ACADEMIC PERFORMANCE OF PRE-SERVICE ACCOUNTING EDUCATION STUDENTS AT A UNIVERSITY OF TECHNOLOGY

by

MVEMVE SHYLOCK MDINGI

Thesis submitted in fulfilment of the requirements for the degree

Masters in Education

in the Faculty of Education

at the Cape Peninsula University of Technology

Supervisor: Professor C. Vermeulen

Mowbray
October 2018

DECLARATION

I, Mvemve Shylock Mdingi, declare that the contents of this dissertation/thesis represent my own unaided work, and that the dissertation/thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Signed **Date**

ABSTRACT

Academic performance of pre-service accounting education students at a university of technology

There is an increasing demand for chartered accountants in South Africa. But there is a significant decrease in the number of learners who choose Accounting in Grade 10. There is a low pass rate among those learners who choose Accounting for matriculation. The low pass rate may be caused by the fact that there are too few efficient and competent educators in the subject. This study is designed to investigate to what extent pre-identified factors affect the performance of pre-service accounting education students at a selected university of technology in South Africa.

The pre-identified factors are motivation, learning environment, class attendance, learning approach, and the Fees Must Fall protests. This study is grounded within a social psychological theory known as self-determination theory (SDT). Deci and Ryan (2011:416) define SDT as an empirically derived theory of human motivation and personality in a social context that differentiates between autonomous and controlled motivation. SDT theory is about motivation: the variables in this research project are linked to motivation as the chief driver of academic performance.

The research problem of this study was addressed using an explanatory mixed methods design. The data were collected in two phases: a quantitative and a qualitative phase. For the quantitative phase, a questionnaire and document analysis were used to collect data; for the qualitative phase, semi-structured interviews were conducted. A purposive sample was drawn for both quantitative and qualitative phases of the study; consisting of the second to fourth year level pre-service accounting education students. The quantitative data collected were analysed using the Statistic Package for the Social Sciences (SPSS) version 25 computer software. Interviews were transcribed and ATLAS.ti software was used for coding the responses.

The findings revealed that these pre-identified factors do have a direct influence upon the academic performance of pre-service accounting education students; both negatively and positively. The findings from this research could be used as a basis to refine the admission policy at the selected university. The findings could inform lecturers and students on how best to exploit the pre-identified factors to improve academic performance in Accounting.[1]

[1] Accounting, when referred to as an established academic discipline, is spelt throughout this thesis with a capital A; whereas in individual formulations such as ‘accounting students’ lower-case a is used.

ACKNOWLEDGEMENTS

I wish to thank:

- **God the Redeemer**
- Professor Cornelis Vermeulen for his tolerance, patience, understanding and commitment
- Dr Corrie Uys for the training in SPSS and guidance
- Matthew Curr for editing my thesis
- Mr Willem Smith for sound advice
- Professor Lungi Sosibo for the time and the reasonable workload you allowed me
- My Parents
- My daughter Alunamda and son Lizalise for all the time I sacrificed that belonged to you
- My students and colleagues for always enquiring how far I was with my studies
- My primary and secondary schools educators at Masakhane PS-PE, Sivuyile PS-KKH, Sivuyiseni Intermidiate-PE, Mthwaku SSS-KKH, Zwelibanzi Soga JSS-MDA, and Loyiso HS-MDA.

DEDICATION

This research is dedicated to my late father Sindile Mdingi uGasela and my mother Nothemba Mdingi uMamBhele.

TABLE OF CONTENTS

DECLARATION ..... **ii**
ABSTRACT ..... **iii**
ACKNOWLEDGEMENTS ..... **iv**
DEDICATION ..... **v**
TABLE OF CONTENTS ..... **vi**
LIST OF FIGURES ..... **x**
LIST OF TABLES ..... **xii**
GLOSSARY ..... **xiv**

CHAPTER ONE **1**
INTRODUCTION AND BACKGROUND **1**
1.1 INTRODUCTION 1
1.2 BACKGROUND 2
1.2.1 Basic education 2
1.2.2 Economic and Management Science (EMS) 3
1.2.3 Accounting in school 5
1.2.4 Accounting Education in the selected UoT 7
1.2.5 Teacher education qualification 7
1.3 RESEARCH PROBLEM ..... **Error! Bookmark not defined.**
1.4 RESEARCH QUESTION 9
1.5 RESEARCH OBJECTIVE 9
1.6 RESEARCH DESIGN AND METHODOLOGY 9
1.6.1 Research Design 9
1.6.2 Population and sampling 10
1.7 DATA COLLECTION METHODS 11
1.7.1 Questionnaire 11
1.7.2 Document analysis 11
1.7.3 Interviews 11
1.8 DATA ANALYSIS 12
1.9 TRUSTWORTHINESS 13
1.10 THE RESEARCHER'S ROLE 13
1.11 ETHICAL CONSIDERATIONS 13
1.12 DELINEATION 14
1.13 CONTRIBUTION OF THE STUDY 14
1.14 OVERVIEW OF THE DISSERTATION: A SUMMARY 14

CHAPTER TWO **15**
THEORETICAL FRAMEWORK AND LITERATURE REVIEW **15**
2.1 INTRODUCTION 15
2.2 THEORETICAL FRAMEWORK 15
2.3 LITERATURE REVIEW 18
2.3.1 Academic Performance 18
2.3.2 Factors affecting academic performance 19
2.4 SUMMARY 35

CHAPTER THREE **36**
METHODOLOGY **36**
3.1 INTRODUCTION 36
3.1 36
3.2 RESEARCH PARADIGM 36
3.2.1 Positivism 37
3.2.2 Interpretivism 37
3.2.3 Critical-realism 37
3.3 RESEARCH DESIGN 38
3.3.1 Qualitative research design 39
3.3.2 Quantitative research design 39
3.3.3 Mixed method research design 39
3.4 POPULATION AND SAMPLING 41
3.5 DATA COLLECTION METHODS 43
3.5.1 Questionnaire 44
3.5.2 Document analysis 45
3.5.3 Interviews 46
3.6 DATA ANALYSIS 46
3.6.1 Quantitative data analysis 47
3.6.2 Qualitative data analysis 48
3.7 VALIDITY, RELIABILITY AND TRUSTWORTHINESS 49
3.7.1 Reliability 49
3.7.2 Validity 50
3.7.3 Trustworthiness 51
3.8 The researcher's role 52
3.9 ETHICAL CONSIDERATIONS 53
3.10 LIMITATIONS OF THE STUDY 54
3.11 SUMMARY 55

CHAPTER FOUR 56
PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS 56
4.1 INTRODUCTION 56
4.2 RESULTS FROM THE QUESTIONNAIRE 56
4.2.1 Frequency Distribution - Demographic information 57
4.2.2 Frequency Distribution – Grade 12 results 59
4.2.3 Factor Analysis - Sections C to G 60
4.2.4 Descriptive Analysis - Sections C to G 73
4.2.5 Correlation coefficient 74
4.3 RESULTS FROM THE DOCUMENT ANALYSIS 75
4.3.1 Enrolment numbers for Accounting and/or EMS 76
4.3.2 Academic performance for Accounting and/or EMS 77
4.4 RESULTS FROM SEMI-STRUCTURED INTERVIEWS 79
4.4.1 Theme 1: Motivation 80
4.4.2 Theme 2: Learning environment 83
Theme 3: Class attendance 87
4.4.3 Theme 4: Learning approach 90
4.4.4 Theme 5: FMF protests 91
4.5 SUMMARY 97

CHAPTER FIVE 99
DISCUSSION OF FINDINGS AND RECOMMENDATIONS .. Error! Bookmark not defined.
5.1 INTRODUCTION 99
5.2 SUMMARY OF THE RESEARCH 99
5.3 SUMMARY AND BRIEF DISCUSSION OF THE FINDINGS 100
5.3.1 Demographic information 100
5.3.2 Grade 12 results 100
5.3.3 Motivation 100
5.3.4 Learning environment 101
5.3.5 Class attendance 102
5.3.6 Learning approach 103
5.3.7 Fees must Fall protests 104
5.4 CONTRIBUTION OF THE STUDY 105
5.5 RECOMMENDATIONS 105
5.6 SUGGESTIONS FOR FUTURE RESEARCH 107
5.7 LIMITATIONS OF THE STUDY 107
5.8 CONCLUSION 108

LIST OF REFERENCES.....109
APPENDIX A: Research Ethical Clearance Certificate 122
APPENDIX B: Consent to participate in the study.....123
APPENDIX C: Research Questionnaire 125
APPENDIX D: Interview Questions 131
APPENDIX E: Frequency Distribution Tables 132
APPENDIX F: Reliability Statistics.....156
APPENDIX G: Factor Analysis - Correlations – Descriptives 166

LIST OF FIGURES

FIGURE 1.1 BASIC EDUCATION IN PHASES 2

FIGURE 1.2 LEARNERS WHO WROTE ACCOUNTING IN GRADE 12 6

FIGURE 1.3 DIAGRAMMATIC VIEW OF THE METHODOLOGY 10

FIGURE 2.1 A TAXONOMY OF HUMAN BEHAVIOUR 15

FIGURE 2.2 PRE-IDENTIFIED FACTORS THAT INFLUENCE ACADEMIC PERFORMANCE 17

FIGURE 2.3 BIGGS' 3P FRAMEWORK 28

FIGURE 3.1: DIAGRAMMATIC VIEW OF EXPLANATORY MIXED METHODS DESIGN 41

FIGURE 3.2: DIAGRAMMATIC VIEW OF EXPLANATORY MIXED METHOD DESIGN UTILISED IN THIS STUDY. 41

FIGURE 3.3: FIVE STEP FACTOR ANALYSIS PROTOCOL 48

FIGURE 3.4: DIAGRAMMATIC VIEW OF THIS METHODOLOGY CHAPTER 55

FIGURE 4.1: THEORETICAL FRAMEWORK 57

FIGURE 4.2: GENDER 58

FIGURE 4.3: ACADEMIC LEVEL 58

FIGURE 4.4: THE PLACE WHERE STUDENTS STAY WHILE STUDYING 59

FIGURE 4.5 MATRIC RESULTS COMPARISON 60

FIGURE 4.6: SUB-FACTOR MOTIVATION - FREQUENCY DISTRIBUTION 62

FIGURE 4.7: SUB-FACTOR ACCOUNTING COURSE GUIDANCE - FREQUENCY DISTRIBUTION 63

FIGURE 4.8: SUB-FACTOR LECTURER'S TEACHING STYLE - FREQUENCY DISTRIBUTION 65

FIGURE 4.9: SUB-FACTOR EXTERNAL CLASS ASSISTANCE - FREQUENCY DISTRIBUTION 66

FIGURE 4.10: SUB-FACTOR CLASS PREPARATION - FREQUENCY DISTRIBUTION 67

FIGURE 4.11: SUB-FACTOR SUBJECT ADMINISTRATION - FREQUENCY DISTRIBUTION 68

FIGURE 4.12: SUB-FACTOR CLASS SIZE - FREQUENCY DISTRIBUTION 69

FIGURE 4.13: SUB-FACTOR CLASS ACTIVITIES - FREQUENCY DISTRIBUTION 70

FIGURE 4.14: FACTOR LEARNING APPROACH - FREQUENCY DISTRIBUTION.....71

FIGURE 4.15: FACTOR FEES MUST FALL PROTESTS - FREQUENCY DISTRIBUTION 72

FIGURE 4.16: ENROLMENT NUMBERS FOR ACCOUNTING AND/OR EMS.....76

FIGURE 4.17: ACADEMIC PERFORMANCE FOR ACCOUNTING 1 AND/OR EMS1.....77

FIGURE 4.18: ACADEMIC PERFORMANCE FOR ACCOUNTING 2 AND/OR EMS2.....78

FIGURE 4.19: ACADEMIC PERFORMANCE FOR ACCOUNTING 3.....78

FIGURE 4.20: SUB-THEMES FROM MOTIVATION.....80

FIGURE 4.21: SUB-THEMES FROM LEARNING ENVIRONMENT 83

FIGURE 4.22: SUB-THEMES FROM CLASS ATTENDANCE 87

FIGURE 4.23: SUB-THEMES FROM FEES MUST FALL PROTESTS.....91

LIST OF TABLES

TABLE 1.1 OVERVIEW OF THE CURRICULUM CHANGES 3

TABLE 1.2 OVERVIEW OF EMS TOPICS IN SP 4

TABLE 1.3 OVERVIEW OF THE CURRICULUM AND WEIGHTINGS 6

TABLE 1.4 CRITERIA FOR SELECTING INTERVIEWEES 12

TABLE 2.1 INFLUENCE OF SELECTED FACTORS ON ACADEMIC PERFORMANCE OF FIRST YEAR ACCOUNTING STUDENTS' PERFORMANCE 17

TABLE 2.2 COMPARISON OF LEARNERS WHO WROTE ACCOUNTING AND/OR BUSINESS STUDIES IN THE GRADE 12 FINAL EXAMINATION BETWEEN 2015 AND 2017. 23

TABLE 2.3 SURFACE LEARNING VERSUS DEEP LEARNING 28

TABLE 3.1 SUMMARY OF DOMINANT RESEARCH TRADITIONS 38

TABLE 3.2: CRITERIA FOR SELECTING INTERVIEWEES 43

TABLE 4.1: RESEARCH QUESTION AND OBJECTIVE 56

TABLE 4.2: ACADEMIC LEVEL AND GENDER CROSS-TABULATION.....58

TABLE 4.3: PARTICIPANTS WITH ACCOUNTING AND THOSE WITHOUT IT 59

TABLE 4.4: INTERNAL CONSISTENCY RULE OF THUMB SCALE 61

TABLE 4.5: SECTION C - RELIABILITY OF INDIVIDUAL ITEMS.....62

TABLE 4.6: ITEMS UNDER SUB-FACTOR MOTIVATION 62

TABLE 4.7: ITEMS UNDER SUB-FACTOR ACCOUNTING COURSE GUIDANCE.....63

TABLE 4.8: SECTION D - RELIABILITY OF INDIVIDUAL ITEMS.....64

TABLE 4.9: ITEMS UNDER SUB-FACTOR LECTURER'S TEACHING STYLE.....65

TABLE 4.10: ITEMS UNDER SUB-FACTOR EXTERNAL CLASS ASSISTANCE 66

TABLE 4.11: ITEMS UNDER SUB-FACTOR CLASS PREPARATION.....67

TABLE 4.12: ITEMS UNDER SUB-FACTOR SUBJECT ADMINISTRATION 68

TABLE 4.13: ITEMS UNDER SUB-FACTOR CLASS SIZE.....69

TABLE 4.14: ITEMS UNDER SUB-FACTOR CLASS ACTIVITIES.....70

TABLE 4.15: SECTION F - RELIABILITY OF INDIVIDUAL ITEMS 71

TABLE 4.16: ITEMS UNDER LEARNING APPROACH FACTOR 71

TABLE 4.17: SECTION G - RELIABILITY OF INDIVIDUAL ITEMS.....72

TABLE 4.18: ITEMS UNDER FMF PROTESTS FACTOR.....72

TABLE 4.19: DESCRIPTIVE STATISTICS.....73

TABLE 4.20: FACTORS AND SUB-FACTORS EXTRACTED.....74

TABLE 4.21: CORRELATION COEFFICIENT.....75

TABLE 4.22: PSEUDONYMS OF PARTICIPANTS 79

TABLE 5.1: SIMILAR SUB-FACTORS/ SUB-THEMES FROM QUANTITATIVE AND QUALITATIVE RESULTS 102

GLOSSARY

BEd	Bachelor of Education
C2005	Curriculum 2005
CAPS	Curriculum and Assessment Policy Statement
CGPA	Cumulated Grade Point Average
DBE	Department of Basic Education
DHET	Department of Higher Education and Training
DoE	Department of Education
EMS	Economic and Management Sciences
FBMS	Faculty of Business and Management Sciences
FE	Faculty of Education
FET	Further Education and Training
FMF	Fees Must Fall
FP	Foundation Phase
GAAP	General Accepted Accounting Principles
GET	General Education and Training
GPA	Grade Point Average
ICTs	Information and Communication Technologies
IP	Intermediate Phase
NCS	National Curriculum Statement
RMF	Rhodes Must Fall
RNCS	Revised National Curriculum Statement
SA	South Africa
SAQA	South African Qualifications Authority
SP	Senior Phase
SPSS	Statistical Package for the Social Sciences
WCED	Western Cape Education Department

Wits	University of Witwatersrand
UCT	University of Cape Town
UoT	University of Technology

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

Reliable, trustworthy and coherent audits of companies are mandated by law and must be undertaken by chartered accountants. Regular and thorough audits of companies and government entities prevent corruption and protect the public from fraud. Chartered accountants are therefore crucial for every country's sound and honest economic growth. Schreuder (2014) defines Accounting as a universal language for assessing businesses and regulating finance. Accounting assists businesses to identify areas of growth by analysing the financial position and performance of the business and by calculating the individual company's return on investment. The healthy growth of businesses reduces poverty and unemployment. The main source of income of every government is taxes which is calculated through application of accounting principles. Accounting assists in reducing crime because it is the primary tool for detecting fraud and corruption. To succeed and to be transparent in their transactions, each business requires an accounting person to monitor liquidity, advise on debt and audit all accounts at year end. To produce the number of chartered accountants required to audit and monitor companies, more well-qualified teachers are required in the subject.

Msomi (1995) emphasises that teacher education in South Africa is one of the areas that most needs attention in order to improve education. Dos Reis (2012) emphasises that the development of teachers is crucial for the quality of education in every country. Schreuder (2014) notes that the quality of Accounting teaching and assessment results has been blamed for poor performance of matriculants writing the subject, as well as the small number of learners opting for it in Grade 10 when making subject choices. Barnes, Dzansi, Wilkinson and Viljoen (2009) note that under-performance and failure in first-year Accounting is a problem experienced by many higher education institutions, internationally and in South Africa.

This study assumes that pre-service accounting education students' training has a direct influence on future learners. The focus of this study is to identify, investigate and describe factors that affect the performance of pre-service accounting education students at a selected university of technology (UoT). A clear understanding of these factors will assist in

determining what corrective action can be taken to improve the quality of pre-service accounting education within the selected UoT. According to Clark and Latshaw (2012) teachers generally teach their learners in the way they have been taught: so lecturers at university who teach the future teachers of Accounting exert a decisive influence (i) upon the quality of those learners choosing Accounting for matriculation, (ii) the number of learners who choose Accounting and (iii) the likelihood of learners continuing to study the subject at university and (iv) on learners deciding to become chartered accountants.

1.2 BACKGROUND

The following section provides an overview of the structure of basic education in South Africa. Curriculum structure and revisions are explained and the nature of the two subjects that comprise this study, namely Economic and Management Sciences (EMS) and Accounting, are dealt with. The relevant teacher education qualifications at the selected UoT are listed and explained.

1.2.1 Basic education

Basic education in South Africa (SA) consists of four phases: Foundation Phase (FP) from Grade R to 3, Intermediate Phase (IP) from Grade 4 to 6, Senior Phase (SP) from Grade 7 to 9, and Further Education and Training phase (FET) starting from Grade 10 to 12. Figure 1.1 below demonstrates how basic education in SA is structured in terms of phases and grades:

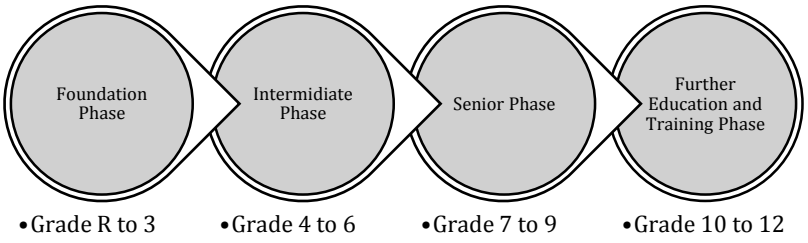

Figure 1.1 Basic Education in Phases

Prior to 2009 there was one national Department of Education (DoE) that was responsible for primary, secondary and tertiary education (DBE, n.d.). Since 2009, tertiary education and basic education were separated and a new department for tertiary education, the Department of Higher Education and Training (DHET), was introduced. Basic education in

SA is managed by the Department of Basic Education (DBE). Amongst the responsibilities of DBE is the development of curriculum policy to be followed by schools.

The South African school curriculum has undergone several revisions since the dawn of democracy in 1994. Adu and Ngibe (2014:984) posit that these revisions often confuse teachers when it comes to implementation. They highlight that changes in the curriculum affect learners, teachers, parents, and employers. According to them, one of the major weaknesses of these curriculum revisions is the lack of involvement of teachers from different backgrounds. Table 1.1 presents an overview of the curriculum revisions since 1994:

Table 1.1 Overview of major curriculum changes (Adu and Ngibe, 2014:983)

Curriculum	Year implemented
Curriculum 2005 (C2005)	1997
Revised National Curriculum Statement (RNCS)	2002
National Curriculum Statement (NCS)	2007
Curriculum and Assessment Policy Statement (CAPS)	2012

The following areas were identified as weaknesses of Curriculum 2005:

- A skewed curriculum structure and design
- Lack of alignment between curriculum and assessment policy
- Inadequate orientation, training and development of teachers
- Learning support materials that are variable in quality, often unavailable and not sufficiently used in classrooms
- Policy overload and limited transfer of learning into classrooms
- Shortages of personnel and resources to implement and support C2005
- Inadequate recognition of curriculum as the core business of education departments. (Chisholm, 2005:87)

Some of these weaknesses, such as inadequacy of training and development of teachers, are yet to be addressed; even after all these revisions, as highlighted by Schreuder (2014).

1.2.2 Economic and Management Science (EMS)

EMS was introduced as a new subject in C2005 and was phased in from Grade 4 up to Grade 9. It is defined by DBE (2002:27) as:

> … a learning area that involves the study of private, public or collective use of different types of resources in satisfying people's needs and wants, while reflecting critically on the impact of resource exploitation on the environment and people.

According to DBE (2011a:8) EMS equips learners with real-life skills mainly for personal and community development. The WCED (2005) states that EMS was introduced to ensure that learners are developed to become entrepreneurs rather than job seekers' in order to reduce the rate of unemployment in SA. This subject has an allocation of two instruction hours per week and it is divided into three topics: 40% for Financial Literacy, 30% for Economy and 30% for Entrepreneurship. Table 1.2 below presents an overview of the topics in EMS from Grade 7 to 9 in CAPS:

Table 1.2 Overview of EMS Topics in SP (DBE, 2011a:11)

Topic	Grade	Content
The economy 30%	7	History of money; needs and wants; goods and services; the production process; and inequality and poverty
	8	Government; the National Budget; standard of living; and markets
	9	Economic systems; the circular flow; price theory; and trade unions
Financial Literacy 40%	7	Savings; budgets, income and expenses; and accounting concepts
	8	Accounting concepts; accounting cycle; source documents; Cash Receipts Journal and Cash Payments Journal of a service business; effects of cash transactions on the accounting equation; General Ledger and Trial Balance
	9	Cash Receipts Journal and Cash Payment Journal of a sole trader; posting to the General Ledger; preparing a Trial Balance; recording transactions in the Debtors' Journal, Creditors' Journal; posting to the Debtors' Ledger and Creditors' Ledger
Entrepreneurship 30%	7	The entrepreneur; starting a business; businesses; and an Entrepreneur's Day
	8	Factors of production; forms of ownership; levels of management; and functions of management
	9	Sectors of the economy; functions of a business; and a business plan

The DBE appointed a Ministerial Task Team in 2009 which recommended that EMS should be offered in the General Education and Training Band (GET): Grade R to 9, and Accounting be offered in the Further Education and Training Band (FET) (DBE:2015). This recommendation was implemented from January 2012 in CAPS. Accounting, starting in

Grade 7 to 9, is part of the combined subject Economic and Management Sciences (EMS) in the Senior Phase, where it is known as Financial Literacy.

