notes and study tools are only available to use with data and laptop. Now not everyone is fortunate to get a laptop and have tools to use this. Foundation students are treated differently to the mainstream students. The cost of the course is also very high, but the most frustrating part is when one fails just one subject and more years are added to the course. That is one primary reasons why I left Chiropractic and one has to guarantee of getting job after spending so much time doing a costly course. I also found a lot of racism with the course. Certain students of a different race didn't make DP I failed the subject but were allowed to either restart or get a second chance, but with black students that wasn't the case.</p>	<ul style="list-style-type: none"> • foundation phase • Repeating a subject which is very costly • Course is very expensive • Lacking study resources for studying • No guaranteed job at the end • Issue with racism and unfairness 	<ul style="list-style-type: none"> • Course related factors • Personal factors • Work related factors • Cultural factors 	<ul style="list-style-type: none"> • Foundation phase • Failure • Course is expensive • Lacking study resources • Job opportunities • Race
	<p>What they can do is to reduce the cost of the course. They can also consider that not everyone can afford gadgets to aid in learning and find alternatives. They can also be fair and not be racist. Chiropractic students can also be assisted in getting jobs after completion of the course. The basic</p>	<ul style="list-style-type: none"> • Reduction of the cost of the course • Students being treated 	<ul style="list-style-type: none"> • Course related factors • Cultural factors • Work related factors 	<ul style="list-style-type: none"> • Course is expensive • Race • Students assistance in finding jobs

	ambulance course should carry out for a long time R750 is a lot of money for something that is just a weekend that will expire in a short term.	<p>the same</p> <ul style="list-style-type: none"> • Assistance with finding jobs after completion 		
--	---	---	--	--

PARTICIPANT 12 (P12) FEMALE 24

Interview questions	Responses	Themes	Major themes	Subthemes
What are the perceptions of students regarding dropout from the chiropractic programme at the DUT?	The duration of the course is long and most of students are NSFAS students. Along the way we get dropped by NSFAS if we fail a module. There's no support from the department which aids in our studies.	<ul style="list-style-type: none"> • Course duration • Funding- Failing the module • Lack of support from the department 	<ul style="list-style-type: none"> • Course related factors • Personal factors • Finances 	<ul style="list-style-type: none"> • Duration of the course • Failure • Financial aid
What are the determinants of student's dropout from the Chiropractic programme at the DUT?	<ul style="list-style-type: none"> - Financial reasons - High work load - Pregnancy - Lack of support from the department 		<ul style="list-style-type: none"> • Finances • Course related factors • Personal factors 	<ul style="list-style-type: none"> • Financial aid • Course is overloaded • Pregnancy • Lack of support and care
How could the dropout rate in the Chiropractic programme at the DUT be minimized?	Department support students more, availability of funding to study in the form of bursaries, more programs put in place to support students.	<ul style="list-style-type: none"> • Departmental support • Funding availability – Bursaries 	<ul style="list-style-type: none"> • Finances • Personal factors 	<ul style="list-style-type: none"> • Bursaries/Scholarships • Lack of support and care

Appendix 11B: Example of transcript (IsiZulu)

- Participant 4 (p4) male 25

Umbuzo omkhulu oyisingeniso: Yiyiphi imicabango yabafundi ngokushiya emkhakheni we-Chiropractic esikhungweni semfundo ephakeme e-DUT?

P4: Ukushiya kwabafundi kaChiro kungabalelwa ezizathwini ezifana nobuningi bomsebenzi. Ingcindezi kwabanye abafundi iba ningi kakhulu kunabanye, futhi into esingeyiphike ukuthi umkhakha wakwaChiro umkhakha wakwaChiro ongakameleki ngendlela kuzo zonke izinhlanga ngenxa yokuthi awugqugquzelwa ngendlela emiphakathini, lelizinga ke lokushiya kwabafundi lingabangelwa iloko ukuthi ezinye izinhlanga zifaka izicelo zokufunda kulomkhakha zingenalo ulwazi olugcwele ukuthi imayelana nani, uma sezifikile kuwo Amandla abese eyaphela endleleni ngenxa yobude bendlela kanjalo nengcindezi yobuningi bomsebenzi. Abanye babafundi baqhamuka ezindaweni zasemakhaya nezikole abafunde kuzona azinayo impucuzeko nobuchwepheshe obusezingeni njengezikole ezisemadolobheni, uma beqala kulomkhakha bafica ezinye zezifundo abazenze emabangeni aphakeme sezijulile baqala ba introduce(we) kumaLaothola ukuthi iningi labo kungokokuqala besenza emagunjini alolu hlobo bese kuthi labo abafunde ezikoleni zempucuzeko kuba lula kubona ngoba basuke sebenolwazi lezinto eziningi kulonyaka wokuqala befika esikhungweni semfundo ephakeme, lokho kwenza iningi labafundi bazeyenze babe nongabazane ngabo uqobo ukuthi bangakwazi ukuphumelela kolumkhakha.

Umbuzo omkhulu: Yiziphi izizathu zabafundi mayelana nokushiya phansi ukufunda emikhakheni we-Chiropractic e-DUT?

P4: Izizathu zokushiya kwabafundi kulomkhakha kungaba ingcindezi yomsebenzi owenziwa kulomkhakha, ubuningi nobubanzi bawo bunika iningi uvalo nokwesaba okukhulu okuholela ekutheni bashiye. Esinye izizathu esenza abafundi bashiye kulomkhakha ukuncima noma ukwentuleka noma ukungabibikho kwamathuba emisebenzi kulomkhakha, iningi labafundi likholelwa ekufundeni uthole isiqu semfundo ephakeme bese uthola umsebenzi ayi ukuqala into ethize (business) yakho, kanti futhi nalo iningi alinawo lamandla or imali eyanele ukuthi bangazisebenza emva

kokuhola leziq, bese abafundi ke bayashiya bayokwenza iziqu ezinamathuba amaningi emisebenzi.

Umbuzo omkhulu: kungenziwani ukuze kumiswe izinga lokushiya phansi kwabafundi bengaqedile e-DUT?

P4: Izisombululo kungaba ukufundisa ngalomkhakha kubafundi abasemabangeni aphansi ukuze bafake izicelo benolwazi ukuthi lomkhakha ungani nokulindeleke kubona uma bethathwa. Kungaba futhi ukunyusa izinga lohlobo lezifundo ezifana no-life Skills labafundi besizwa khona ukuthi bakwazi ukubhekana nengcindezi.