Schreuder (2014) posits that the introduction of EMS has limited time allocated for Accounting and introduced inappropriately qualified teachers. According to her findings, Accounting in schools demands urgent attention. The 2015 DBE report confirmed this urgency; concluding that combining Accounting, Business Studies and Economics to form EMS resulted in unintended and unforeseen consequences. The report ascribed the flaws in EMS to lack of pedagogy, content and assessment knowledge of educators who had to teach Accounting. Van Wyk and Tshelane (2016) highlight that educators need to plan thoroughly and be careful in selecting a teaching approach that suits learners in EMS.

1.2.3 Accounting in school

Accounting is offered from Grade 10 to 12 as an elective subject: four hours of instructional time are allocated to it per week. Accounting at these grade levels should be built upon the foundational work of Financial Literacy undertaken in EMS. Educators should ensure that the EMS's financial literacy module is a solid foundation for Grade 10 Accounting (WCED, 2005:11). Schreuder (2009:6) found that learners often reach Grade 10 with little or no exposure to Accounting.

According to CAPS (2011b:8) "accounting focuses on measuring performance and communicating financial information about economic sectors". According to Conradie, Kirsch and Moyce (2012:55) the importance of Accounting is to provide all necessary information that assists business owners to make sound business decisions. At school level it combines three different fields: financial accounting, managerial accounting, and auditing (DBE, 2011b:8). Conradie, Kirch and Moyce (2012:57) differentiates financial accounting from managerial accounting: financial accounting focuses upon past events for internal and external use; while managerial accounting focuses on the future profitability of the business. Table 1.3 provides the relative weightings of the components of the accounting curriculum and topics in Grade 10 to 12.

Table 1.3 Overview of the curriculum and weightings (DBE, 2011b:8)

Weighting of Curriculum	Topic
Financial Accounting (Weighting 50% to 60%)	1. Accounting concepts
	2. GAAP principles
	3. Bookkeeping
	4. Accounting equation
	5. Financial accounts and financial statements
	6. Salaries and wages
	7. Value-Added Tax
	8. Reconciliations
Managerial Accounting (Weighting 20% to 25%)	9. Cost accounting
	10. Budgeting
Managing Resources (Weighting 20% to 25%)	11. Indigenous bookkeeping systems
	12. Fixed assets
	13. Inventory
	14. Ethics
	15. Internal control

One of the main challenges of Accounting at school level is that it is becoming unpopular among learners: the number of learners that choose to do it is decreasing. The 2015 DBE report confirms this tendency: more learners are disregarding Accounting and many of those who do choose it, drop it before reaching Grade 12. A significant number of schools in certain provinces are dropping Accounting, such as in the Northern Cape Province where numbers fell from 372 schools offering Accounting in 2010 to 98 schools in 2014. 274 schools discontinued Accounting as a school subject (DBE, 2015:24). Figure 1.2 below presents the decreasing number of learners who wrote Accounting in the National Senior Certificate from 2015 to 2017.

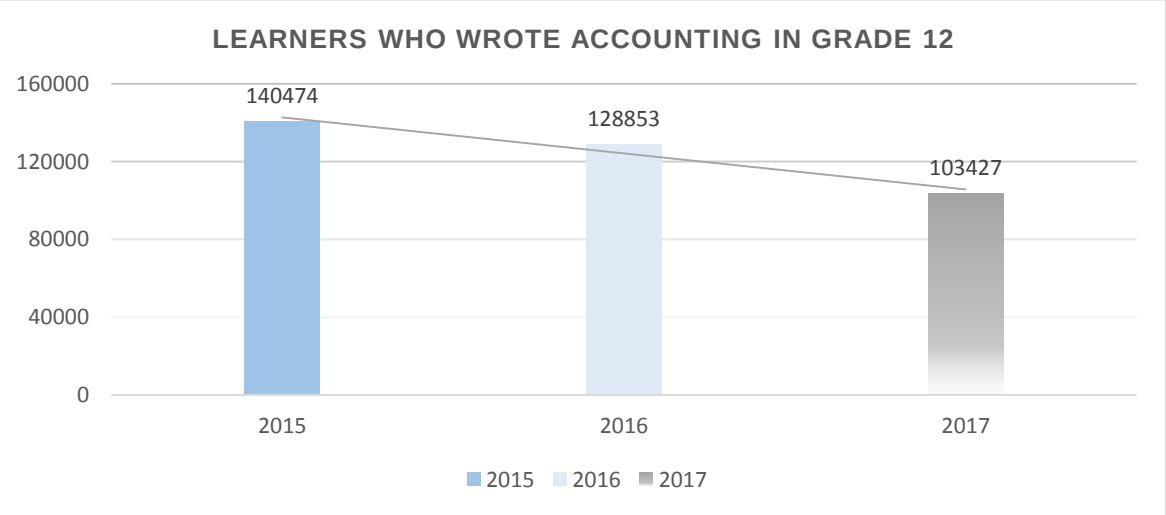

Figure 1.2 Learners who wrote accounting in Grade 12 (DBE, 2017:6)

1.2.4 Accounting Education in the selected UoT

Accounting Education at the UoT selected for this research project is divided into three clusters: two clusters are offered by the Faculty of Business and Management Sciences (FBMS) and one by the Faculty of Education (FE). In the FBMS, the School of Accounting offers two streams of Accounting: one is meant for students who wish to enter the accounting profession; the other one for non-accountants such as those students enrolled for diplomas and degrees in fields such as Marketing and Tourism, which require some financial knowledge for their future careers. Accounting Education offered in FE is offered for students who intend to become Accounting educators at high school level, graduating with a BEd SP&FET qualification. At the FE of the selected UoT, it is compulsory to register for the subject Economic and Management Sciences (EMS) for all first and second year BEd students who choose to major in one of the commercial subjects, i.e. Accounting, Economics or Business Studies. The rationale for making it compulsory is that all these students are supposed to be able to teach all three components of EMS in SP when they qualify.

Some of these students have not taken Accounting at school level and they have no interest in it because they want to major in Economics and/or Business Studies. Many of these students find themselves in the predicament of being forced to register for and pass EMS, which includes Accounting. Some students at the faculty have passed all their subjects in their first year but failed EMS due to the Accounting component of EMS. This is one of the reasons why this research aims to discover the extent to which the identified factors affect pre-service accounting education students' academic performance.

1.2.5 Teacher education qualification

The teacher education qualification offered at the selected UoT is the BEd FET (pre-2016) or BEd SP&FET (the first first-year cohort started in 2016). According to the Government Gazette of 2015 (South Africa, 2015:20) the main purpose of the Bachelor of Education degree (BEd) is "to provide a well-rounded education that equips graduates with the required subject content knowledge base, educational theory, and methodology that will enable them to demonstrate competency and responsibility as academically and professionally qualified beginner teachers". According to the DHET (2014:10) there are five knowledge requirements for teaching purposes:

- Disciplinary learning refers to disciplinary or subject matter knowledge, and can be presented in two components within a teaching curriculum.
- Pedagogical learning incorporates general pedagogical knowledge, and refers to the study of the principles, practices and methods of teaching.
- Practical learning involves learning from, and in, practice.
- Fundamental learning in the context of teacher education in South Africa refers to learning to converse competently in a second official language, the ability to use Information and Communication Technologies (ICTs) competently, and the acquisition of academic literacies, which lay the foundation for effective learning in higher education contexts.
- Situational learning refers to knowledge of the various learning situations, contexts and environments of education (classrooms, schools, communities, districts, regions, countries and globally), as well as to the prevailing policy, political and organisational contexts.

The BEd degree at the selected UoT has a duration of four years. According to the exit level outcomes registered with South African Qualifications Authority (SAQA), at the end of these four years students are expected to:

- Have the ability to combine subject knowledge and pedagogical content knowledge to enable the beginner teacher to identify, analyse, evaluate and critically reflect on an appropriate range of methods which will introduce change within the field of teaching the specific subject.
- Understand the learners and their development in diverse social contexts in order to organise teaching, learning and assessment effectively in unfamiliar and variable South African contexts (schools).
- Critically reflect on own and others` thinking processes (meta-cognition), including the ability to analyse teaching practice, conceptions of teaching, working with knowledge, pedagogical content knowledge, the influence of language and professional judgment.
- Develop a clear vision of the professional practice; of a professional disposition; and of a strong commitment to the ideals and practices of teaching as a profession and the ability to critically reflect on teaching as a profession, its issues and value systems.

1.3 RESEARCH PROBLEM

At the selected UoT Accounting is compulsory during the first two years of study for all students who wish to become educators in the commerce field. The rationale for this is that these students are trained to teach at both the FET and GET (Grades 8 and 9) levels. In the latter case, EMS is a school subject which includes components of Business Management, Economics and Accounting (see Table 1.2). Some of these students have never studied Accounting at school level and they have no interest in it as they want to major with Economics and/or Business Studies Such students, many of whom avoided Accounting by all means at school level, find themselves in a predicament of being forced to register for and pass EMS, which includes Accounting, during their first two years of study. Many students have passed all their subjects in their first year but failed EMS due to the Accounting module. This is one of the reasons why the researcher is interested in gaining an in-depth understanding of the extent to which the identified factors affect students' performance in accounting education. To study this problem the following research question is posed.

1.4 RESEARCH QUESTION

To what extent do identified factors affect the academic performance of pre-service accounting education students at a selected UoT?

1.5 RESEARCH OBJECTIVE

The main objective of this study is to determine the effect each identified factor has on pre-service accounting education students' performance.

1.6 RESEARCH DESIGN AND METHODOLOGY

The following section provides an overview of the research design and the methodology adopted and deployed in this study.

1.6.1 Research Design

This study falls within a critical realism paradigm. Du Plooy-Cilliers, Davis and Bezuidenhout (2014) explain that critical realism draws on aspects from both positivist and interpretivist

traditions. This study uses an explanatory mixed methods design. Creswell (2014:15) defines this design as one in which a researcher first conducts quantitative research, analyses the results and then attempts to gain a deeper understanding of these results through qualitative research. This design is suitable for this study because the researcher used the qualitative phase to explore participants' quantitative responses and understand in depth the factors that affect student performance. The following figure 1.3 presents an overview of the methodology applied in this study.

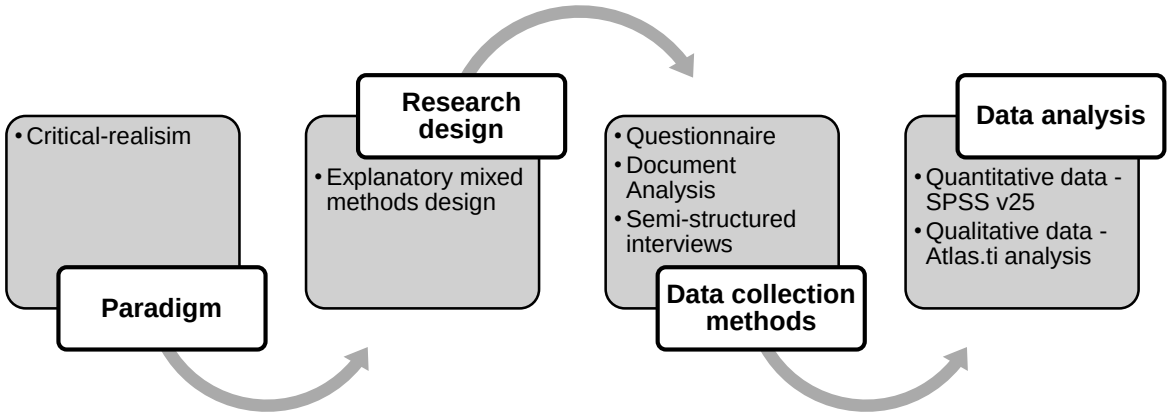

Figure 1.3 Diagrammatic view of the methodology

1.6.2 Population and sampling

This study was conducted at a selected UoT in the Western Cape Province of South Africa and within the Faculty of Education. The site was conveniently selected by the researcher because he is a staff member at the selected UoT. The population of this study consisted of all the registered BEd FET and BEd SP&FET education students enrolled for Accounting within the selected UoT at the time of the study.

Du Plooy-Cilliers et al. (2014:135) define a sample as a subset of a population that is considered to be representative of the population. A purposive sample was drawn for both quantitative and qualitative phases of the study; consisting of second to fourth year level pre-service accounting education students. According to Palinkas, Horwitz, Green, Wisdom, Duan, and Hoagwood (2015) a purposive sample provides rich information that assists with an in-depth understanding of the phenomenon under study.

1.7 DATA COLLECTION METHODS

The data were collected in two phases: a quantitative and qualitative phase. For the quantitative phase, a questionnaire and document analysis were used to collect data and for the qualitative phase, semi-structured interviews were conducted.

1.7.1 Questionnaire

A questionnaire was compiled and supplied to a captured audience of 132 participants. It consisted of seven sections. Section A collected demographical information about the participants. Section B requested the subjects done in Grade 12 and their National Senior Certificate (NCS) results. Multiple choice questions (MCQs) were used in these first two sections. Sections C to G dealt with the factors that affect performance:

- Section C - Motivation
- Section D - Learning environment
- Section E - Class attendance
- Section F - Learning approach
- Section G - Fees Must Fall protests

These sections used a Likert scale to obtain information from the participants. A five-point Likert scale ranging from 1 to 5 [1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree] was used to measure participants' perceptions about what affects their performance. The questionnaire is attached under appendix C.

1.7.2 Document analysis

Participants' results for Accounting and EMS for the period 2015 to 2017 were collected and analysed. These results were collated to determine the current trends of academic performance of pre-service accounting education students in Accounting and EMS.

1.7.3 Interviews

One-to-one interviews were designed, scheduled and conducted to collect qualitative data for this study. The objective of conducting interviews was to obtain a deeper understanding of the factors that affect the participants' academic performance to complement the quantitative data results analysis. Interviews were semi-structured with predetermined

questions. Participants to be interviewed were purposively selected according to the analysis of results from both the questionnaire and the document analysis.

Twelve participants were interviewed; six from the second-year level and three from third year and fourth year level. The second-year students were selected in terms of whether they offered Accounting in Grade 12 or not, and how they performed in their first year at university. The third and fourth year level students were selected based upon their previous year-end results: one participant was a repeat student or a student with the lowest mark; one with an average mark and one with the highest mark. The questions that were asked in the interviews were based upon variables extracted with Principal Component Analysis while conducting factor analysis in Chapter 4. Table 1.4 below shows the number and the criteria used to select participants interviewed:

Table 1.4 Criteria for selecting interviewees

Academic year level	**NSC results**	**2017 Year end university results**			
		Repeater/ lowest mark	Average mark	Highest mark	Total
2nd year	Did Accounting at school (FET)	1	1	1	3
	Did not do Accounting at school (FET)	1	1	1	3
3rd year		1	1	1	3
4th year		1	1	1	3
Total		4	4	4	12

Appointments were arranged with the selected participants and the objective of the study was explained to them prior to the start of each interview. The interviews were audio-recorded and transcribed.

1.8 DATA ANALYSIS

Schreuder (2014:95) defines data analysis as “a process of making sense of data and discovering what it conveys about the phenomena being studied”. The quantitative data collected were analysed using the Statistic Package for the Social Sciences (SPSS) version 25 computer software. Factor analysis, descriptive analysis, and Pearson’s correlation coefficient were performed, and frequency tables and charts were produced with this program. Cronbach’s alpha was used to determine the reliability of responses provided by participants. Reliability tests, descriptive statistics (mean and standard deviation), and correlation matrix were used to determine the relative influence of the identified factors, as well as the statistical significance of the findings.

According to Creswell (2012:238) qualitative data analysis requires transcribing of audio-recorded data; he advocates the use of a computer program to analyse it. The interviews were transcribed and ATLAS.ti software was used for coding the responses.

1.9 TRUSTWORTHINESS

The data were collected using three methods, namely questionnaire, document analysis, and interviews which enabled triangulation. Participants were invited to participate in the study voluntarily and were encouraged to respond freely and honestly. After the interviews were transcribed and analysed, participants were afforded an opportunity to verify whether what appeared in the transcript was what they really meant.

1.10 THE RESEARCHER'S ROLE

The researcher attempted to minimise bias when collecting and analysing the findings. A detailed explanation of these measures is provided in Chapter Three.

1.11 ETHICAL CONSIDERATIONS

Confidentiality of the information provided was guaranteed to the participants and the intention of the study was explained to them. The names of the participants are not included in the publication of this research. The participants voluntarily participated in the study and they were allowed to withdraw if they wished to. A consent form was signed by them as proof of voluntary participation (see appendix B). Before each interview commenced, the researcher asked for permission from the participant concerned to audio-record the interview.

Prior approval from the Education Faculty Ethics Committee of the selected UoT was granted before the commencement of this research and the ethics certificate is attached as appendix A.

1.12 DELINEATION

The study focused upon the second to fourth-year BEd pre-service accounting eduacation students at one selected UoT only. The study targeted those students who were being trained to teach Accounting or EMS when they qualify.

1.13 CONTRIBUTION OF THE STUDY

This study provides knowledge of how identified factors affect students' academic performance. It is anticipated that this study can assist in improving students' academic performance at the selected UoT. The findings might assist institutional policy makers in curriculum restructuring and decision-making with regards to admission criteria and could assist students in solving their problems concerning performance in Accounting and/or EMS.

1.14 OVERVIEW OF THE DISSERTATION: A SUMMARY

In *Chapter One* the researcher explains the context of the study in view of basic education in SA. The Accounting/EMS subjects were briefly explained as they exist from school level to tertiary level. An overview of the selected research design and methodology was provided. The research objective for investigating the performance of pre-service accounting education students was outlined.

In *Chapter Two* the researcher provides an account of the theoretical framework that informed the study and a review of literature relevant to the academic performance of accounting students. The theory in which this research is grounded is set out. Journal articles, theses and books related to student performance are listed and discussed.

In *Chapter Three* the researcher outlines in detail the research method chosen for the study and the reasons behind the selected research design, data collection, data analysis and ethical considerations.

In *Chapter Four* the findings from data collected are presented. Questionnaire and document analysis results are analysed using SPSS software, and interviews are analysed using ATLAS.ti software.

In *Chapter Five* the researcher presents the conclusions of the study and makes recommendations; including those for future research.

CHAPTER TWO

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 INTRODUCTION

The main objective of this study is to determine the effect each identified factor has on pre-service accounting education students' performance. The first part of this chapter discusses the theoretical framework upon which this study is based. The second part presents a literature review of empirical findings regarding prominent factors as identified by Barnes et al. (2009) which affect academic performance in South Africa and abroad.

2.2 THEORETICAL FRAMEWORK

This study is situated within a social psychological theory known as self-determination theory (SDT). Deci and Ryan (2011:416) define SDT as an empirically derived theory of human motivation and personality in a social context that differentiates between autonomous and controlled motivation. According to Urdan and Schoenfelder (2006:336-337) SDT has three innate and intertwined needs that must be satisfied in order to promote motivation: relatedness, competency and autonomy. Most of the variables studied in this research are linked to, and are dependent upon, motivation. SDT focuses on what influences attitude, motivation, values and behaviours of human beings. Deci and Ryan (2000) present a taxonomy of human motivation as phases. Amotivation describes a state of no motivation at all. Extrinsic motivation depends upon expected outcomes. Intrinsic motivation is based upon the sheer satisfaction of performing a task well. These three kinds of motivation are set out in Figure 2.1 below:

Figure 2.1 A taxonomy of human behaviour (adapted from Deci and Ryan, 2000)

Ahmed and Bruinsma (2010:555) agree with Deci and Ryan (2000) that intrinsic motivation is about the satisfaction or pleasure derived from performing a certain task: an individual is intrinsically motivated when he/she can perform a task without expecting any reward. Deci and Ryan (2000:61) further classify extrinsic motivation into three forms: external regulation, doing a task because you are forced to do it by someone else; introjected regulation, doing a task because you do not want to be guilty of not doing it; and identified regulation, doing a task because it will add value for you.

According to Kusurkar, Ten Cate, Vos and Westers (2013:59) SDT is associated with deep learning and high academic performance: intrinsic motivation is motivation that comes from within oneself. Lemos and Verissimo (2014) found a positive correlation between academic performance and intrinsic motivation. They argue that both intrinsic and extrinsic motivation can increase performance. They conclude that intrinsic and extrinsic factors are independent dimensions and therefore should be tested as such.

SDT concerns motivation and the variables that have been studied in this research are linked to motivation as the driver of academic performance. These variables are those factors that have been found to be prominent in the literature about academic performance of accounting students. Barnes et al. (2009) investigated literature about factors that influence under-performance and failure in first year Accounting throughout South Africa and world-wide. According to their findings, the context of every institution is different and therefore factors that affect one institution cannot be generalised to all institutions. Du Plessis, Muller and Prinsloo (2005:684) agree with Barnes et al. (2009) and conclude that the findings in the literature are therefore in many respects unusable due to the different contexts of institutions surveyed.

The variables that Barnes et al. (2009) identified as most common for academic performance were: motivation, previous performance, performance in certain school subjects, learning approach, language medium, gender, age, ethnicity and nationality, and support for students. Barnes et al. (2009) provided an overview of the prominent research findings about the factors influencing academic performance in the accounting field and in their scrutiny of the literature, discovered that the findings presented are inconclusive; as shown in the table 2.1 below:

Table 2.1 Influence of selected factors on academic performance of first-year accounting students (Barnes et al. 2009:44)

	Factor	Relation to performance
1.	Previous academic performance	Inconclusive
2.	Performance in school subject:	
	Accounting	Inconclusive
	Mathematics	Inconclusive
3.	Motivation	Positively related
4.	Learning approach	Positively related
5.	Language medium	Inconclusive
6.	Gender	Inconclusive
7.	Age	Inconclusive
8.	Ethnicity and nationality	Positively related
9.	Support for students	Positively related

This study investigates motivation, Grade 12 results in selected subjects, learning environment, class attendance, learning approach, the Fees Must Fall campaign and students' final year marks as a measure of performance for the selected sample. This study is centred on academic performance. Final-year marks for the years 2015 to 2017 were used to measure the current status of academic performance at the selected UoT. The final-year marks were the final results for Accounting in each academic year level (first to fourth year level) for the above-mentioned period. Learning environment, class attendance and learning approach have relations with motivation, as well as among themselves (Cohn & Johnson, 2006). The Fees Must Fall protests were a new phenomenon that might have had an effect on academic performance. Figure 2.2 below presents an overview of the pre-identified factors that were investigated and tested in this research.

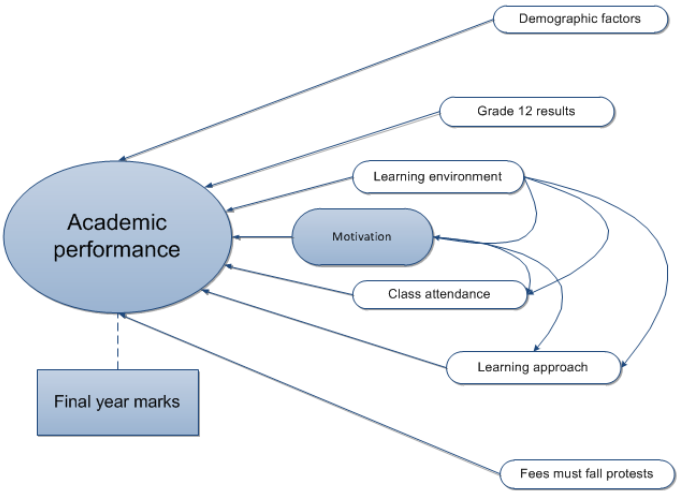

Figure 2.2 Pre-identified factors that influence academic performance – Adapted from Barnes et al. (2009)

2.3 LITERATURE REVIEW

The following section reviews the empirical findings of literature about factors that affect academic performance locally and abroad. It starts by explaining academic performance and the final year mark that will be used for measuring the performance of the selected sample.

2.3.1 Academic Performance

Yazdani and Godbole (2014:827) refer to academic performance as how well a student accomplishes his or her tasks and studies. According to D'Souza and Maheshwari (2010) literature is inconclusive in determining exactly what factors affect academic performance of university students since conditions differ so widely from one university to another. Mushtaq and Khan (2012) concur with these authors; noting that factors vary from person to person and country to country. Barnes et al. (2009) point out that the variance between factors is attributable to the different learning environments sustained at different institutions, and therefore it is difficult to apply a fixed grid of expectations to all institutions.

There is limited literature on pre-service accounting education students. Most studies about accounting education investigate practising accounting teachers' performance by measuring it in terms of the pass rates of their learners at school. Letshwene (2014) researches how to improve Grade 10 accounting teachers' competency, Schreuder (2014) examines the quality of teaching of Accounting at secondary schools, and Venter (2016) examines the preparation of Grade 10 to 12 accounting learners for studies at a UoT. Most research into Accounting at post-school level, nationally and internationally tends to focus on students' completing accounting qualifications to become accountants rather than on those who want to become accounting educators (Principe, 2005; Barnes et al., 2009; Guney, 2009; Baard, Steenkamp, Frick & Kidd, 2010; Joubert, 2010; Xiang & Gruber, 2012).

Dos Reis (2012) did focus on pre-service accounting educators but her emphasis was on their mentoring by school-based educators rather than on their performance during their training at university level. A study done by Selesho (2006) is the only South African study available on the performance of students who are studying to become accounting educators. His concern, however, was with comparing the performance of students who had a school accounting background with those who had none. Selesho (2006) measured one variable only: Grade 12 results against the performance of students during their first

year. His finding was that high school Accounting might improve the results of accounting education students in their first year.

There are, however, many variables that can affect students' performance. According to Clark and Latshaw (2012) the outcomes of studying students' performance can be substantially different when certain variables are excluded. Hosal-Akman and Simga-Mugan (2010) assess whether teaching methods have an effect on academic performance. Results did not show any significant effect of teaching methods upon academic performance. Chiang, Nouri, and Samanta (2014) established that the teaching approach is almost insignificant to academic performance.

2.3.1.1 Final year mark

The overall Accounting and EMS final marks from 2015 until 2017 at the UoT selected for this study were analysed to provide a perspective of the overall performance trends during the past three years. Ali, Jusoff, Ali, Mokhtar and Salamat (2009) mention that student performance or academic achievement is determined by cumulated grade point average (CGPA), grade point average (GPA), test results and other factors. The final year mark is a total of 100% cumulative weights of different assessments performed by students during the year. Kirk and Spector (2006:92) note that "GPA is an alternative measure of students' ability although it arguably measures effort and motivation as well".

2.3.2 Factors affecting academic performance

The following paragraphs are a review of literature with regards to the pre-identified factors selected to be investigated with this study. These are motivation, demographic factors, Grade 12 results (in pure Mathematics, Mathematical Literacy and Accounting), learning environment, class attendance, learning approach and the fees must fall protests.

2.3.2.1 Motivation

Motivation is one of the key factors that were investigated in this research. The study seeks to understand students' levels of motivation and whether they are intrinsically or extrinsically motivated. Urdan and Schoenfelder (2006:332) define motivation as "a complex part of human psychology and behaviour that influences how individuals choose to invest their

time, how much energy they invest in any given task, how they think and feel about the task, and how long they persist at the task". Motivation governs both internal and external classroom factors, and the same motivation is the driver of class attendance which in turn affects final marks that are used for measuring academic performance. D'Souza and Maheshwari (2010) note that a motivated student will attend class regularly and submit assignments. Yazdani and Godbole (2014) agree that one of the key factors influencing academic performance is motivation.

Helm (2015) mentions intrinsic motivation, learning environment, and mathematical ability as some of the factors affecting students' competence in Accounting. Learning environment is a variable perceived to have a direct influence on motivation of students. Jurisevic (2012) highlights that providing feedback to students about their performance in assessments increases motivation.

Yunus, Osman and Ishak (2011) mention that good relations and mutual respect between lecturers and students can increase motivation and academic achievement. Vygotsky (2004) emphasises the significant role of the ability to manage the conduct of the class; knowing about the social conditions and personal histories of students. But controlling and managing a class is difficult for accounting lecturers who face large lecture halls of students. Kusurkar, Ten Cate, Vos, Westers and Croiset (2013) investigated how motivation affects academic performance and found that there is a positive correlation between motivation, a deep learning approach, and academic performance. Their study detected that women were more intrinsically motivated than men. The demographic factors referred to in this research include gender, academic level, place where participants are staying while studying, and the region where they wrote their Grade 12 final examination.

2.3.2.2 Demographic factors

Ali et al. (2009) highlight that many studies identify demographic factors, active learning, student attendance, extramural activities, peer influence, and course assessment as factors that determine student performance. The demographic factors referred to in this research include gender, academic level, place where participants are staying while studying, and the region where they wrote their Grade 12 final examination.

Joubert (2010) established that female students are more motivated than their male counterparts and therefore performed academically better. D'Souza and Maheshwari

(2010) found that female students' enrolment numbers at universities are higher than those of male students and that they perform better than their male counterparts. According to D'Souza and Maheshwari (2010) there is a significant increase of female students in universities in a number of countries. Garkaz, Banimahd and Esmaeili (2005) agree with the findings of Joubert (2010) and D'Souza and Maheshwari (2010) as they established that women achieved higher marks than men. This is not always the case though because Kirk and Spector (2006), Guney (2009) and Erdem (2012) did not find any consistent correlation between gender and academic performance.

Okafor and Egbon (2011) compared female and male students' academic performance in Accounting. Like Kirk and Spector (2006) they did not detect any difference in students' academic performance with reference to gender. The findings about gender differ from one researcher to another. This divergence was confirmed by Barnes et al. (2009) that the literature presents inconclusive findings when it comes to gender and age with reference to academic performance.

2.3.2.3 Grade 12 Results

Many universities use high Grade 12 results as a requirement for entering certain courses. In many instances Grade 12 results are used as a predictor of academic performance at university level. Knowing this factor in selection of first-year students motivates learners to perform well in their final school examinations. Universities specify subjects needed and levels of achievement by a student as minimum admission criteria. Findings in a South African context are contrary to those in the international literature. South African research presents inconclusive results about the influence of Grade 12 results in affecting the performance of students at a university level. According to Joubert (2010) this inconclusiveness is due to the fact that the potential of South African students who come from previously disadvantaged backgrounds is fully realised only when they are at universities where they have equal access to resources, sound teaching and designated study facilities.

This research investigates participants' performance in Grade 12 with specific reference to Accounting, Mathematics or Mathematical Literacy. Moradi, Salehi, and Khalilianmovahed (2013) found that the quality of accounting education can be improved if mathematical abilities can be improved. Guney (2009) concurs with that finding and notes that mathematics is among the determinants of performance in accounting. Guney (2009) recommends that mathematics should be part of university admission policy.

Bosua and Van der Nest (2015) investigated the effect of not doing Accounting, Mathematics or Mathematic Literacy at secondary school level on the success of first-year university Accounting. Their findings are that the final mark obtained in school Accounting and Mathematics had an influence on first-year Accounting performance; however Mathematical Literacy had no influence. They further found that school Accounting had a stronger influence than either Mathematics or Mathematical Literacy. They suggest that Accounting should be an admission requirement in order to improve academic performance of first-year accounting students. However, a significant number of students in their research population would be denied access in about eleven courses that were studied should this prerequisite for admission be applied because Accounting is compulsory for all the first years in those courses.

According to Venter (2016) accounting subjects done at school level could help students towards an accounting degree at university level. Although this research was conducted with reference to university accounting qualifications, it might be applicable to accounting education qualifications. The findings of Al-Twaijry (2010) reveal that both high school Mathematics and Accounting have a significant effect on academic performance of students in university Accounting. Al-Twaijry (2010) found that students with an accounting background perform better than those without it; even in other subjects: therefore, high school performance should be used as a criterion for selecting students to enter into accounting courses at university.

If Accounting is used as an admission criterion, the result may be that fewer students will gain access to a number of university courses (see Table 2.2 below). This problem can be exacerbated if the performance of these learners in Accounting is analysed. The learners who wrote Accounting in Grade 12 versus those who wrote Business Studies were fewer by more than 100 000 each year from 2015 to 2017 (see Table 2.2 below). When learners select subjects in Grade 10, fewer learners opt for Accounting. This disinclination might result from an inability to master Accounting while studying it as part of EMS in the GET phase (DBE, 2017:6). Table 2.2 compares the number of learners selecting Accounting versus those opting for Business Studies. Since Accounting is part of the commercial subjects, the concern is why learners discontinue with it in between Grades 10 and 12.

Table 2.2 Comparison of learners who wrote Accounting and/or Business Studies in the Grade 12 final examination between 2015 and 2017.

Year	Wrote Accounting	Wrote Business Studies	Difference
2015	140 474	247 822	107 348
2016	128 853	234 894	106 041
2017	103 427	204 849	101 422

(Source: DBE, 2017:6)

Many thousands of learners who write Accounting in Grade 12 fail to achieve a mere 30% in their final external examinations each year in South Africa. Letshwene (2014:19-27) blames educators for this poor performance in Accounting at Grade 12 level; he highlights that educators themselves are not thoroughly equipped to teach Grade 10 Accounting. He suggests that investment should be made in ensuring that the number of learners who select Accounting in Grade 10 is increased. DBE (2015:6) confirmed that there are negative effects that are caused by combining Accounting, Business Studies and Economics to form the subject EMS. The above DBE report states that this combination results in FET learners dropping Accounting or not selecting it because teachers in Senior Phase lack pedagogy, content, and assessment knowledge to teach Accounting.

2.3.2.4 Learning Environment

Lizzio, Wilson, and Simons (2010) highlight that the learning environment has a direct influence on learning outcomes. Naidoo (2012), in his investigation of non-major accounting students' experiences when learning in a private higher education institution, revealed that students had a positive learning experience when lecturers create a safe learning environment that was relaxed, filled with humour and where students are comfortable to make mistakes. Principe (2005) investigated internal and external classroom factors and found that students perceived that only internal classroom factors influence their academic performance. According to his findings, external classroom factors were statistically insignificant in overall academic performance. Adamski, Fraser and Peiro (2013:325) found that although external classroom factors such as parental involvement had no influence on the performance of students, they did have significant influence upon the attitudes of students.

According to Holley and Steiner (2005:49) there is a great difference between a safe learning environment and an unsafe one. A safe environment is where students are free to participate in classroom activities without fear of being psychological or emotionally harmed by their peers should their views be wrong, different or unacceptable to their classmates.

Holley and Steiner (2005:49) underscore the value of a safe environment since it increases productive learning in a classroom: they caution that educators should never confuse their perception of a safe learning environment with that of students as they often differ significantly. Educators have the responsibility of ensuring that they encourage participation of their learners to maximise learning within the classroom.

Guney (2009) believes that students' views should be considered when the learning environment is being reviewed. Hsu, Chiang and Liang (2014) conclude that factors affecting academic performance are not limited to the learning environment *per se* since there are other variables to be investigated as well. The conduciveness of the learning environment depends on space and teaching process but goes beyond these two factors (Oluwatayo. Aderonmu, & Aduwo, 2015). According to Brooks (2011:725) physical space can contribute immensely to increased student learning. Kirk and Spector (2006) found that large class groups performed better than those with smaller numbers. They accredited this higher performance to the quality and experience of lecturers. Class size might or might not affect academic performance. According to Fraser and Walberg (2005:107) positive lecturer-student relations and a constructive classroom environment are crucial in improving academic performance.

The learning environment is not limited to classroom environment only. According to Strayer (2012:172) universities are increasingly using a mixture of face-to-face classroom tuition with online classroom exposure. They state that these two kinds of learning environments complement each other; assisting students to learn more effectively. Akkoyunlu and Yilmaz-Soylu (2008:183-190) refer to a learning environment known as blended learning. They define this practice of integrated technology as a combination of a physical classroom environment (face-to-face) and online learning (internet based) Akkoyunlu and Yilmaz-Soylu (2008:183-190) According to them the advantages of online learning are that (i) it is available 24 hours per day, seven days a week, (ii) can be accessed wherever internet is available, and (iii) caters for different learning styles. They concluded that although it is important to integrate online learning, the traditional physical classroom environment should not be ignored since it provides human support and motivation to students.

Lee, Yin and Zhang (2009:227) support this conclusion of Akkoyunlu and Yilmaz-Soylu. In their study they explored the influence of classroom environment upon motivation: they found that teacher involvement and support are important for motivation and positively affect the academic performance of learners. Urdan and Schoenfelder (2006:340) concur with Akkoyunlu and Yilmaz-Soylu (2008) stating that the physical class environment provides a

social climate that improves motivation and academic performance. According to Hawk and Shah (2007:1) using different teaching approaches is advantageous because each student learns differently. According to Urdan and Schoenfelder (2006:340) it is the responsibility of educators to ensure that they create a conducive learning environment that will result in improved academic performance: they conclude that if the learning environment is given thorough attention then automatically the student motivation levels increase.

2.3.2.5 Class Attendance

Chen and Lin (2008) found that class attendance has a significant and positive impact upon students' performance. Students might miss classes intentionally or unintentionally, but regardless of the motive there are reasons behind bad or good class attendance. Baard, Steenkamp and Frick (2010) established that poor class attendance is one of the reasons that students did not perform well in Accounting. Participant students surveyed by these researchers felt that accounting classes were boring and they disliked early morning classes.

Cohn and Johnson (2006) question the assumed academic value associated with attending a class, emphasising the need to ascertain whether attendance helps learning. Class attendance affects academic performance, according to Mushtaq and Khan (2012). Conard (2006) in his study found that attendance incrementally predicted Grade Point Average (GPA) and course performance.

Kassarnig, Bjerre-Nielsen, Mones, Lehmann and Lassen (2017) investigated the effect of class attendance upon academic performance and found a significant correlation between the two. Landin and Perez (2015) observed the same factors and discovered similar results; that students who attend classes regularly outperformed those with low attendance in both tests and final examinations. This is highly possible in Accounting which is a progressive subject; meaning that each lesson completed in class forms a basis for the subsequent lesson. Kassarnig et al. (2017) concluded that absenteeism is one of the factors that demonstrably contributes to failure.

Andrietti (2014) argues that motivation among individual students increases frequency of attendance and improves academic performance. When students are unmotivated, they do not attend classes and perform poorly; while those who are motivated attend regularly and perform better. Dey (2018) and Stanca (2006) confirm this relation by stating that students

who are struggling academically and who need to attend classes often are those who do not attend classes. Andrietti suggests that lecturers should encourage students to attend classes, advise them about the benefits of attending classes and indicate these benefits with statistical evidence.

Guney (2009) found that class attendance is strongly related to academic performance and suggested that universities should make it compulsory. On the notion of establishing compulsory attendance policies, Stanca (2006) opposes compulsory or obligatory attendance; stating that if students are forced to attend classes against their will then the learning environment might become non-conducive.Andrietti (2014) differs about obliging students to attend classes. He warns that if universities change their policies and make attendance mandatory, then students might attend classes but pay no attention to lessons and become subversive. Jover and Ramirez (2018) add that students should be motivated to attend classes by their own enthusiasm for the subject or career goals. Jover and Ramirez (2018) even suggest that students should be incentivised to come to class. Stanca (2006) advocates that students should be inspired to attend class by providing high quality teaching and incentives.

Latif and Miles (2013) investigated the effect of class attendance on academic performance in a university where attendance is compulsory. They found an increased number of assignments had a greater effect upon academic performance than class attendance. According to Latif and Miles (2013) this improvement might have been caused by having online learning activities which increased the need for blended lessons where online internet platforms are used for teaching. Louis, Bastian, McKimmie and Lee (2016) state that online learning platforms might in future reduce the importance of class attendance. A new generation of students prefers technology which circumvents such problems as costly transport and other limitations that make it difficult to physically access many universities.

Nyamapfene (2010) investigated the importance of class attendance upon academic performance in a course that provides online notes and has no mandatory class attendance. His findings differ from the above authors' and he emphasises that class attendance remains crucial as a significant determinant of academic performance. Nyamapfene's utterance might have been true and relevant at the time he conducted his study, but when one compares the time difference between his study (2010) with other more recent research then his conclusion might be irrelevant; technology has taken over so rapidly since then. Stanca (2006) confirms this caution that the importance of physical class attendance on

academic performance has to be regularly tested due to the daily development of information technology.

Clark and Latshaw's (2012) findings were contrary to those of Guney (2009) when judging performance based on attendance. According to Clark and Latshaw, class attendance affected homework only; not the overall annual performance of students. Bamuhair, Farhan, Althuiti Rahman, and Al-Kadri (2016) conclude that class attendance has a positive effect on academic performance and is preferable for learning; more than teaching modalities. Their argument is that even if the best teaching methods are deployed, they can only be effective if there are students in attendance.

Cotti, Gordanier and Ozturk (2018) studied how frequency of classes affects academic performance. They discovered that there is no significant difference in performance between having two classes per week and having three classes. However, when they measured performance after having one class per week, there was a marked improvement in performance. Class attendance alone should not be the target but the number of classes students have per week should be scrutinised.

Stripling, Roberts and Israel (2013) examined the possible reasons for students not attending classes. Lecturer behaviour, poor quality of teaching, time-tables and personal difficulties were among many factors that were raised. The most common reason given was that there were no attendance records or registers being kept. Stripling et al. (2013) revealed that students became demotivated and fail to attend classes when the lecturer lacked adequate knowledge about the subject content. Students preferred a lecturer who was enthusiastic and knowledgeable about his work.

2.3.2.6 Learning Approach

Beyaztas and Senemoglu (2015) define a learning approach in terms of the learner's intention, behaviour and study habits. According to Abhayawansa and Fonseca (2010:530) there are three approaches to learning: utilising, internalising and achieving. The first two elements were later renamed as surface learning and deep learning respectively. These two approaches were originally established by Biggs (1989) as part of his teaching and learning model; termed the 3Ps: framework, presage, process, and product. Figure 2.3 below displays how he mapped these 3Ps.

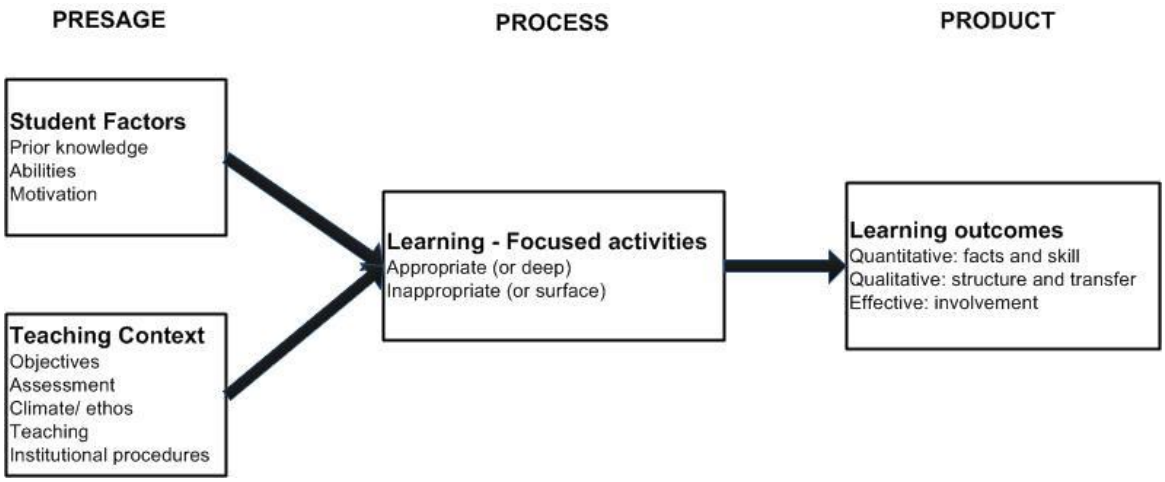

Figure 2.3 Biggs' 3P Framework (source: Biggs, 1989:11)

Dolmans, Loyens, Marcq, and Gijbels (2016:1087) mention that with a deep learning approach, students' intention is to understand, whereas in a surface learning approach their primary intention is to pass. According to Biggs and Tang (2007) a deep learning approach is closely linked to intrinsic motivation; where students learn to understand, whereas a surface learning approach is where students apply less effort and do only what has to be done. With a surface learning approach, students keep knowledge temporarily until they write an assessment. They are not interested in understanding and they memorise facts relevant to the assignment only.

According to Teixeira, Gomes and Borges (2013:194) deep learning approach students keep knowledge permanently for life. Teixera et al. (2013) further posit that in order for accounting students to be competent in future they should be lifelong learners which is a requirement in the accounting profession. This characteristic might apply in the teaching profession as well because what pre-service accounting education students learn needs to be retained for when they become qualified teachers. Table 2.3 presents differences between surface learning and deep learning approaches:

Table 2.3 Surface learning versus deep learning (Hall, Ramsay and Raven, 2004:490-491)

	Surface learning	**Deep learning**
Intention	To memorise and pass	To understand and seek meaning
Reproduction of material	It is lacking	Highly possible
Knowledge retention	Temporarily kept	Permanently kept

According to Gibels, Donche, Richardson and Vermunt (2014) the choice of which learning approach to adopt is influenced by the learning environment as well as the experience of students in a topic. Yusoff and Arifin (2015) and Abhayawansa and Fonseca (2010:533)

profess similar sentiments: that a positive learning environment is likely to inculcate a deep learning approach. According to Gordon and Debus (2002:506) the learning environment for pre-service education students should be designed and developed towards adopting a deep learning approach. The advantage of using a learning environment to change the learning approach is that accounting lecturers can control the environment; whereas they cannot change the past experience of students' approach to learning (Hall et al., 2004:492-493). Hall et al. (2004) were indecisive that a change in the learning environment definitely denotes a change of learning approach: they found that students' approaches to learning are constantly evolving, changing and adapting to new circumstances, technology and knowledge systems.

Platow, Mavor and Grace (2013) postulate that adopting a surface or deep learning approach derives from an individual student's motivation. Platow et al. consider that deep learning is associated with good performance; while surface learning is associated with poor or mediocre performance. Everaert, Opdecam and Maussen (2017) drew a similar conclusion: that a deep learning approach has a significantly positive effect on academic performance; while surface learning results in poor academic performance. Everaert et al. (2017) investigated the relation between motivation, learning approach, academic performance and time spent. They discovered that students are likely to adopt a deep learning approach when they are motivated, whether intrinsically or extrinsically. Guney (2009) suggests that lecturers should encourage students to adopt a deep learning approach rather than surface learning.

Bilgin and Crowe (2008) reveal that post-graduate students tend to adopt a deep learning approach compared to undergraduate students. Bilgin and Crowe (2008) ascribe this significant difference to the exposure of post-graduate students to real work-related problems because most of the participants in their research were in employment. Donnison and Penn-Edwards (2012) propose surface learning for first-year students as a stepping-stone towards deep learning. They conclude that it is irrational to expect first-year students to adopt a deep learning approach fully when their level of experience is comparatively low.

Saeli, Dahl, Sorlie and Friborg (2017) detected that in a deep learning approach students tend to go beyond the prescribed syllabus and seek extra sources of information. They caution that there might be differences between what deep learning approach students learn, and what their lecturers want them to learn. Saeli et al. (2017) sense that these differences affect academic performance negatively. Their study should be viewed critically,

however, because although they had an acceptably large sample size, the response rate of their participants was below the accepted levels; at 9.3%.

Teixeira et al. (2013:206) suggest that accounting educators at school and lecturers at university level should motivate students and make them aware of the learning approaches to adopt for their studies. Accounting is a practical subject which requires deep learning: the approach that students adopt influences their academic performance. Barnes et al. (2009) confirm this phenomenon by highlighting that examinations and other assessments in Accounting usually require a deep learning approach rather than surface learning; where key concepts and facts are memorised rather than authentically comprehended.

Abhayawansa and Fonseca (2010:528) emphasise that it is important to understand that different cultures have different approaches to learning. According to one of the findings in their research, secondary school educators tend to enforce surface learning to their learners. Abhayawansa and Fonseca (2010:545) emphasise that university students should adopt a deep learning approach. According to them, however, accounting students tend to adopt a surface learning approach as compared to other students in fields such as the Arts. Contrary to Abhayawansa and Fonseca (2010), Turner and Baskerville (2013:588) found that accounting students apply a deep learning approach from the beginning of their course.

Some researchers believe that accounting students need to apply all approaches to learning (Duff, 2004:426). Duff associates surface learning with poor academic performance and deep learning with good academic performance in accounting studies. Duff identified among other things the workload, teaching method and class size as some of the reasons that students opt for surface learning rather than a deep learning approach. In order to encourage deep learning Duff suggests that accounting lecturers should use formative assessment rather than summative assessment. Healy and Mccutcheon (2010:555) propose using case studies as a teaching method in order to enhance deeper learning of students. However, Phillips and Graeff (2014:242) argue that case studies are time consuming and are not a popular teaching method in Accounting. Phillips and Graeff (2014) found that in-class simulation is a better teaching method that encourages accounting students to adopt a deep learning approach. However, their findings cannot be generalised since they had a significantly small sample size.

Byrne, Flood and Willis (2002:38) found that accounting students' adoption of a learning approach is not dependent on gender and that students from different genders do not prefer

a certain approach over another. Duff (2004:414) disagrees with the finding about gender: he posits that male approaches to learning differ from those preferred by females. Byrne et al. (2002:39) found that there is a correlation between deep learning approaches and the academic performance of students; this linking was confirmed by Platow et al. (2013) who suggest that lecturers should indicate to students which approach is relevant for every accounting topic.

From the above literature review on learning approaches, it is clear that researchers are inconclusive about which learning approach is most suitable for accounting students. Some advocate for either surface or deep learning; while others prefer a combination of the two approaches.

2.3.2.7 Fees Must Fall (FMF) protests

According to Pillay (2016:155) the students' protests started in March 2015 at the University of Cape Town (UCT) when a student threw faeces onto the statue of Cecil John Rhodes. This protest was termed hashtag Rhodes Must Fall (#RMF). During these protests, students were against the colonial symbols and structures at the university. Xaba (2017:100) notes that the protests occurred while UCT was preventing students from registering; due to financial and academic exclusions. She notes that hashtag RMF gave birth to the hashtag Fees Must Fall (#FMF) that started in October 2015 at the University of Witwatersrand (Wits) when an 8% fee increase was announced. Pillay (2016:155) described these students' protests together with the disruption of the State of the Nation Address in parliament by the Economic Freedom Fighters, an opposition political party, as the beginning of a new era that he termed politics of radical dissent and an end of the politics of hope and patience. FMF protests spread across the country and students demanded free, quality and decolonised education and an end to the outsourcing of university cleaning and maintenance staff. During these protests universities were closed down and the academic activities were halted. This affected learning opportunities, including a reduction in the time available to cover syllabi (Xaba, 2017).

Expensive higher education fees

The main driver of the FMF movement included such issues as parents' low income that negatively affected the financing of students' studies: the cost of higher education has become very high and relatively unaffordable. Guney (2009) found that when students experience financial difficulties, their academic performance is affected negatively since they lose focus and concentration in class. According to De Villiers and Steyn (2007) the

government investment in higher education has significantly decreased over the years, while student numbers increased. This disjunction has forced universities to increase tuition fees. Langa, Ndelu, Edwin and Vilakazi (2017:50) note that one of the positive elements about FMF protests was that they highlighted weaknesses of the government funding model of universities. They point out that students made it clear during FMF protests that education is their right and therefore it must never be commoditised. Mlambo, Hlongwa and Mubecua (2017:51-58) caution that expensive higher education is counterproductive to the goals of a democratic state. Education is key to economic growth and reduction of unemployment of any state. According to Mlambo et al. (2017:52), the key challenge with free higher education is the source of funding.

Statistics South Africa (2015) cites that the higher education system is congested and the failure rate of students is making the system even more expensive. They attribute this congestion to poor preparedness of school leavers to enter the higher education system. The frustrations of students might be beyond the fees aspect and include the fact that the entire education system is failing them. Poor preparation of students might lead to high failure rates; causing students to take longer to finish their qualifications. This study assists with the investigation into pre-service accounting education students' performance, which could establish an in-depth understanding of the effect of the campaign upon academic performance.

Decolonisation

In addition to the reasons for protesting, students believed that higher education in South Africa should be decolonised; however, they were inconclusive about the meaning of the term decolonisation (Langa et. al, 2017:50). Some viewed it in terms of differences in the quality of education provided; while others viewed it as a need for university curriculum reforms. Decolonisation, according to some students, was not limited to curriculum changes but included a broader transformation of South African universities generally. If decolonisation means changes in curriculum, this might have an effect on students' academic performance. According to Fanon (1967) the need for decolonisation emerges when there are two widely separated societies: the coloniser and the colonised. Xaba (2017:100) explains that:

> Decolonisation is not the senseless use of violence but a response to colonial violence that maintains the colony while also using violence to suppress any resistance against it.

Violence during FMF

The FMF protests became violent. According to Langa et al. (2017:50) violent student protests were not new phenomena at South African universities: before FMF protests, certain universities experienced protests due to financial and academic exclusions. Xaba (2017:98) posits that students have been protesting at the historically black universities long before the FMF movement but they never received any publicity from the media. According to him, involvement of the media came into effect only when black students were protesting in the historically white universities. Duncan (2016:1) notes that protests are disruptive in their nature and that they should never be confused with violence.

The violence during FMF was aggravated by the arrival of police in universities' precincts shooting rubber bullets at students. According to Xaba (2017:100) this was the same response that students received during the RMF:

> The police fired stun grenades and rubber bullets at unarmed students for three hours. Private security kidnapped and violently assaulted one student, who is part of RMF but was not at the protest. Throughout the night, police escalated the violence (even shooting at students who were not protesting). As a result, students burnt a UCT vehicle and the office of the Vice Chancellor.

Responses to FMF

Mutekwe (2017:144) suggested that the students should halt the FMF movement, focus on their academic work and refrain from thinking that education will ever be free as that, according to him, is impossible. The management of the universities resorted to court interdicts to muzzle the voices of students (Langa et al., 2017:50). Government responded with police violence: when they realised that does not work the then minister of higher education, Blade Nzimande, pronounced a 6% capped fee increase in all universities. Seeing that the protests were not decreasing, then president of the country Jacob Zuma was forced to announce a 0% fee increment across universities. In January 2016 he established a commission led by Judge Jonathan Arthur Heher with the following terms of reference:

1. The feasibility of making higher education and training (higher education) fee-free in South Africa, with regard to:

- the Constitution of the Republic of South Africa, all relevant higher and basic education legislation, all findings and recommendations of the various Presidential and Ministerial Task Teams, as well as all relevant educational policies, reports and guidelines;
- the multiple facets of financial sustainability, analysing and assessing the role of government together with its agencies, students, institutions, business sector and employers in funding higher education and training; and
- the institutional independence and autonomy which should occur *vis-a-vis* the financial funding model. (DHET, 2016:26-27)

The commission concluded that money cannot be diverted to universities due to the FMF protests while there are other deserving government departments and that the quality of higher education is affected by poor funding of the sector. Some of its recommendations were that government should strive to contribute a minimum of 1% of the Gross Domestic Product (GDP) to higher education; and that online blended education should be established to reduce the cost of higher education (DHET, 2016:547-551).

The effects of FMF

From 2015 to 2017 approximately one academic term was lost each year due to the FMF protests. This meant that the syllabus during these years could not be finished. Faculties at the UoT selected for this study were asked to make contingency plans at the beginning of every year. Classrooms were not accessible; forcing lecturers to rely on e-learning platforms which had their own disadvantages because some students mentioned that they did not have access to computers outside the university or they could not afford data to connect to the internet. Social media such as Whatsapp messaging were some of the effective communication tools.

Examinations were conducted in venues with heavily armed security personnel. In some instances students had to write examinations after the December holidays. Both students and lecturers were traumatised by this situation. The measurement of academic performance during these past three years was not comparable with prior years due to these abnormal circumstances.

2.4 SUMMARY

In this chapter the researcher unpacked the SDT theory in which the study is contextually situated. The literature related to factors germane to the academic performance of students, according to Barnes et al. (2009). This review of literature is aligned with the overall objective of this study which is to determine the extent to which the identified factors affect academic performance of pre-service accounting education students. In addition to these factors, the recent FMF protests in the South African context were discussed in view of their possible effect on the academic performance of students.

The following chapter outlines the research design and methods used to answer the main research question of this study which is: to what extent do identified factors affect the academic performance of pre-service accounting education students at a selected UoT?

CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

This chapter provides a precise description of the research methodology used to answer the research question, as well as the research design entailing how the entire project was conducted in order to establish empirical evidence. Creswell (2014:3) states that the key decision about which approach to adopt should be made with a conscious acknowledgement of the philosophical assumptions on which the researcher bases the study; such as procedure of enquiry, termed research design, and specific research methods of data collection, analysis, and interpretation. This chapter explains the selection and nature of the research instruments used in relation to other available options so as to justify the choices made.

3.2 RESEARCH PARADIGM

Punch and Oancea (2014:16) define a paradigm as a cluster of assumptions about the world and about what constitute proper techniques and topics for inquiry into the world. Punch and Oancea simplify their definition by stating that a paradigm may be regarded as a way of looking at the world; including a view of how science should be conducted. According to them, a research project can take either a paradigm-driven approach or a question-driven approach. Tashakkori and Teddlie (2010:146) concur with them; noting that research practices are dependent on or determined by philosophical paradigms and that research without acknowledgement and consciousness of philosophical assumptions is unrealistic and could be counterproductive.

De Vos, Strydom, Fouche and Delport (2011:41) note that it is important that scientific research be conducted within a theoretical specific paradigm and that the philosophical determinants or intellectual context of the study should be spelled out in a research report to keep communication clear and unambiguous. Du Plooy-Cilliers, Davis, and Bezuidenhout (2014:20) point out that there are several viable theoretical frameworks to choose from. They identify three research paradigms as the most dominant: positivism, interpretivism and

critical realism. Punch and Oancea (2014:20) encourage researchers to be philosophically mindful in research: by inquiring about alternative paradigms, checking their arguments, and analysing their concepts. These three dominant paradigms are discussed below.

3.2.1 Positivism

According to Okeke and Van Wyk (2015:207) positivism is a philosophy that emphasises that things can be seen and observed only. They state that this philosophy seeks objective truth that is recoverable, describable and verifiable. De Vos, Delport, Fouche, and Strydom (2011:6) postulate that positivism suggests scientific knowledge is arrived at through an accumulation or slow accretion of countless small verified facts. Punch and Oancea (2014:18) define positivism as a belief that objective accounts of the world can be given, and that the function of science is to develop explanations in the form of universal laws based on observed and explicated phenomena. Suter (2011:345) suggests that positivism is closely aligned with objective measures of quantitative research design; in contrast to interpretivism. According to Suter, positivism values large sample sizes which render statistical generalisations about a population. This study does not fall under the positivist paradigm as it does not only contain quantitative data and its results will not be generalised.

3.2.2 Interpretivism

An interpretivist paradigm examines how individuals engage in processes of constructing and reconstructing meaning through daily interactions (Leavy, 2017:129). This paradigm emphasises individuals' subjective understanding of what is happening around them. According to Creswell and Plano Clark (2011:40) interpretivism is closely associated with a qualitative approach: they emphasise that this paradigm is about understanding how participants view the world. This research is a combination of both the positivism and interpretevism paradigm as explained in the following paragraph.

3.2.3 Critical-realism

Du Plooy-Cilliers et al. (2014:20) highlight that critical realism aims to understand and explain phenomena based on evidence by using a combination of positivism and interpretivist paradigms. They emphasise that critical-realism goes beyond knowing and understanding and creates meanings that result in social change. According to Wynn and Williams (2012:787) critical realism covers inconsistencies of positivism and interpretivism

paradigms and assist better in investigating multifaceted phenomena in an all-inclusive manner. Tashakkori and Teddlie (2010:146) note that a substantive number of mixed methods research employ a realistic perspective. Du Plooy-Cilliers et al. (2014:32) classify mixed methods research under critical realism (*see Table 3.1 below)*.

Table 3.1 Summary of dominant research traditions: Du Plooy-Cilliers et al. (2014:35)

Positivism	Interpretivism	Critical Realism
Reliability is important. Objective, quantitative research methods are used.	Subjective, qualitative methods are used.	Mixed methods are used: quantitative and qualitative methods are combined.

Critical-realism is the paradigm selected for this study because the researcher seeks to understand in-depth the cause of pre-service accounting education students' academic performance. This study will collect both quantitative data (in the form of a questionnaire and document analysis) and qualitative data (in the form of interviews). Wynn and Williams (2012:789) postulate that in order to understand a phenomenon it is desirable that one identifies factors and relationships that cause it. In this study the researcher identified factors that are prominent in affecting the academic performance of students and investigated them in order to understand the phenomenon.

3.3 RESEARCH DESIGN

Creswell (2014:247) considers a research design to be an inquiry that provides specific direction for procedures in a research study. According to Punch and Oancea (2014:142) a research design covers all the decisions involved in planning and executing the research project. They view a research design as a connection between the research question and the empirical world.

De Vos et al. (2011:171) concur with Creswell: they define a research design as a plan, recipe or a blueprint for an investigation which provides guidelines for selection of an appropriate data collection method that assists in achieving the researcher's goal. A research design requires that planning, and making certain decisions about the research project prior to its commencement. Each research design is aligned to a specific research paradigm. Below is a discussion of the three broad research designs.

3.3.1 Qualitative research design

According to Suter (2011:55) the aim of qualitative research is to explain phenomena through verbal description and analysis of data obtained by instruments such as interviews, documents, field notes, or images. Creswell (2014:4) clarifies that qualitative research seeks to explore and understand the meaning that individuals or groups ascribe to a certain social or human problem. The means of exploration or understanding might be characterised by use of open-ended questions. Merriam (2009:24) agrees with Creswell, stating that qualitative research is chiefly concerned with discovering how meaning is constructed; how people make sense of their lives, their existential worlds and the actual geographical and social world around them. Merriam's view is that the primary goal of this approach is to uncover and interpret these meanings.

3.3.2 Quantitative research design

Thomas (2003:1) distinguishes a quantitative research approach from a qualitative approach by stating that a quantitative methodology relies upon on measurements and quantities. This kind of research is perceived to involve the use of numbers as a basis for collecting and analysing evidence. Leedy and Ormrod (2010:182-183) illustrate that, in the quantitative approach, the observations are quantified and counted to determine the overall sequence. According to Okeke and Van Wyk (2015:215) one of the major differences between qualitative research and quantitative research is that the purpose of quantitative research is to generalise the results of the sample to the population; whereas the purpose of qualitative research is to contextualise and interpret data.

3.3.3 Mixed method research design

Creswell (2012:535) defines mixed method research as a procedure for collecting and analysing both qualitative and quantitative data; "mixing" quantitative and qualitative methods in a single study or a series of studies to comprehend and account for a carefully specified and formulated research problem. His assumption is that the combination of these two methods provides a better understanding of the research problem than using one of the two methods only. Tashakkori and Teddlie (2010:146) agree with Creswell that weaknesses which are identified in either qualitative or quantitative approaches are in fact a productive aspect of mixed method research.

Creswell further believes that this research design is about collecting quantitative and qualitative data and mixing or re-arranging them across disciplinary boundaries to form a single distinct design. De Vos et al. (2011:435) concur with Creswell and note that the unique feature of mixed method research is in the mixing of data. Mixed method design has been selected for this study; meaning the researcher collected both quantitative and qualitative data to acquire a thorough understanding of the phenomenon chosen for critical attention. With this choice of research design, the researcher is at liberty to employ any available research instruments and techniques as deemed necessary in order to understand and explain the phenomenon profoundly. De Vos et al. (2011:440-443) note four alternative research designs under the mixed method approach that can be used:

- Exploratory mixed method design - **QUAL** → quan
  With this design, qualitative data are collected and analysed first and then used to build up to and inform the quantitative data collection and analysis. The emphasis falls more upon qualitative data than on quantitative data.
- Explanatory mixed method design - **QUAN** → qual
  This design starts with collection and analysis of quantitative data and is followed by the collection and analysis of qualitative data. The emphasis is more on quantitative data than on qualitative data.
- Triangulation mixed method design - **QUAN + QUAL**
  In this design, the collection and analysis of both quantitative data and qualitative data take place simultaneously: qualitative and quantitative data bear equal weight.
- Embedded mixed method design - **QUAL(quan)**
  The collection and analysis of both qualitative and quantitative data can be either simultaneous or sequential; however, one dataset plays a supportive role to the other.

The research problem identified and formulated for the parameters of this study has been addressed through the use of an explanatory mixed method design. Creswell (2014:15) defines such a design as one in which a researcher first conducts quantitative research, analyses the results and then attempts to gain a deeper understanding of these results through qualitative research. According to Creswell (2012:542) the rationale for this approach is that the quantitative data and the corresponding results provide a general picture of the research problem; however more analysis is needed through qualitative data collection to refine, extend or explain the general picture. De Vos et al. (2011:441) caution that the challenge in this design is that it might be time-consuming; however, they state that

it is uncomplicated to implement and report on. Figure 3.1 provides an overview of the explanatory mixed methods design:

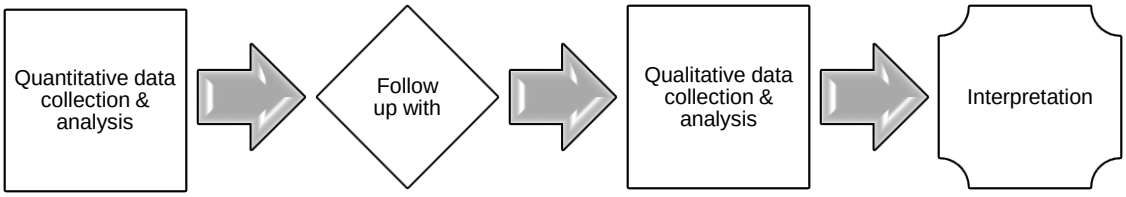

Figure 3.1: Diagrammatic view of explanatory mixed methods design (Creswell, 2012:541)

In this study, a questionnaire and document analysis were used to collect quantitative data in the first phase. Data were analysed using SPSS version 25 computer software. The second phase, the collection of qualitative data, was conducted using semi-structured interviews. The questions asked during the interviews were based upon the analysed results of the quantitative phase. These questions were based on the 14 sub-variables extracted with Principal Component Analysis while doing factor analysis. Figure 3.2 provides an overview of how the explanatory mixed method has been applied in this study:

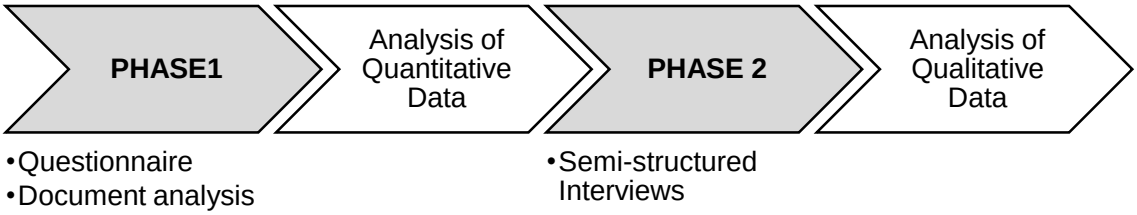

Figure 3.2: Diagrammatic view of explanatory mixed method design utilised in this study.

3.4 POPULATION AND SAMPLING

Du Plooy-Cilliers et al. (2014:135) define a sample as a subset of a population that is considered to be representative of the population. There are two major forms of sampling: probability sampling and non-probability sampling. According to Du Plooy-Cilliers et al. (2014:136-7) probability sampling leads to generalisable findings, while non-probability sampling is used when it is nearly impossible to determine or gain access to the population. Creswell (2014:158) agrees with these views and posits that when a sample is representative of the population, it enables the findings to be generalised to the entire population. He argues that representativeness of a sample is not of central importance when it comes to non-probability sampling because the aim is data saturation rather than representativeness. Creswell warns that the findings under non-probability sampling may not be entirely reliable: the researcher could be biased and this might influence the results.

A non-probability sample is used when the population is too large to study or to access, and requires too many resources or is too time-consuming. According to De Vos et al. (2011:223-226) the main reasons to draw a sample is to understand the population. They state that a large sample enables the researcher to draw accurate conclusions and make accurate predictions: claiming that probability sampling is based upon randomisation and random sampling by which each member of the population has an equal chance of being selected. Suter (2011:232) agrees; stating that the use of a random number table ensures that every member of the population has an equal and independent chance of being selected. Suter states that with non-probability sampling the researcher might not know the population size and the participants within the population may not have an equal chance of being selected.

According to Suter (2011:243) mixed method sampling attends to both generalisation and rich detail. He identifies random purposive sampling as the most common choice for mixed method research because it covers the issues of generalisation and depth of information. In mixed method research the researcher must decide which sample design is most suitable for the qualitative and quantitative phases of the study (Tashakkori & Teddlie, 2010:354).

A purposive sampling methodology has been selected for this study. Tashakkori and Teddlie (2010:359) describe a multistage purposive sampling scheme as taking place in these phases: choosing settings, groups and/or individuals representing a sample in two or more stages, where each stage reflects purposive sampling of participants. According to De Vos et al. (2011:232) purposive sampling is finally based upon the judgement and discretion of the researcher. Du Plooy-Cilliers et al. (2014:142) postulate that in purposive sampling the researcher chooses the participants that he/she wishes to include in a sample; based on a set list of characteristics.

The site was conveniently selected by the researcher because he is a staff member at the selected UoT. The population of this study comprised all the registered BEd FET and BEd SP&FET education students enrolled for Accounting within the selected UoT at the time of the study. These students were selected because they were being trained to teach Accounting as an individual subject in the FET phase, or as part of Economic and Management Sciences (EMS) in the Senior phase after qualifying as educators. First and second year students register for a subject called EMS that consists of an Accounting component, a Business Management component, and an Economics component. Third and

fourth year students wishing to continue with Accounting as a major, register for Accounting 3 and 4.

Purposive sampling was selected as a method for conducting both quantitative and qualitative phases of this study. During the quantitative phase, a sample of 132 students from the second to fourth year level were selected and given a questionnaire to complete. The first-year students were excluded because they did not have enough experience within the tertiary environment and did not have academic records that could be used as a reliable measure for their performance at the time when the study was conducted. Creswell and Plano Clark (2011:186) recommend that the qualitative phase sample be much smaller than that of the quantitative phase. Twelve participants were selected to be interviewed: six from the second-year level and three each from the third-year and fourth-year levels. The second-year students were selected based upon whether they did Accounting in Grade 12 or not, and what their first year results in EMS were at the university. The third and fourth year level students were selected based upon their previous year-end results in Accounting. For each year level, students were selected as follows: one student who is a repeater or the student with the lowest mark; one student with an average mark, and the one student with the highest mark. Table 3.2 below indicates the number and the criteria used to select participants interviewed:

Table 3.2: Criteria for selecting interviewees

Academic year level	**NSC results**	**2017 Year end university results**			
		Repeater/ lowest mark	**Average mark**	**Highest mark**	**Total**
2nd year	Did Accounting at school (FET)	1	1	1	3
	Did not do Accounting at school (FET)	1	1	1	3
3rd year		1	1	1	3
4th year		1	1	1	3
Total		**4**	**4**	**4**	**12**

3.5 DATA COLLECTION METHODS

According to Du Plooy-Cilliers et al. (2014:146) data collection is at the heart of every research study. They point out that data collection in qualitative studies differs significantly from that of quantitative studies. According to Creswell and Plano Clark (2011:179) mixed methods research involves collecting both qualitative and quantitative data. In an

explanatory design, quantitative data are collected first; analysed, and the results are used as a basis for qualitative data collection (Creswell and Plano Clark, 2011:185). Du Plooy-Cilliers et al. (2014:174) highlight that the ultimate goal of collecting qualitative data is to explore, understand, and describe, rather than to explain, measure, quantify, predict, and generalise; as with quantitative data collection. For the quantitative phase, a questionnaire and document analysis were used to collect data, and for the qualitative phase, semi-structured interviews were conducted to collect data.

3.5.1 Questionnaire

According to Rule and John (2011:66) questionnaires are printed sets of field questions to which participants respond on their own or in the presence of the researcher. Creswell (2012:382) defines a questionnaire as a form used in a survey design that participants in a study complete and return to the researcher. According to De Vos et al. (2011:195) it is advisable to give questionnaires to a captive audience and allow time for completion, and immediate collection. This method guarantees completion and saves time; compared to e-mailing or delivering them by hand and collecting them on another day. Although Creswell (2012:383) advocates an e-mailed questionnaire, he warns that it may lack personal investment and participants might not return the instruments. The researcher is denied the opportunity to explain the questions which in turn poses a risk of participants misinterpreting items on the questionnaire. Du Plooy-Cillers et al. (2014:160) advocate a questionnaire as a data collection instrument because they regard it as inexpensive and time-saving.

A request was made to subject lecturers to allow the researcher to distribute questionnaires during class time and explain the purpose of the study; allowing time for immediate completion and collection. This request was to ensure a maximum response rate from participants.

The questionnaire distributed among participants was structured in accordance with the theoretical parameters of the study. Questions seeking demographic and National Senior Certificate results were multiple choice questions (MCQs). Information on the other variables was obtained by way of a Likert scale; with five choices; ranging from strongly disagree to strongly agree. Each variable, motivation, learning environment, class attendance, learning approach, and Fees must Fall, had its own section. De Vos et al. (2011:199) describe MCQs as those questions that have three or more response options,

with an “other” or “not applicable” option of the dichotomous question as one response possibility. According to Du Plooy-Cilliers et al. (2014:159) the Likert scale is termed a summative scale because the individual responses are added to create a total score. The Likert scale requires participants to indicate their degree of agreement or disagreement; with a variety of given statements related to an attitude or object. According to Vogt, Vogt, Gardner and Haeffele (2014:28) the Likert scale is currently the most commonly-used question format in research.

3.5.1.1 Pilot Study

According to Creswell (2012:390) a pilot study is a procedure by which a researcher makes changes to an instrument based on feedback from a relatively small number of individuals who complete and evaluate the instrument. The final questionnaire for this study was first piloted in 2017 by ten students who would not participate in the final study. Their responses were sent to a quantitative research consultant, to test whether they were compatible with the SPSS computer software.

The questionnaire included two open-ended questions at the end which six students did not reply to. The consultant made recommendations that the open-ended questions be left out of the questionnaire and be reserved for the qualitative phase of the study. According to De Vos et al. (2011:195) there are two objectives of conducting a pilot study. First, it is to ensure that the appearance of the pilot study is correct and has no mistakes: such as spelling errors and that the instrument is valid. Second, it assists in determining how long it will take to complete. Participants were given space to evaluate and comment on their impression of the instrument. No participant took more than 30 minutes to complete the questionnaire, and their general view was that it was straight forward and not confusing.

3.5.2 Document analysis

The academic performance of accounting students in the education faculty for the years 2015 to 2017 was analysed through acquisition of academic records. This document analysis was used to assess the current status of the students’ performance in Accounting. The results were quantitatively analysed; in comparison to the results from the questionnaire; as a build-up to the interviews.

3.5.3 Interviews

Du Plooy-Cilliers et al. (2014:188) describe an interview as a form of conversation, with the primary goal of obtaining information by using open-ended questions. According to them, interviews provide detailed information and clarity of participants' responses to specific questions; however Du Plooy-Cilliers et al. point out that interviews are time-consuming and involve certain resources such as audio or video recorders, travelling costs etc. According to De Vos et al. (2011:196) open-ended questions provide respondents the opportunity of responding with a relevant answer. Creswell (2012:218) states that with open-ended questions, participants can best voice their experiences, unconstrained by any perspective of the researcher or past research findings. Punch and Oancea (2014:182) highlight that an interview is the most common data collection instrument for qualitative data. They recommend it as the most reliable and consistent way of exploring perceptions, meanings and definitions of situations. Punch and Oancea (2014:184) define the types of interviews as follows:

- *Structured interviews* use a pre-defined set of questions and a pre-determined format.
- *Semi-structured interviews* are guided by a set of questions and prompts for discussions, but have in-built flexibility to adapt to particular participants and situations
- *Unstructured interviews* are in-depth explorations of interviewees' experience and interpretation in their own terms.

The objective of conducting interviews with twelve purposively selected participants was to obtain in-depth understanding of these participants' responses in the questionnaire. One-on-one, semi-structured interviews were conducted using predetermined open-ended questions. According to Creswell (2012:384) one-on-one interviews are advantageous; especially for asking sensitive questions. However, they do not protect the anonymity of participants.

3.6 DATA ANALYSIS

Okeke and Van Wyk (2015:32) describe data analysis as an attempt to ascertain the meaning of the data. According to them, data analysis is a component of data management that includes data processing. They aver that data analysis can be conducted manually or

by computer software. According to Creswell (2012:558) data analysis needs to relate to the type of design selected.

3.6.1 Quantitative data analysis

According to Tashakkori and Teddlie (2010:399) there are two components of quantitative data analysis: descriptive analysis and inferential analysis. Descriptive analysis refers to techniques used to organise and summarise data for the purpose of enhancing understanding; whereas inferential analysis refers to techniques used to predict or make judgements about the population from the sample. Okeke and Van Wyk (2015:435) recommend the use of computer software for quantitative data analysis; stating that it assures accuracy and reduces labour time. The researcher in this study was trained to enter and process data on SPSS V25.

Martella et al. (2013:105-111) describe statistical significance as "a difference between sets of scores that may be so great that the likelihood, at a selected level of probability, that this difference is the result of one variable influencing another, rather than a function of chance due to sampling or measurement error". According to Martella et al., statistical significance assists researchers to make informed judgements about the findings of a study. They state that the significance test is important because human behaviour is too variable to use to exactly predict future behaviour. They caution that researchers should draw a line between statistical significance and replicability because the significance level does not convey anything about the extent to which the findings are replicable.

The scales of measurement that were used in this study for the questionnaire were set on a nominal level for participants' demographic data and on an ordinal level for the other variables. The students' results from 2015 to 2017 that emanated from the document analysis were analysed using SPSS V25, and are presented in tables, bar charts, and pie charts.

Frequency tables, reliability tests and factor analysis were performed using SPSS. According to Williams, Onsman, and Brown (2010) factor analysis is a multivariate statistical procedure that minimises the number of variables, and tests whether variables measure the same construct. Yong and Pearce (2013) recommend factor analysis for questionnaire interpretation; claiming it is useful because it reduces the number of items and creates meaningful themes. Figure 3.3 below illustrates the process that is being followed when factor analysis is performed.

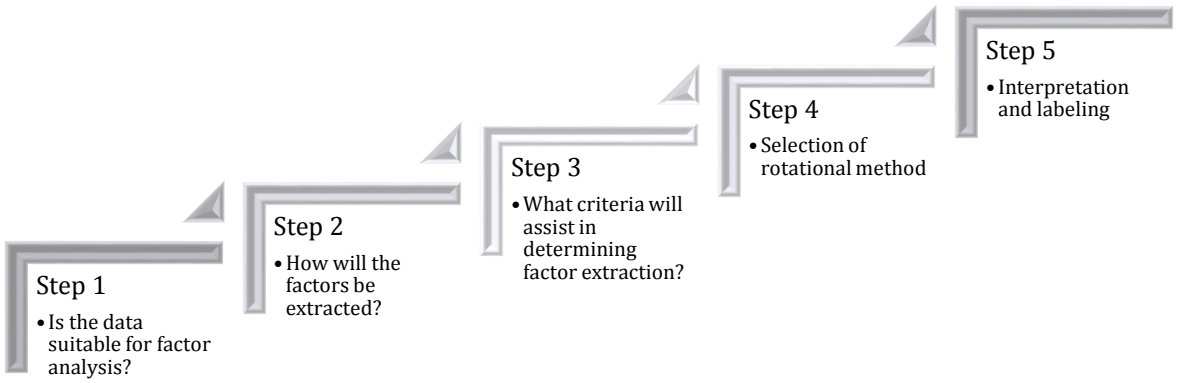

Figure 3.3: Five-step factor analysis protocol (Williams, Onsman and Brown, 2010:4)

Pearson's correlation coefficient was used to determine relations between variables (Williams et al., 2010:5). They categorise it as ±0.3 = minimal, ± 0.4 = important, and ±0.5 = practically significant.

3.6.2 Qualitative data analysis

The audio-recordings of the one-on-one interviews with twelve participants were transcribed and coded for thematic analysis. According to Leavy (2017:151) coding is a process of assigning words and phrases to segments of data. Rule and John (2011:77-78) describe thematic analysis as working with the codes to identify patterns such as similarities and differences. They refer to coding as a process of choosing labels and assigning them to different parts of data.

According to Okeke and Van Wyk (2015:464) the purpose of the thematic analysis is to uncover prominent themes within the data. ATLAS.ti software was used to perform the thematic analysis. According to Okeke and Van Wyk (2015:470) conducting manual qualitative analysis is time-consuming because the researcher is required to follow several stages before arriving at the final analysis. According to Okeke and Van Wyk, using ATLAS.ti is beneficial to the researcher because it is efficient and with it, the researcher does not lose control of engaging with the data. With ATLAS.ti a researcher can conduct many analysis activities such as creating codes, assigning codes to segments, creating quotations, and open coding.

3.7 VALIDITY, RELIABILITY AND TRUSTWORTHINESS

According to Tashakkori and Teddlie (2010:534) the quality of a mixed methods research project can be assessed using three different approaches: the generic research approach, the individual components approach, and the mixed methods approach. Tashakkori and Teddlie state that the issue of quality with regards to mixed methods research has been problematic for quite some time. Validity, reliability, trustworthiness, quality, legitimation, credibility and inference quality are some of the terms that have been rejected or agreed upon; however, Tashakkori and Teddlie recommend the term 'quality' qualifies whether a mixed method study is either sound and reliable for the use of other researchers or superficial. This study used the individual components approach to ensure quality. Validity and reliability are closely related to the quantitative phase of a study, while trustworthiness is associated with the qualitative phase of a study (Du Plooy-Cilliers et al., 2014:253).

3.7.1 Reliability

Creswell (2012:159) postulates that reliability means that the results gathered by means of the selected data collection instrument are stable and consistent. According to Du Plooy-Cilliers et al. (2014:254) research results are reliable when there is a high possibility that similar findings would be obtained; even if the study were conducted by a different researcher at a different time with a similar set of participants. Du Plooy-Cilliers et al. assert that reliability and validity depend on the size of the sample and the probability that participants had equal chances of being selected. Okeke and Van Wyk (2015:201-203) note that reliability is not affected if there are no random errors. They identify five types of reliability:

- Test/re-test reliability – this means that a similar result or score is achieved after the test has been done more than once at different periods. This is termed the coefficient of stability (Martella et al., 2013:73).
- Internal consistency – refers to asking the same question twice within the same instrument to ascertain whether the same response will be given.
- Alternate forms reliability – this is termed the coefficient of equivalence or parallel forms: the researcher uses different groups of participants to test reliability by using a different method or tools.
- Interrater reliability - the researcher uses different groups of participants to test reliability by using a similar method or tools.

- Intrarater reliability – the researcher collects data from one candidate more than once.

All accounting education students completing their second to fourth year level at the selected UoT were earmarked to be participants for this study; meaning within these three levels they all had an equal chance of participating in the study. A Cronbach's alpha > 0.7 was used as a threshold to determine whether variables measured the same construct and internal consistency of variables. Some of the questions in the questionnaire were rephrased and posed more than once to test the reliability of the responses. Three levels, second to fourth year students, were given the same questionnaire.

3.7.2 Validity

According to Martella et al. (2013:71-73) validity and reliability co-exist, meaning a research study is valid when it is reliable, and it is reliable when it is valid. Creswell (2012:159) associates validity with a choice of instruments used in a study. He states that a researcher needs to ask whether the instruments that are used in a study adequately measure what was set out to be measured. Validity is about ensuring that appropriate instruments are used to measure what should be measured.

According to Vogt et al. (2014:77) the validity of a study depends on the quality and appropriateness of the sample: they further break down validity into (i) internal validity as a test of whether the research conclusions apply to the sample and (ii) external validity which determines whether the conclusions of the study can be generalised to the population. Okeke and Van Wyk (2015:268-269) identify internal validity with the selection of variables to investigate and concur with Vogt et al. in terms of external validity.

Validity ensures that expert readers can trust the analysis of research results (Okeke & Van Wyk, 2015:460). Validity can be classified as (i) content validity which is about representativeness of the sample, (ii) construct validity that refers to whether the test measures what it is supposed to measure, and (iii) criterion-related validity that has to do with whether the findings can be used to predict future behaviour accurately (Du Plooy-Cilliers et al., 2014:256 and Martella et al., 2013:80-82). A pilot study was conducted to test the validity of this study. Du Plooy-Cilliers et al. (2014:257) explain that a pilot study can be used to pre-test the measurement instrument which assists in detecting possible errors that

might emerge from a research project. The other function of a pilot study is to assist in checking whether the questions asked were understandable.

3.7.3 Trustworthiness

According to Okeke and Van Wyk (2015:218) qualitative researchers do not follow procedures similar to those of quantitative researchers to achieve validity and reliability. Du Plooy-Cilliers et al. (2014:258) explain trustworthiness as a term used for validity and reliability in qualitative studies. Okeke and Van Wyk highlight that many authors use the word 'trustworthiness' instead of 'validity and reliability' for qualitative research: they note four dimensions with regards to trustworthiness: credibility, transferability, dependability, and confirmability. Du Plooy-Cillers et al. (2014:258-259) describe these dimensions of trustworthiness as follows:

- Credibility refers to the accuracy with which the researcher interpreted the data that were provided by participants.
- Transferability is the ability of the findings to be applied to a similar situation and deliver similar results.
- Dependability refers to the quality of the process of integration that takes place between data collection, data analysis and the theory generated from data.
- Confirmability refers to how well data collected support the findings and interpretations of the researcher.

According to Du Plooy-Cilliers et al. (2014) reliability and validity do not apply to a qualitative study in the same way as they apply to quantitative studies because the aim of qualitative studies is not to generalise the results, but to provide an in-depth understanding of the phenomenon. According to Okeke and Van Wyk (2015:221) generalisability in qualitative research is replaced by the concept of transferability. One of the key differences they point out is that during field work in quantitative research a researcher can distance him or herself from the data collection process whereas in qualitative research this is not possible since he/she needs to understand the exact meaning that the participants attach to their actions.

Du Plooy-Cilliers et al. (2014:258) point out that credibility is increased when the researcher spends long periods of time with participants in order to understand them better. Semi-structured interviews conducted with participants were not restricted to time frames, and participants were afforded ample time to express themselves fully. The audit trail for data

collection has been carefully filed and a detailed description of all the processes kept. These clerical duties enhanced dependability and transferability respectively (Suter, 2011:363).

Leavy (2017:154) notes that it is important to consider the extent to which readers can trust an academically sanctioned study and its findings. The transcripts of the interviews were returned to participants to review them and make comments: they were then used to improve the interpretation of the interviews. Vogt et al. (2014:59) encourage participants' reviews since they believe that participants know what they said and meant.
In this study three sources were used as data collection instruments which facilitated triangulation. All the records of data collection have been kept safely as evidence that the data were captured correctly and as proof that all the data were included in the report.

3.8 The researcher's role

Another threat to the authenticity of the research occurs when the researcher is biased. Du Plooy-Cilliers et al. (2014:271) point out that research becomes biased when the researcher desires or expects to achieve a particular result in a study. They state this bias influences the way in which the researcher collects data and his/her interpretation of the results. Suter (2011:187) agrees with them and calls this bias an "experimenter expectancy", where a researcher creates conditions that favour the expected findings.

According to Suter (2011:363) bias in research is an ever-present peril; however, this is reduced when a researcher recognises the possibilities for bias and factors the dangers of bias into the design. Tashakkori and Teddlie (2010:751) caution that bias can lead to erroneous results. Martella et al. (2013:330) point out that another way to reduce bias is to obtain information from a variety of sources.

According to Moore (2012:11) a researcher can be either inside the social group being studied or outside it. He defines (i) insiders as "individuals who have a place in the social group being studied before the start of the investigation and (ii) outsiders as "non-members of the group". Moore defines recruitment procedure for a purposive sample and the position of power of the researcher as some of the key aspects that can influence the results of research. The researcher could be described as both "insider" and "outsider" in this study because he is a lecturer in one of the three academic year level groups that participated in this study.

For the quantitative phase of this research, the researcher distributed the questionnaires to the class that he taught, while a colleague distributed the questionnaires to his classes. In all cases the questionnaire was distributed to a captured audience and no-one was excluded from participating in the research. To minimise bias, the researcher excused himself during the completion of the questionnaires, while a colleague oversaw the process. For the qualitative phase of the research (interviews), in order to minimise bias, a research assistant was employed to conduct interviews to ensure that participants were free to respond as honestly as they could without intimidation. The research assistant was a post-graduate student who have an experience of being involved in several research projects.

3.9 ETHICAL CONSIDERATIONS

De Vos et al. (2011:114) define ethics as:

> A set of moral principles which is suggested by an individual or a group, is subsequently widely accepted, and which offers rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants, and students.

Ethical considerations should be adhered to throughout all the stages of a research project. Each research design poses its own unique ethical issues, and the researcher should anticipate them (Creswell, 2012:553). According to De Vos et al. (2011:113) what raises ethical issues in social research is the fact that human beings are not objects. Rule and John (2011:111) emphasise that conducting research in an ethical manner enhances the quality of the research and its trustworthiness. De Vos et al. (2013:113) identify the following ethical issues:

- no harm to experimental subjects and/or respondents,
- voluntary participation,
- informed consent,
- no deception of subjects and/or respondents,
- no violation of privacy/anonymity/confidentiality,
- no denial of treatment, no compensation, debriefing of participants, actions and competence of researchers,
- cooperation with contributors and sponsors, and release or publication of findings.

The researcher is in possession of an ethics clearance certificate (Appendix A) as evidence that (i) this study was ethically approved by the selected UoT before interviews commenced and (ii) it has been included as an appendix to this report. The faculty ethics committee scrutinised the research proposal as well as the data collection instruments to be used; applying strict guidelines before they issued the certificate on the 13th December 2017. The certificate is valid until 12 December 2019. The faculty ethics committee process ensured that the research and its instruments adhered to all ethical principles.

Du Plooy-Cilliers et al. (2014:267) caution that there should be a clear distinction made between anonymity and confidentiality. According to them, anonymity denotes that the names of the participants will not be disclosed at any stage of the research; whereas confidentiality suggests that the names of the participants can be matched by the researcher; although their information will be known only to the researcher. According to De Vos (2011:120) anonymity includes the fact that even the researcher will not be able to identify the respondents or their statements, responses or confidentialities. During the briefing and before completion of the questionnaire, it was made clear to participants that participation in this study was voluntary and that they could withdraw at any stage of the process. It was explained to them that although the study cannot be anonymous due to the interviews that were to follow with certain selected individuals, their confidentiality would be guaranteed. Participants were assured that their names would not be published. They have been asked to sign the consent form detailing that they were fully apprised of the purpose, and implications, of their participation in the study.

During the interviews, participants signed another consent form acknowledging that they were aware of the purpose of the interview and that they agreed to be audio-recorded. After the transcripts were completed, participants were afforded the opportunity to confirm that what appeared in the transcripts reflected the meaning, intention and tone of their original views.

3.10 LIMITATIONS OF THE STUDY

Du Plooy-Cilliers et al. (2014:275-276) describe limitations as “constraints or limits in your research study that are out of your control, such as time, financial resources, access to information, and so on”. According to them, no researcher can exercise or possess total control over all conditions surrounding a research study; factors that necessarily limit or

inhibit control should be identified, acknowledged and allowed for in measurements and analysis.

One UoT only was selected for the purpose of this study; making it impossible to generalise the findings. Not all students at the levels that were selected, responded to the questionnaire because participation was voluntary, and some participants were absent during the time that the researcher collected the data.

3.11 SUMMARY

In this chapter, the research methodology, including the research paradigm and the research design, was set out and discussed. The study falls within a critical-realism paradigm: a mixed method design, known as an explanatory mixed methods design, was selected, adapted and applied. Multi-stage purposive sampling was employed for representation of the population. Second to fourth year pre-service accounting education students were used as the sample. The data were collected by using a questionnaire and document analysis for the quantitative phase. Semi-structured interviews were conducted to glean qualitative data for the second phase. Interviews were audio-recorded and transcribed for coding. Quantitative data were analysed by using SPSS version 25. For the qualitative data thematic analysis was deployed. Below is a diagram which provides an overview of this methodology chapter:

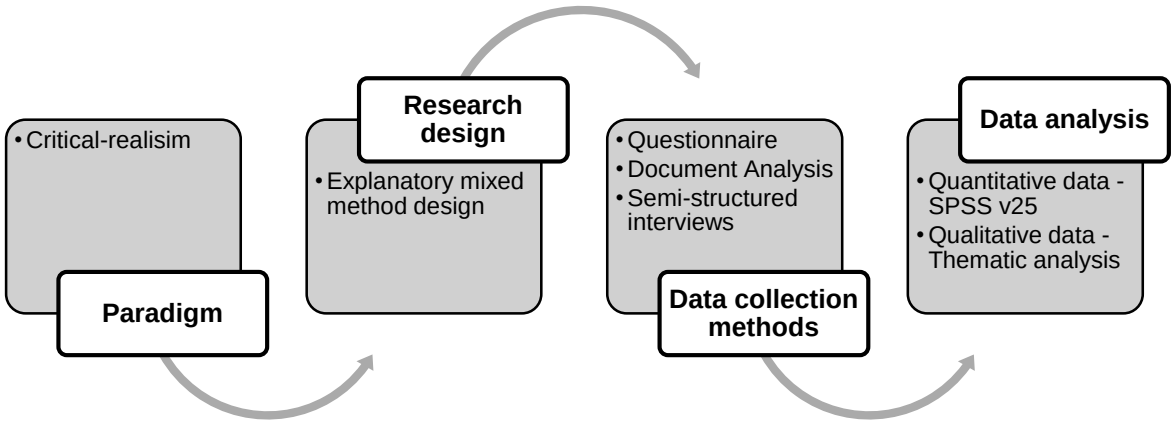

Figure 3.4: Diagrammatic view of this methodology chapter

Chapter Four presents analysis and interpretation of the results of the study.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 INTRODUCTION

This chapter presents results based on data collected by means of (i) questionnaires, (ii) document analysis and (iii) semi-structured interviews conducted with pre-service accounting education students at a selected UoT. A questionnaire was designed to reflect the theoretical priorities of the thesis and was distributed to a captured audience of 132 students; varying from second to fourth year level of their academic studies. The progress results of the students for the year 2015 to 2017 formed part of the document analysis. One-on-one interviews were conducted and audio-recorded with 12 students. All participants signed a consent form before completion of the questionnaire and the interviews. Confidentiality of information they provided was assured.

The research design developed for this project was architected to incorporate the overall objective of the study and the theoretical imperatives adopted from the start in such a way that the results obtained would focus upon and address the formulated research question. Table 4.1 illustrates the main question and the objective of the study.

Table 4.1: Research question and objective

Research Question	Objective
To what extent do identified factors affect performance of pre-service accounting education students at a selected UoT?	To determine the effect each identified factor has on pre-service accounting education students' performance.

4.2 RESULTS FROM THE QUESTIONNAIRE

Responses from the questionnaire were captured and analysed using SPSS version 25 statistical software. Section A collected information pertinent to respondents' gender and background. Section B collected data about respondents' Grade 12 subjects as well as their results. Sections C to G measured the key factors, motivation, learning environment, class attendance, learning approach, and Fees must Fall protests on a five-point Likert scale

ranging from 1 to 5 [1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree].

Using SPSS, different statistical tests were performed and frequency tables were generated which assisted in creating charts and tables to interpret data. Descriptive statistics, mean and standard deviation, reliability analysis, factor analysis and Pearson's correlation coefficient were performed for each factor in Section C to G. Cronbach's equation of alpha greater than 0.6 was employed to determine reliability of responses and factor loadings. Reliability tests were administered (i) to indicate how well different items under each section in the questionnaire measured each factor and (ii) to gauge test consistency of scores supplied by respondents. Figure 4.1 below presents an overview of the theoretical framework generated in the course of this study.

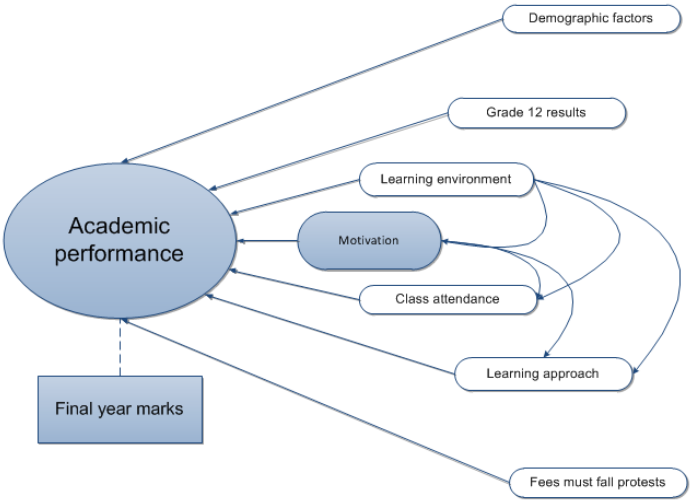

Figure 4.1: Theoretical framework

4.2.1 Frequency Distribution - Demographic information

The frequency table on this section revealed that of the 132 respondents who completed the questionnaire, the majority were women, at 63.6%, and men who comprised 36.4%. This proportionality is not contrary to the findings of Ahmad, Ismail, and Anantharaman (2014) who indicated that women are dominant in the teaching profession, though this only applies at the entry level: at the management level men still dominate but in the sample distribution of this study, there were more women than men throughout the academic levels. The sample distribution shows that there were few students who selected Accounting at fourth year level compared to those at the second year level.

There was a low percentage of male students, at 1.5% in fourth year. This statistic suggests that Accounting is not popular among male students in particular who either drop it or simply do not choose it as a major subject at third-year and fourth-year levels. Table 4.2 presents the gender distribution of the respondents across the academic levels.

Table 4.2: Academic level and gender cross-tabulation (in %, n = 132)

Level of study	**Male**	**Female**	**%**	**N**
2nd Year	27.3	48.5	75.8	100
3rd Year	7.6	9.8	17.4	23
4th Year	1.5	5.3	6.8	9
Total	36.4	63.6	100.0	132

Figure 4.2 below presents the gender representation of the overall sample.

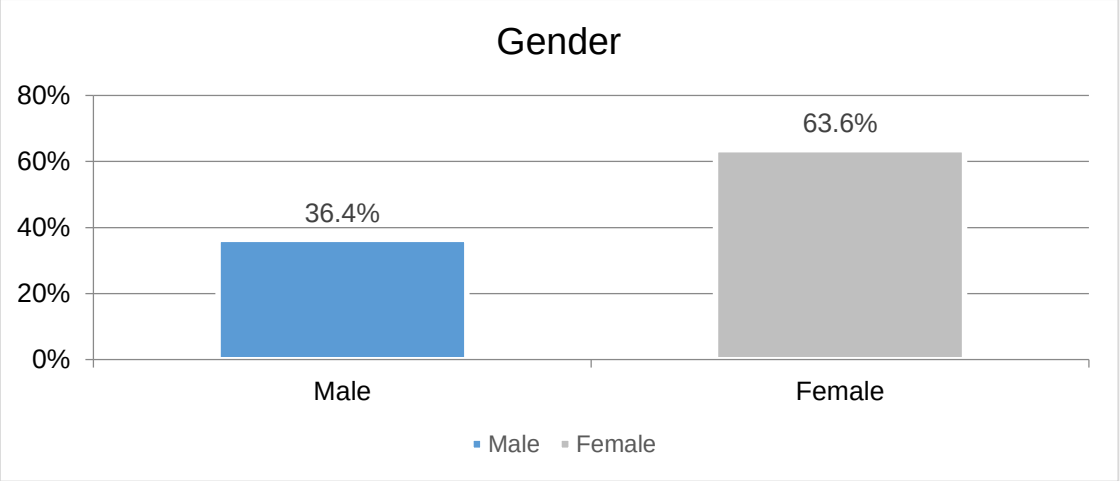

Figure 4.2: Gender

Figure 4.3 presents the sample distribution across the three selected academic levels.

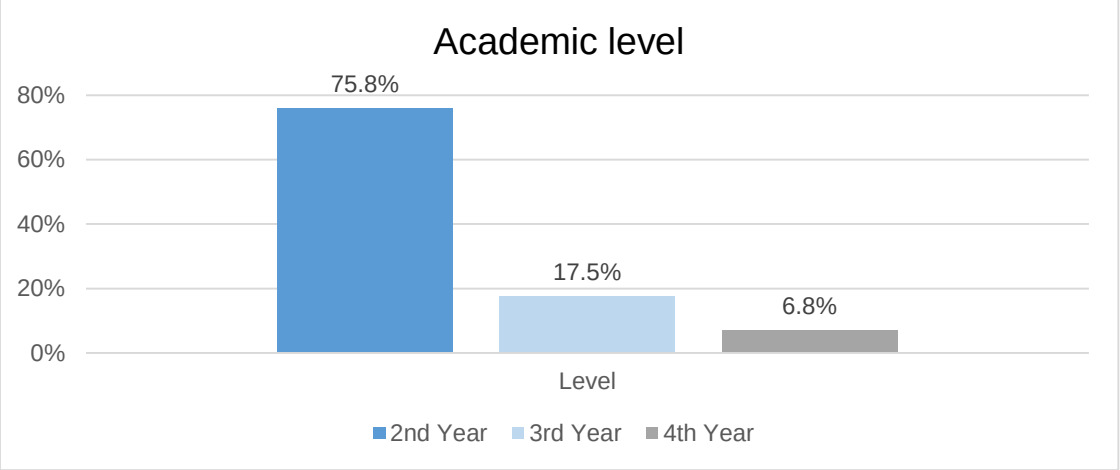

Figure 4.3: Academic level

Figure 4.4 presents an overview of where the respondents stay while studying.

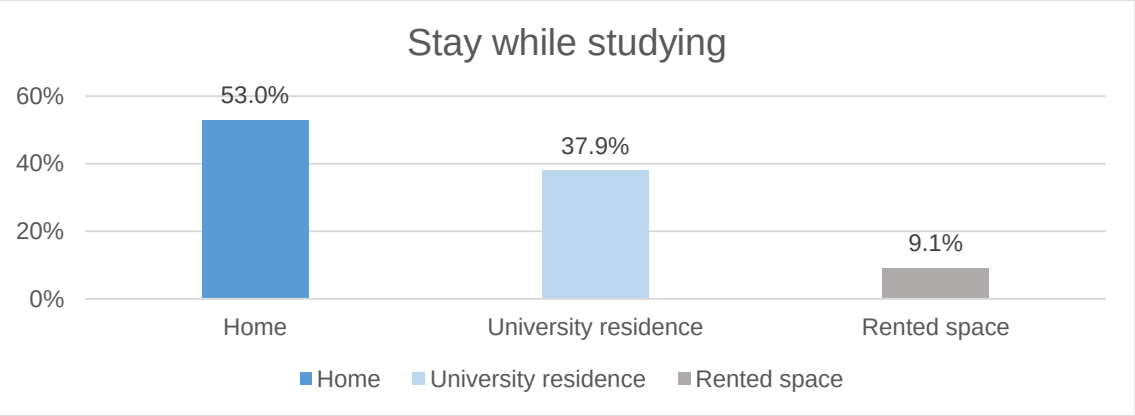

Figure 4.4: The place where students stay while studying (in %, n=132)

As shown in Figure 4.4 above 53.0% of the respondents stay at home during their studies followed by 37.9% who stay at the residences, with 9.1% renting rooms or flats. This means the majority of students require transport to get to university every day. Students use public transport to get to university as it is the most affordable form; however, in South Africa that is the most unreliable mode of transport (Blom, 2018). Taxis and buses get delayed by daily traffic jams and trains are frequently late due to vandalism and copper cable theft that affect their network system (Petersen, 2018). This difficulty causes students to miss lectures and assessments; especially during the morning periods.

4.2.2 Frequency Distribution – Grade 12 results

From the results, it emerged that 36.6% respondents chose Mathematical Literacy in Grade 12; followed by those who did Accounting and pure Mathematics, at 29.8%. The results showed that about 44.2% of the respondents did not do Accounting in Grade 12, therefore they are doing it for the first time at university level. Table 4.3 presents the results of the respondents who have done Accounting in Grade 12 and those without it.

Table 4.3: Participants with Accounting and those without it (in %, n=132)

Matric subjects	With Accounting	No Accounting
Accounting only	0.8	
Accounting and Mathematics	29.8	
Accounting and Mathematical Literacy	25.2	
Mathematics only		6.8
Mathematical Literacy only		36.6
None of the above subjects		0.8
Total	**55.8**	**44.2**

Figure 4.5 below presents the performance of the participants in three selected Grade 12 subjects.

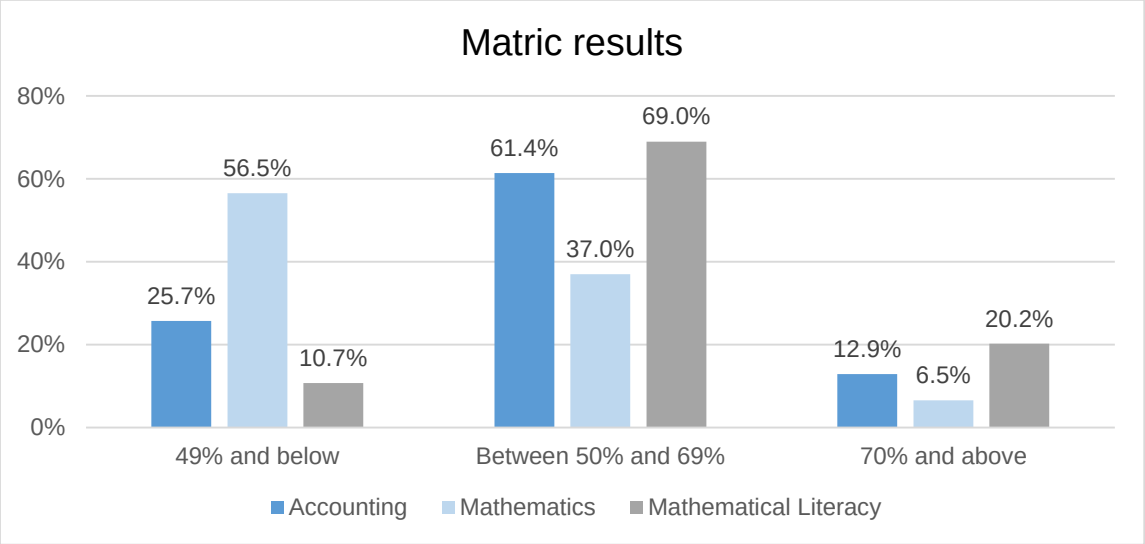

Figure 4.5 Matric results comparison (in %, n=132)

The results show that only 12.9% of the participants passed Accounting with 70% or more. This means that the course is not attracting the top accounting learners from high school level. This is slightly better for those who did Mathematical Literacy which is at 20.2%, but when one looks at pure Mathematics the percentage is at 6.5%; meaning this course is not attracting the top students with strong numerical ability either.

4.2.3 Factor Analysis - Sections C to G

For sections C to G factor analysis was used for the interpretation of factors. According to Jung and Lee (2011:701) factor analysis is important for analysing interdependency of factors that are being studied. Factor analysis was mostly used in education and psychology research; however, it has become popular and useful to other fields as well (Williams et al., 2010:1). According to them, one of the most important features of factor analysis is the reduction of large numbers of factors into smaller sets of factors and the examination of relations between factors. Yong and Pearce (2013:80) agree; stating that factor analysis is good for grouping factors into categories that are meaningful.

The protocol prescribed by Williams et al. (2010) for performing factor analysis was followed in this study. They suggest Kaiser-Meyer-Olkin (KMO) of Sample Adequacy and Bartlett's test of sphericity as tools for testing whether the data collected are suitable for factor analysis.

A KMO greater than 0.5 and a Bartlett's test value less than 0.05 are regarded as appropriate thresholds for the suitability of data for factor analysis. This criterion was the threshold used in this study.

Williams et al. (2010) identified principal component analysis (PCA) as the most commonly used method for extraction of factors. PCA groups items that load together to form one new factor. PCA was used to extract factors in this research project. SPSS refers to questions in the questionnaire as items. PCA extracted a total of 14 sub-factors (2 in section C, 9 in section D, and 1 each in Sections E to G from a total of 68 questions that were in these sections. These sub-factors were then renamed and interpreted which is part of the protocol for factor analysis according to Williams et al. (2010). Cronbach's α less than 0.5 was deemed unacceptable and therefore excluded from interpretation (see Table 4.4 below). According to Tavakol and Dennick (2011:54) the acceptable range of Cronbach's alpha is between 0.7 and 0.9 and they suggest that if the results are outside this range they should be disregarded. However, they caution that a high value of alpha should not be associated with a high degree of internal consistency because it is affected by the length of a test. Table 4.4 below presents a frequently used rule of thumb to measure internal consistency.

Table 4.4: Internal consistency rule of thumb scale (George & Mallery, 2003:231)

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$06 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

To test scale unidimensionality, PCA factor loadings were examined to determine whether the items should be included in the list that make up a factor. Peterson (2000:264) notes that although researchers are inconclusive about the cut-off values for factor loadings, they generally accept that greater than 0.3 loadings meet the minimal level, ±0.4 loadings are regarded as important, and greater than ±0.5 loadings are considered to be practically significant. Therefore, along with examining the Cronbach's alpha, the factor loadings were considered in deciding whether to, and how to, analyse and interpret the factors.

4.2.3.1 Section C – Motivation

There were eleven questions under this section. PCA extracted two sub-factors and table 4.5 presents the reliability analysis results of section C:

Table 4.5: Section C - Reliability of individual items

Sub-factor	Cronbach's Alpha	N of items	Factor loadings
1 - Motivation	.605	4	0.600 – 0.737
2 - Accounting course guidance	.834*	3	0.814 – 0.882

*Cronbach's α > 0.7

The first sub-factor labelled Motivation had four items; as presented in Table 4.6 below:

Table 4.6: Items under sub-factor Motivation

Item ID	Item
QC_1	I motivate myself to do well
QC_2	I set achievement goals at the beginning of the year
QC_3	I am determined to reach my goals
QC_11	I am motivated to prepare for my tests and examinations

This sub-factor had a Cronbach's α of 0.605 and the factor loadings were practically significant; loading between 0.6 and 0.7. This sub-factor was labelled "Motivation" and it seeks to determine whether a participant is intrinsically motivated or not. Although the Cronbach's α is questionable, the factor loadings are practically significant. Figure 4.6 presents an overview of how participants either agreed or strongly agreed with the above four statements:

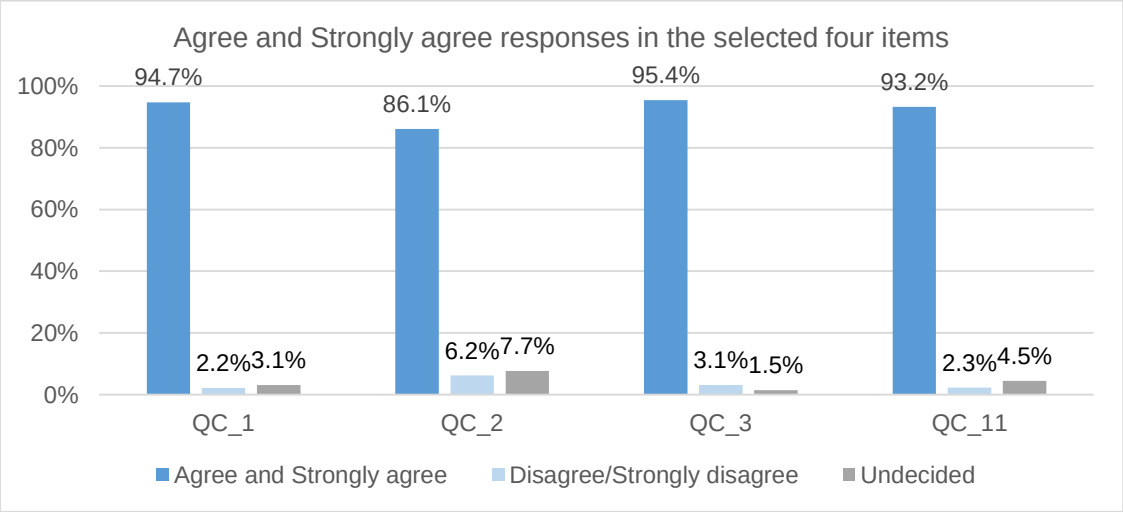

Figure 4.6: Sub-factor Motivation - Frequency distribution (in %, n=132)

According to Figure 4.6 the large majority of the respondents either agree or strongly agree that they are intrinsically motivated.

The second sub-factor that was extracted by PCA (Accounting course guidance) had three items with a Cronbach's α of 0.834 meaning that this sub-factor has a good internal consistency (See table 4.4). The factor loadings were practically significant; ranging above 0.8. The three are displayed in Table 4.7 below:

Table 4.7: Items under sub-factor Accounting course guidance

Item ID	Item
QC_8	I did not know that Accounting was part of my course.
QC_9	If I had a choice I would still do Accounting.
QC_10	I intend to teach Accounting after I graduate.

These items were relabelled "Accounting course guidance". Figure 4.7 below presents the responses of the respondents to these questions. Strongly agree and agree answers have been combined and the same applies for those who disagree or strongly disagree.

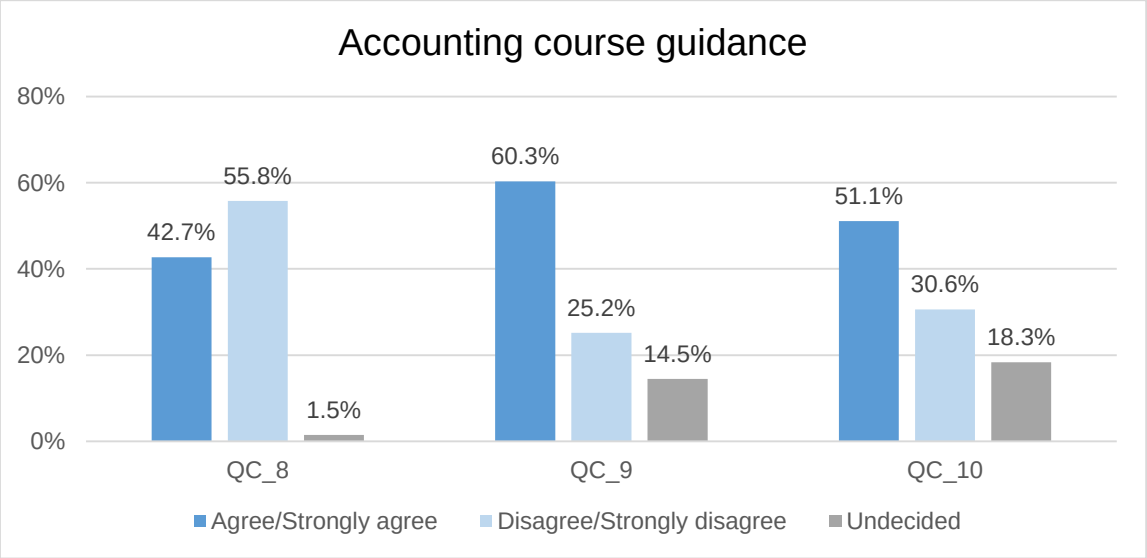

Figure 4.7: Sub-factor Accounting course guidance - Frequency distribution (in %, n=132)

Figure 4.7 indicates that 55.8% of the respondents did not know that Accounting was going to be part of their BEd curriculum: they were unaware that Accounting would be included in their studies and did not have prior knowledge of what their course entailed. However, 60.3% agreed or strongly agreed that they would choose Accounting; even if it was not compulsory for them to do it. A slight majority of 51.1% agreed or strongly agreed that they

intended to teach Accounting when they qualified and 48.9% (30.6 + 18.3) either disagreed or were undecided about whether they wanted to teach it when they graduated.

4.2.3.2 Section D – Learning environment

This section comprised a total of 34 questions around the learning environment. The PCA reduced that number to 11 sub-factors (see appendix G). Of the 11 sub-factors, reliability analysis was possible with nine only because the other two sub-factors contained one item each; suggesting that that they did not sustain a linear relation with any of the other items. Table 4.8 below displays the nine sub-factors that were tested for reliability:

Table 4.8: Section D - Reliability of individual items

Factor	Sub-factor	Cronbach's Alpha	N of items	Factor loading
1	Lecturer's teaching style	.766*	6	0.416 – 0.878
2	External class assistance	.615	4	0.602 – 0.750
3	Class preparation	.616	3	0.649 – 0.856
4	Subject administration	.624	5	0.527 – 0.726
5	Class size	.684	2	0.873
6	Class activities	.703*	2	0.771
7	Knowledge of course objectives	.582	2	0.840
8	Accounting lecturer encouragements	.374	2	0.804
9	Accounting learning style	.509	2	0.824

*Cronbach's α > 0.7

Cronbach's equation of α not less than 0.7 was used as a criterion to determine the reliability and internal consistency of the factors. Table 4.8 above implies that there are only two sub-factors that met the 0.7 threshold: lecturer's teaching style and class activities. The bottom three sub-factors were excluded from further analysis since their Cronbach's α was below 0.6, with two items each.

Lecturer's teaching style

This sub-factor consisted of six items that were re-labelled as lecturer's teaching style with Cronbach's α of 0.766 suggesting that participants viewed the lecturer's teaching style as a significant factor that determined academic performance of students. The factor loadings were all above 0.4 which indicated that the items ranged from important to practically significant. The frequency distribution concurred with the significance of this sub-factor: the

majority of participants agreed or strongly agreed with all the items that formed part of this group. Table 4.9 below displays the items that constituted this sub-factor.

Table 4.9: Items under sub-factor Lecturer's teaching style

Item ID	Item
QD_13	I learn better in a more relaxed environment.
QD_16	The lecturer is enthusiastic about Accounting.
QD_20	My accounting lecturer speaks loudly and clearly.
QD_21	My accounting lecturer has the ability to explain the accounting concepts.
QD_22	My accounting lecturer is always prepared for our classes.
QD_28	Homework helps me to prepare and understand Accounting better.

The bar graph below presents the frequency distribution of participants' responses under Lecturer's teaching style sub-factor as displayed by the frequency distribution tables in Appendix E:

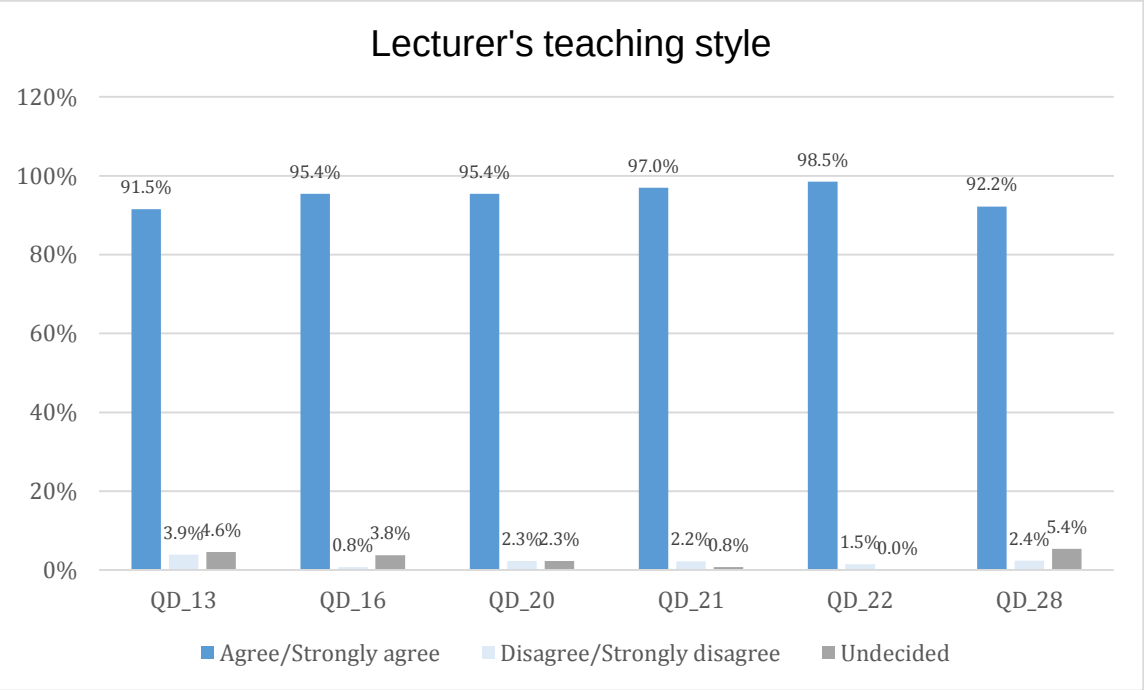

Figure 4.8: Sub-factor Lecturer's teaching style - Frequency distribution (in %, n=132)

The above figure shows that more than 90% of the participants in the six items under this sub-factor agreed or strongly agreed that the lecturer's teaching style had an influence on their academic performance. The influence can be either positive or negative.

External class assistance

This sub-factor had 4 items loading between 0.602 and 0.750 with a questionable Cronbach's rating of α of 0.615. The items that fell into this sub-factor are displayed below in Table 4.10 below:

Table 4.10: Items under sub-factor External class assistance

Item ID	Item
QD_4	The study guide IS NOT useful for my study planning
QD_7	When I do not understand Accounting I consult the lecturer during consultation hours
QD_8	I know when the consultation hours of my accounting lecturer are
QD_9	The accounting lecturer is ALWAYS available during consultation hours

Figure 4.9 below presents the frequency distribution results for External class assistance sub-factor:

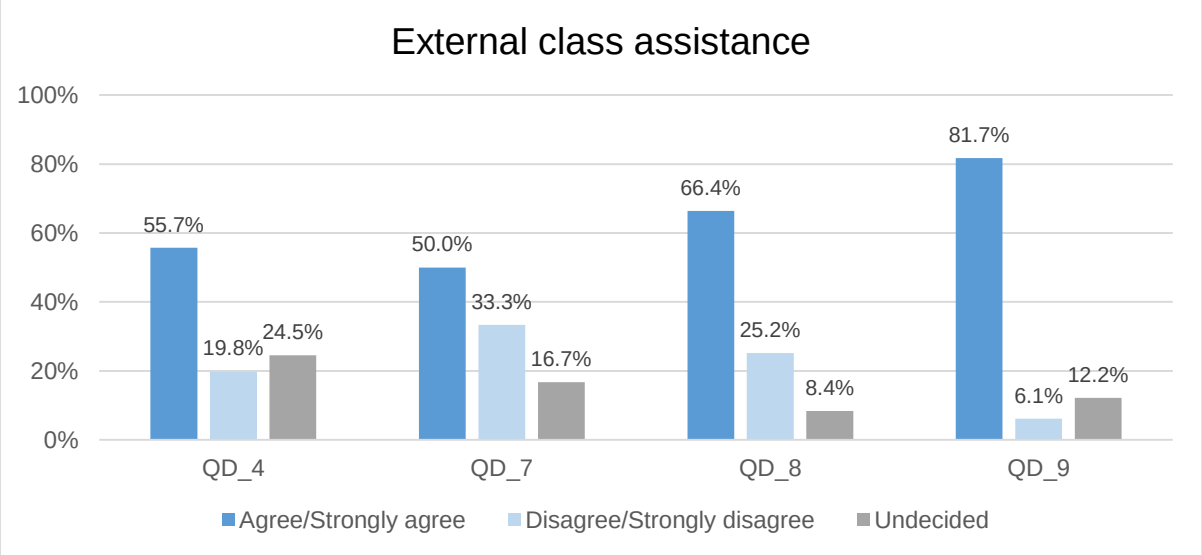

Figure 4.9: Sub-factor External class assistance - Frequency distribution (in %, n=132)

From the figure above, the majority of participants agreed/strongly agreed that the study guide was not useful for their planning. 50% of them did consult the accounting lecturer when they did not understand their work, and 66.4% seemed to know when the consultation hours of their lecturer were. Between 55% up to 81% of the respondents agreed that the lecturer was always available during the consultation hours.

Class preparation

This sub-factor had three items loading between 0.649 and 0.856 according to Cronbach's equation of α of 0.616: although the factor loadings of items were practically significant, the internal consistency of the responses was questionable. Table 4.11 below presents the items loaded together under the Class preparation sub-factor.

Table 4.11: Items under sub-factor Class preparation

Item ID	Item
QD_24	The textbook assists me in preparation for assessments.
QD_25	We use the textbook effectively in our lessons.
QD_27	I always make time to do my accounting homework.

Figure 4.10 presents the frequency distribution results of the items under the Class preparation sub-factor:

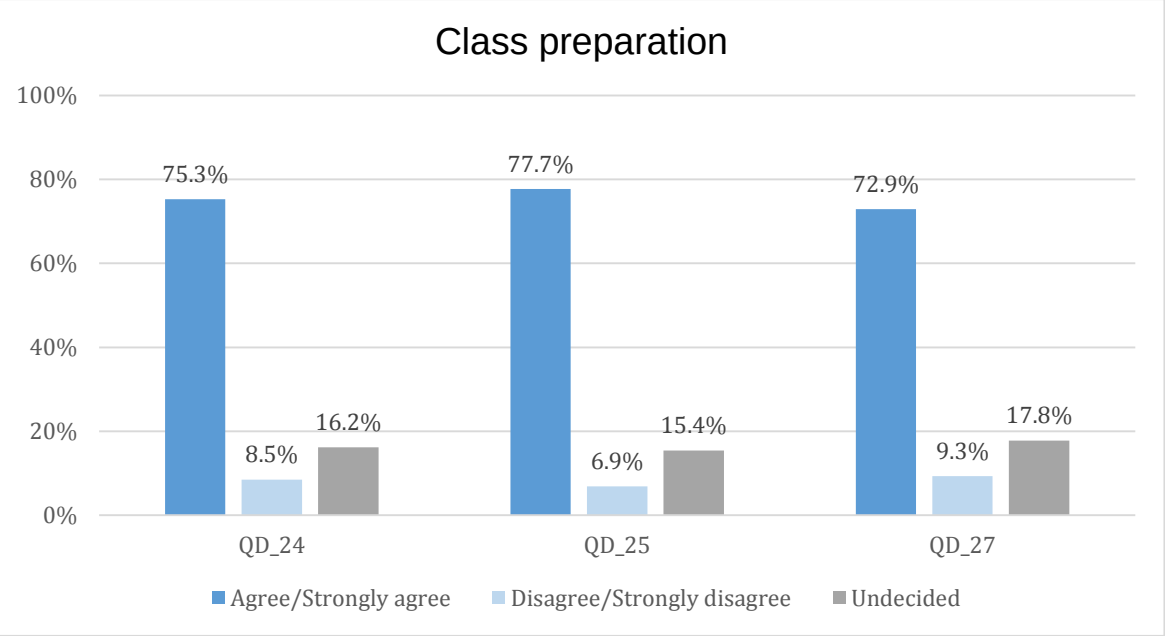

Figure 4.10: Sub-Factor Class preparation - Frequency distribution (in %, n=132)

The participants agreed that they used textbooks effectively for their lessons and class preparation. The majority of above 70% participants agreed or strongly agreed in some cases that they always made time to do their accounting homework.

Subject administration

This sub-factor comprised five items loading between 0.527 and 0.726; with a questionable Cronbach's formula of α of 0.624. Table 4.12 displays the five items under this sub-factor:

Table 4.12: Items under sub-factor Subject administration

Item ID	Item
QD_3	The study guide is available on Blackboard.
QD_19	My accounting lecturer uses Blackboard to make information available.
QD_30	The assessments are aligned to the specified outcomes of the accounting topics.
QD_31	I fully understand how to calculate my marks using the weights
QD_32	I know the weight of every assessment I write.

Figure 4.11 below presents a summary of frequency distribution results for the above five items:

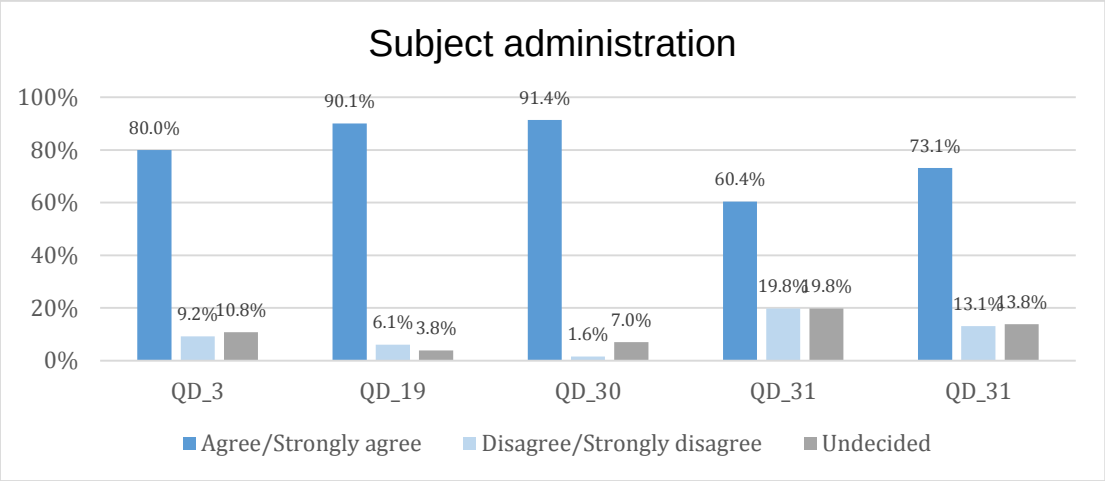

Figure 4.11: Sub-Factor Subject administration - Frequency distribution (in %, n=132)

Participants agreed or strongly agreed that Blackboard, an online learning platform, was actively used by their lecturers. The majority (60.4%) seemed to understand how to calculate their marks using weights; the remainder of them were either undecided or disagreed that they knew how to calculate these marks. Those who did not know how to calculate their marks could not set targets for their academic performance.

Class size

The Class size sub-factor had two items with factor loadings of 0.873 and a Cronbach's rating of α of 0.684. The unidimensionality of these items was almost insignificant. The items that fell under this sub-factor are displayed below in table 4.13:

Table 4.13: Items under sub-factor Class size

Item ID	Item
QD_33	The size of my class DOES NOT make it difficult for me to learn
QD_34	Our classrooms ARE conducive for learning

Figure 4.12 below presents the frequency distribution results for the above items.

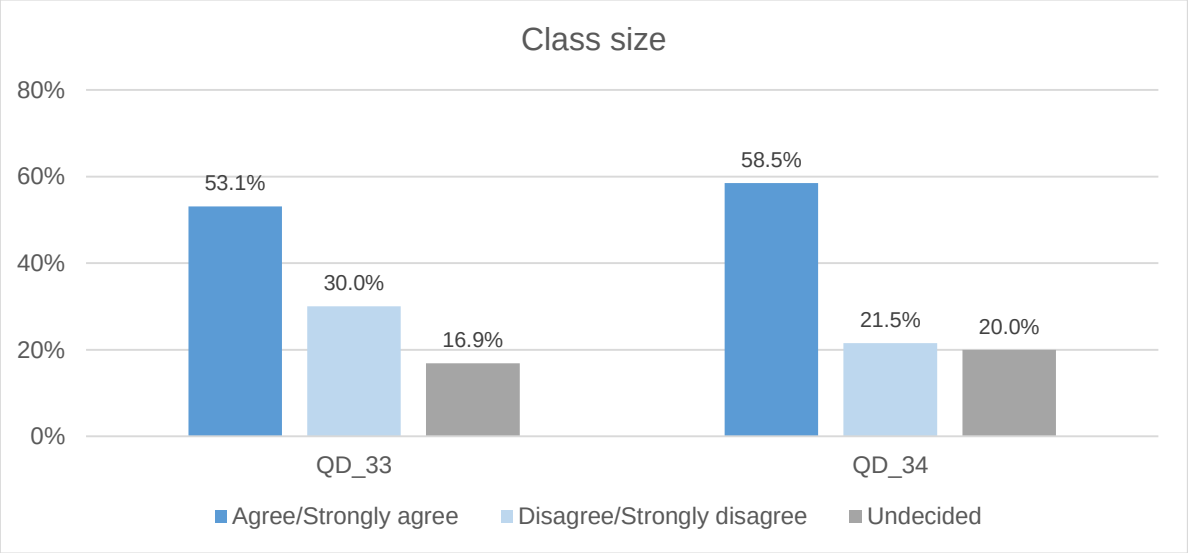

Figure 4.12: Sub-factor Class Size - Frequency distribution (in %, n=132)

In terms of class size, the majority (53.1%) of participants did not experience difficulties in learning; due to class sizes. 58.5% believed that classrooms were conducive to their learning. According to these responses, class size had little effect upon the academic performance of these participants.

Class activities

The Class activity sub-factor had a Cronbach's rating of α of 0.703: there were two items under this sub-factor. Table 4.14 below presents the two items under this sub-factor:

Table 4.14: Items under sub-factor Class activities

Item ID	Item
QD_10	The activities we do in class fit well with my learning style
QD_17	I understand the examples that we do in class

Figure 4.13 below display the frequency distribution results of the above items:

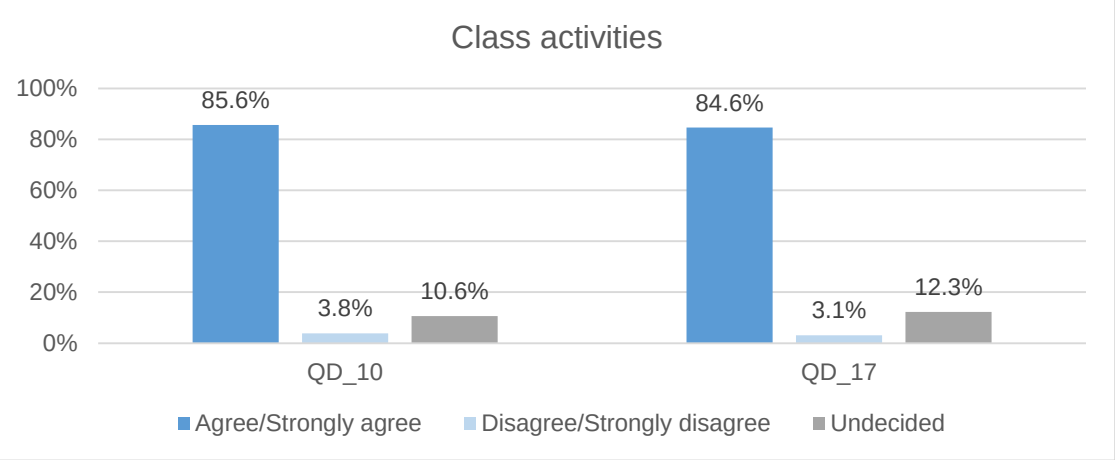

Figure 4.13: Sub-factor Class activities - Frequency distribution (in %, n=132)

The results above display that 85.6% of the participants agreed and strongly agreed that the activities they performed in class were in line with how they learnt. According to them, this alignment had a direct effect upon their academic performance; positively or otherwise. About 84.6% of the participants appeared to agree or strongly agree that they understood clearly the examples they performed in class. When students understand the activities they do in class, that can positively improve the academic performance. If class activities are in line with the outcomes and assessments, then the results generally tend to improve.

4.2.3.3 Section E – Class Attendance

Nine questions were posed in this section. The reliability analysis implied the maximum Cronbach's equation for α that could be achieved was 0.597 for six items. The participants' responses for these items had a poor internal consistency and therefore were not discussed.

4.2.3.4 Section F – Learning Approach

This section contained seven questions and reliability analysis scored a Cronbach's formula of α of 0.791 for a group of five items that were closely related. Therefore the responses of

the participants were considered to be reliable and could be interpreted. Table 4.15 below illustrates the reliability test results of this factor.

Table 4.15: Section F - Reliability of individual items

Factor	Cronbach's Alpha	N of items	Factor loading
Learning approach	.791*	5	0.692 – 0.793

The five items that were closely related are shown in table 4.16 below:

Table 4.16: Items under Learning approach factor

Item ID	Item
QF_1	I find Accounting very interesting.
QF_2	I DO NOT memorise Accounting in order to pass it.
QF_3	I study Accounting with the intention to achieve a distinction (75% and above).
QF_4	I am NOT satisfied with getting 50% in Accounting.
QF_7	I DO NOT study Accounting in order to pass it rather than knowing and understanding it.

Figure 4.14 displays the frequency distribution results of the items that loaded together under the Learning approach factor:

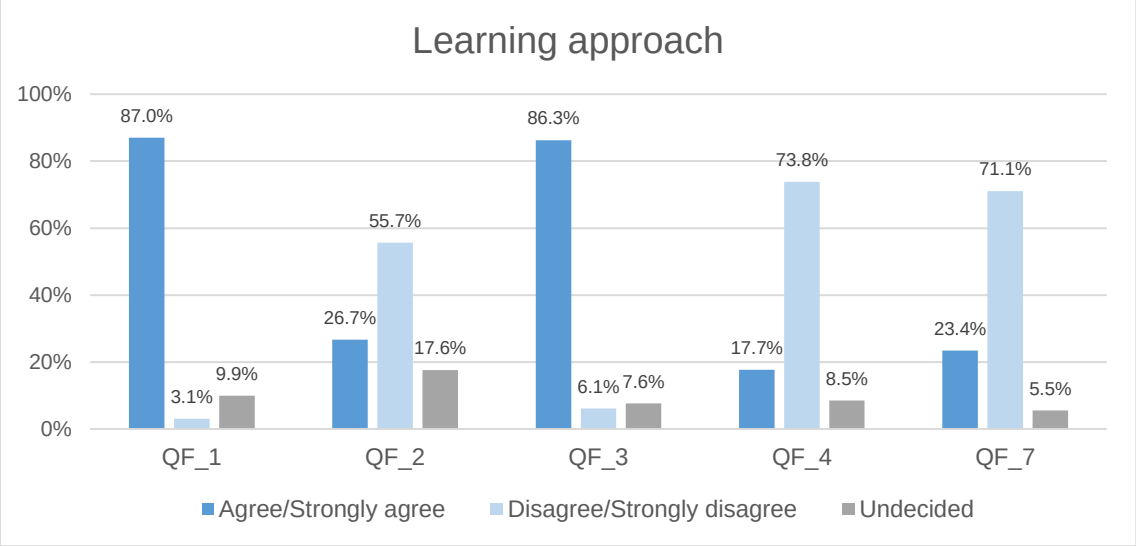

Figure 4.14: Factor Learning approach - Frequency distribution (in %, n=132)

QF_1 shows that 87% of the respondents found Accounting interesting. QF_3 displays that about 86.3% of the participants wished to pass Accounting with a distinction. This statistic is confirmed by QF_4, where 73.8% of student respondents were not satisfied with receiving 50% only. QF_7 displays that the majority (71.1%) of the sampled group disagreed that they study Accounting to pass it: suggesting that they were interested in understanding the subject. This observation can be interpreted to mean they were using a deep learning

approach. However, QF_2 shows that 55.7% of the respondents memorised Accounting which is contrary to the results in QF_7.Memorisation or rote learning signifies a surface learning approach.

Section G – Fees Must Fall protests Section G consisted of seven questions and reliability analysis resulted in a Cronbach's rating of α of 0.716 for five items and the factor loadings were practically significant at above 0.6 for all the items. Since the Cronbach's rating of α was above the 0.7 threshold, this sub-factor was interpreted. Table 4.17 displays the reliability test results of the FMF protest factor.

Table 4.17: Section G - Reliability of individual items

Factor	Cronbach's Alpha	N of items	Factor loading
Fees Must Fall protests	.716	5	0.663 – 0.714

Table 4.18 displays the items collated under the FMF protests factor.

Table 4.18: Items under FMF protests factor

Item ID	Item
QG_2	If government can finance my studies then my academic performance will improve.
QG_3	High education fees have a negative effect on my academic performance
QG_4	FMF protests negatively affected my opportunity to communicate with my lecturer about assessment preparation.
QG_6.	If I had received counselling after the FMF protest my performance would have improved
QG_7	Changes of assessment dates after the FMF protests did not allow enough time for me to study for exams.

Figure 4.15 below presents the frequency distribution results of the items that grouped together under the FMF protests factor:

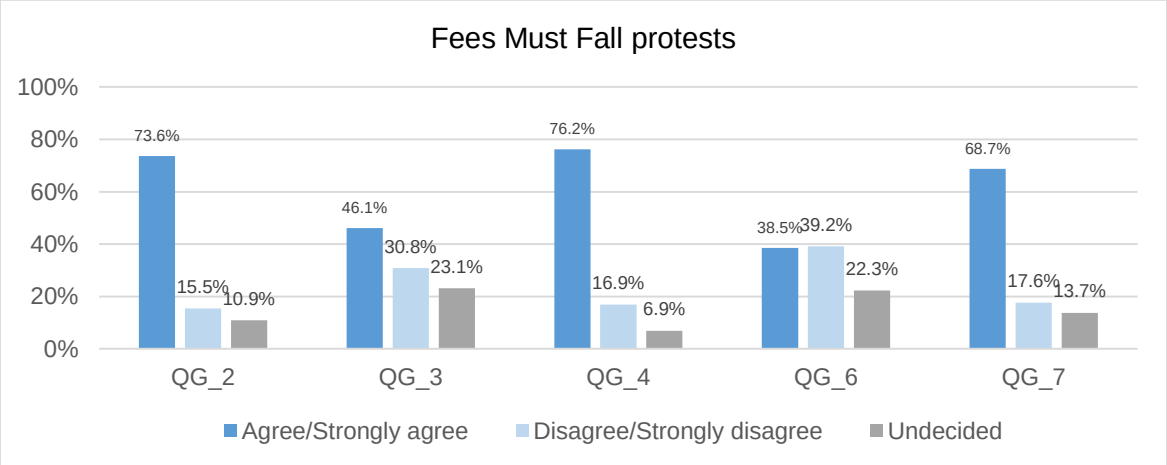

Figure 4.15: Factor Fees Must Fall protests - Frequency distribution (in %, n=132)

73.6% of the respondents believed that if government financed their studies it would improve their academic performance. But there was no outright majority when they were asked whether and how the high education fees affected their performance. Although 76.2% agreed or strongly agreed that communication became a challenge during the FMF protests, they were not explicit about whether counselling would have improved their performance. 68% of them agreed or strongly agreed that the changes in assessment dates after the protests did not give them enough time to prepare for the exams.

4.2.4 Descriptive Analysis - Sections C to G

According to Creswell (2012:182) descriptive statistics provide a summary of trends (mean) and the spread of scores (standard deviation) in the data. According to him, a mean figure is calculated by dividing the total of the scores by the number of scores. Standard deviation is an indication of how individual scores, on average, deviate from the mean. A five-point Likert scale ranging from 1 as the minimum to 5 as the maximum [1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree] was used to determine the mean and the standard deviations. Table 4.19 presents mean and standard deviation of each factor or sub-factor extracted.

Table 4.19: Descriptive Statistics

Sub-factors	N	Mean	Std. Deviation	Std. Error Mean
C1 - Motivation	132	4.39	.507	.044
C2 - Accounting course guidance	132	3.47	1.313	.114
D1 - Lecturer's teaching style	132	4.57	.472	.041
D2 - External class assistance	132	3.69	.772	.067
D3 - Class preparation	131	3.99	.763	.067
D4 - Subject Administration	132	4.04	.624	.054
D5 - Class size	131	3.44	1.155	.101
D6 - Class activities	132	4.21	.683	.059
F1 - Learning Approach	131	3.84	.781	.068
G1 - FMF protests	131	3.57	.855	.075
Valid N (listwise)	130			

The factor that displayed the highest mean was the lecturer's teaching style (Mean = 4.57) followed by motivation (Mean = 4.39) and then class activities (Mean = 4.21). These results concur with those of the factor analysis where factor loadings were all above ±0.5; implying these factors have either an important or practically significant effect upon students'

academic performance (see table 4.6). The sub-factor with the lowest mean was the class size (Mean = 3.44).

4.2.5 Correlation coefficient

The correlation coefficient was used to determine relations between the factors and sub-factors. Williams et al. (2010:5) categorise the values of a correlation coefficient as follows: ±0.3 = minimal, ± 0.4 = important, and ±0.5 = practically significant. They advise that if there is no correlation greater than 0.3, then this tool can be completely ignored. This statistic assisted in determining which factor or sub-factor had a stronger influence on academic performance. Table 4.20 displays the factors and sub-factors that were extracted with PCA and analysed; followed by table 4.21 displaying Pearson's correlation coefficient results of the 10 factors and sub-factors extracted with PCA.

Table 4.20: Factors and sub-factors extracted

Factor ID	Factor	Sub-factors
C1	Motivation	Motivation
C2		Accounting course guidance
D1	Learning environment	Lecturer's teaching style
D2		External class assistance
D3		Class preparation
D4		Subject Administration
D5		Class size
D6		Class activities
F1	Learning approach	
G1	Fees Must Fall protests	

Table 4.21: Correlation coefficient

		C1	C2	D1	D2	D3	D4	D5	D6	F1	G1
C1	Pearson Correlation	1	.112	.362**	.235**	.290**	**.403****	.091	.334**	.293**	.050
	Sig. (2-tailed)		.200	.000	.007	.001	.000	.300	.000	.001	.574
	N	132	132	132	132	131	132	131	132	131	131
C2	Pearson Correlation	.112	1	-.036	.298**	.058	.208*	.176*	.292**	**.552****	-.066
	Sig. (2-tailed)	.200		.686	.001	.510	.017	.044	.001	.000	.454
	N	132	132	132	132	131	132	131	132	131	131
D1	Pearson Correlation	.362**	-.036	1	.157	.190*	.329**	.083	**.452****	.176*	-.004
	Sig. (2-tailed)	.000	.686		.073	.029	.000	.347	.000	.044	.966
	N	132	132	132	132	131	132	131	132	131	131
D2	Pearson Correlation	.235**	.298**	.157	1	.237**	.265**	.198*	.143	**.482****	.040
	Sig. (2-tailed)	.007	.001	.073		.006	.002	.023	.101	.000	.648
	N	132	132	132	132	131	132	131	132	131	131
D3	Pearson Correlation	.290**	.058	.190*	.237**	1	.195*	-.143	.103	.129	.111
	Sig. (2-tailed)	.001	.510	.029	.006		.026	.103	.244	.145	.209
	N	131	131	131	131	131	131	131	131	130	130
D4	Pearson Correlation	**.403****	.208*	.329**	.265**	.195*	1	.214*	.268**	.147	-.062
	Sig. (2-tailed)	.000	.017	.000	.002	.026		.014	.002	.094	.480
	N	132	132	132	132	131	132	131	132	131	131
D5	Pearson Correlation	.091	.176*	.083	.198*	-.143	.214*	1	.052	.203*	-.019
	Sig. (2-tailed)	.300	.044	.347	.023	.103	.014		.559	.020	.829
	N	131	131	131	131	131	131	131	131	130	130
D6	Pearson Correlation	.334**	.292**	**.452****	.143	.103	.268**	.052	1	.300**	-.083
	Sig. (2-tailed)	.000	.001	.000	.101	.244	.002	.559		.000	.347
	N	132	132	132	132	131	132	131	132	131	131
F1	Pearson Correlation	.293**	**.552****	.176*	**.482****	.129	.147	.203*	.300**	1	-.006
	Sig. (2-tailed)	.001	.000	.044	.000	.145	.094	.020	.000		.949
	N	131	131	131	131	130	131	130	131	131	131
G1	Pearson Correlation	.050	-.066	-.004	.040	.111	-.062	-.019	-.083	-.006	1
	Sig. (2-tailed)	.574	.454	.966	.648	.209	.480	.829	.347	.949	
	N	131	131	131	131	130	131	130	131	131	131

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Bolded and highlighted > 0.4

Table 4.21 above shows that there is a practically significant relation between the learning approach (F1) and the accounting course guidance (C2) at 0.552. This virtual coherence suggests that respondents assumed a certain learning approach according to the guidance they received about the course. The learning approach (F1) displayed an important relation with external class assistance (D2) at 0.482. The lecturer's teaching style (D1) had an important relation with class activities (D6) at 0.452. This connection implies that students believed that the teaching style of a lecturer informed what occurred in class. Motivation (C1) was broadly associated with subject administration (D4): students' awareness of the assessment weightings, their use of Blackboard, and their knowledge of topics to be studied could be aligned with respondents' motivation.

4.3 RESULTS FROM THE DOCUMENT ANALYSIS

The following section records, reflects and describes the analysis and interpretation of the final end of the year results in EMS/Accounting of education students as a measurement of the current status of the academic performance at the selected UoT. These participants' results were quantitatively analysed.

4.3.1 Enrolment numbers for Accounting and/or EMS

EMS was introduced at the beginning of 2016 as part of a new qualification, BEd SP&FET. Before 2016 students who wished to specialise in commercial subjects, made their choice in their first year of enrolment. Currently, they make that choice in their third year. During the first two years, they take EMS. The purpose of analysing these marks is to determine the current status of the academic performance of the pre-service accounting education students. Figure 4.16 below represents the number of students that were enrolled for Accounting and/or EMS between the years 2015 to 2017:

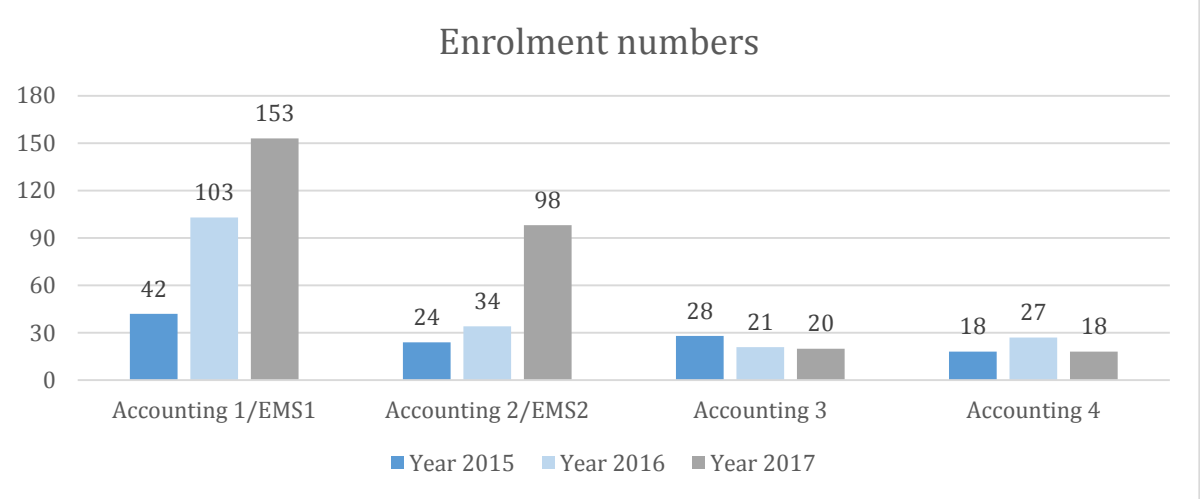

Figure 4.16: Enrolment numbers for Accounting and/or EMS

Figure 4.16 above displays that student enrolments increased significantly in Accounting 1 or EMS1 from the year 2016. This increase can be attributed to the new curriculum introduced in 2016; where all students who wished to major in a commercial subject enrolled for the new subject EMS1 at the first academic year level and EMS2 at academic year level 2. In academic year 3 students choose whether to major in Accounting, Business Studies or Economics. The effect of the new curriculum started to increase numbers for Accounting 2 or EMS2 only in year 2017 because those who started in 2016 progressed to EMS2. The enrolment numbers for Accounting 3 remained low; meaning when the students had to choose major subjects, only, low numbers chose Accounting as a major subject. This preference is in line with high school trends; where few learners opt for Accounting when they have to select subjects in Grade 10 (Schreuder, 2009). This statistic indicates Accounting is not popular, neither at school level nor at university level.

4.3.2 Academic performance for Accounting and/or EMS

Final year marks for Accounting and EMS for the years 2015 to 2017 were collected for all the academic year levels. The following section analyses and interprets academic performance during the selected period.

4.3.2.1 Accounting 1 and/or EMS1 academic performance

Figure 4.17 presents academic performance for Accounting 1 and/or EMS1:

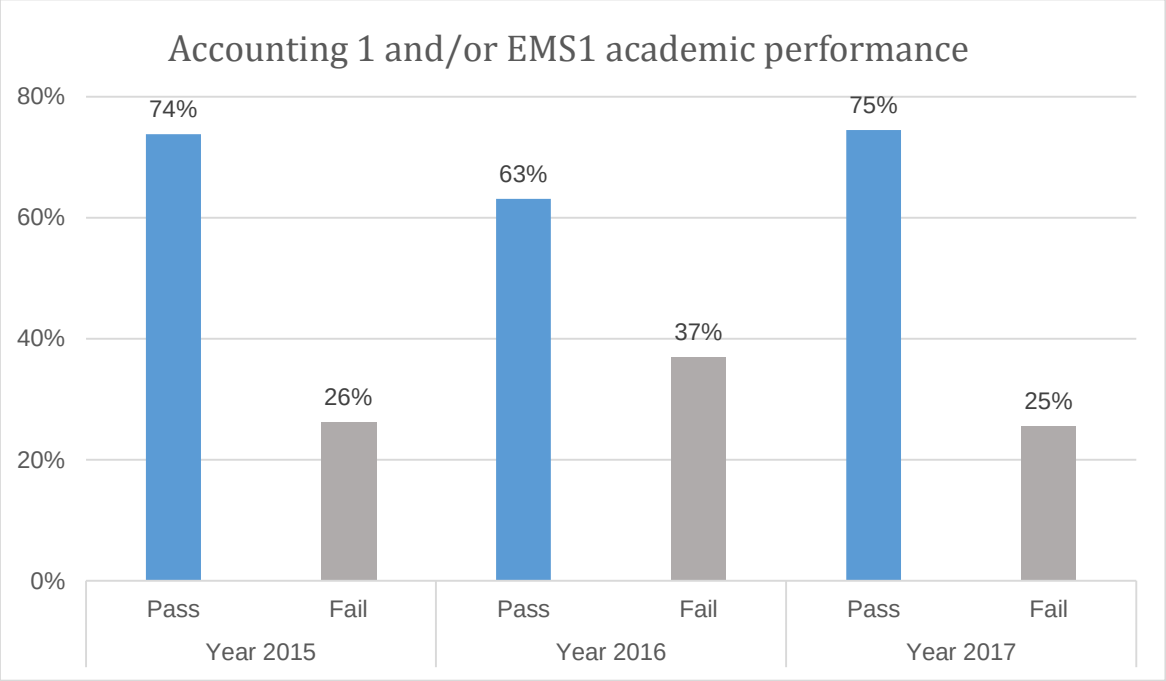

Figure 4.17: Academic performance for Accounting 1 and/or EMS1

The figure above suggests that after the introduction of the new curriculum in year 2016 academic performance declined markedly from a pass rate of 74% to 63%. In 2017, however, the performance improved, to reach a 75% pass rate.

4.3.2.2 Accounting 2 and/or EMS2 academic performance

Figure 4.18 presents the academic performance for Accounting 2 and/or EMS2:

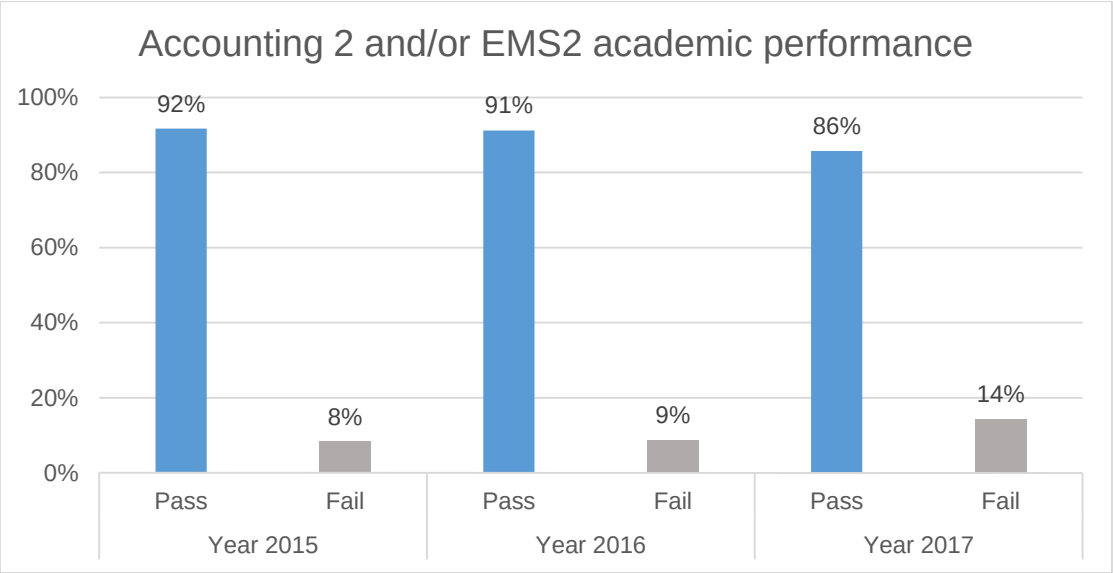

Figure 4.18: Academic performance for Accounting 2 and/or EMS2

Figure 4.18 above indicates that academic performance for Accounting 2 and/or EMS2 is well above the pass rate levels of the academic year level 1. In year 2015 and year 2016, students majoring in Accounting 2 were above the average pass level. In 2017 EMS2 students from the new curriculum were clearly above average pass level. A slight decrease of 5% (91% minus 86%) was reflected in the results. This drop might have been caused by a sudden increase of students' enrolments; from 34 in year 2016 to 98 students in year 2017.

4.3.2.3 Accounting 3 and 4: academic performance

Figure 4.19 presents the academic performance for Accounting 3:

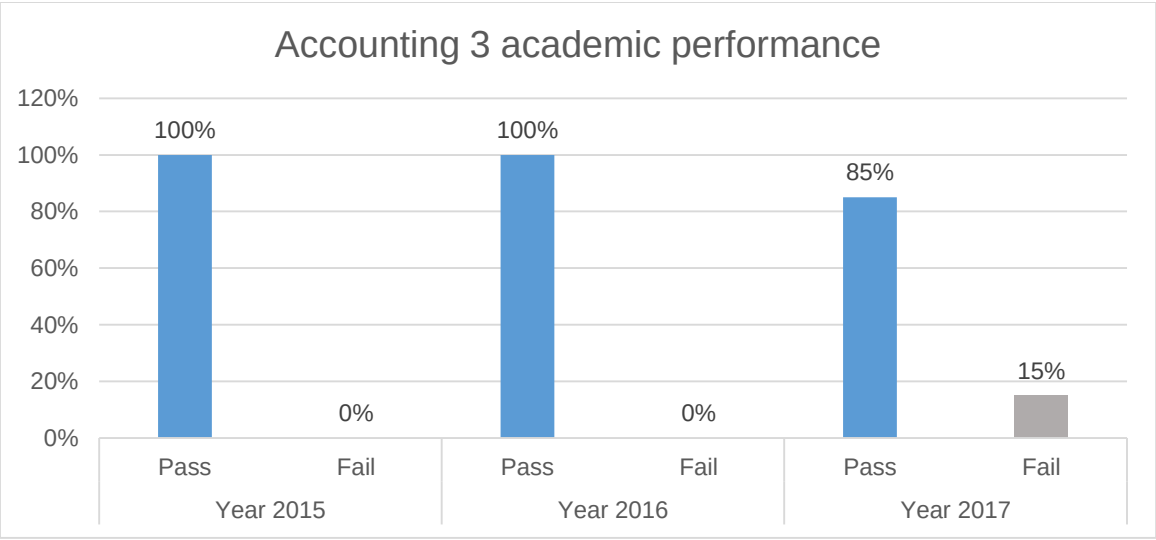

Figure 4.19: Academic performance for Accounting 3

Figure 4.19 demonstrates that students perform well in Accounting 3, with a pass rate of 100% in 2015 and 2016 which was reduced by 15% in year 2017. Students in academic year level 4 passed with 100% from 2015 to 2017. From the above results, it can be concluded with some certainty, that the increased number of enrolments had a negative effect on academic performance of pre-service accounting education students. Academic year level 3 and 4 displayed the highest pass rates, while academic year level 1 and 2 had higher pass rates up until the introduction of the new curriculum which increased the enrolment numbers with high margins.

4.4 RESULTS FROM SEMI-STRUCTURED INTERVIEWS

Semi-structured interviews were conducted with 12 participants at three different academic levels. Three of these participants did not take Accounting in high school. These interviews were audio-recorded, then transcribed; before they were imported into ATLAS.ti software for analysis. The intention of conducting the interviews was to dig deeper and follow up on the findings from the quantitative results. To maintain confidentiality, pseudonyms were used to hide the identity of participants. Table 4.22 below presents the participants' pseudonyms.

Table 4.22: Pseudonyms of participants

Interview	Participant	Level	Did accounting?
1.	Jacky	2nd year	No
2.	Entle	2nd year	No
3.	Sive	2nd year	No
4.	Esethu	2nd year	Yes
5.	Nolonwabo	2nd year	Yes
6.	Sunell	2nd year	Yes
7.	Molteno	3rd year	Yes
8.	Zanele	3rd year	Yes
9.	Kay	3rd year	Yes
10.	Asanda	4th year	Yes
11.	Nosisi	4th year	Yes
12.	Lesley	4th year	Yes

English is not the mother tongue of all participants and therefore grammatical errors from their transcripts were corrected; to avoid any misinterpretations of their responses. Five factors were investigated in this project: (a) Motivation; (b) Learning environment; (c) Class

attendance; (d) Learning approach; and (e) Fees Must Fall protests. These five factors became the themes of the study. Sub-themes/categories were then extracted using ATLAS.ti under each main theme.

4.4.1 Theme 1: Motivation

From this theme, two questions were asked. The first one sought to determine what motivated participants to study BEd in a commercial field where Accounting was included as a subject. The second question was about the guidance that participant students received prior to registering for this qualification. The intention of posing this question was to determine whether participants were aware of what was included in the curriculum of the BEd qualification. Figure 4.20 represents the sub-themes that were extracted from the responses of the participants using Atlas.ti software.

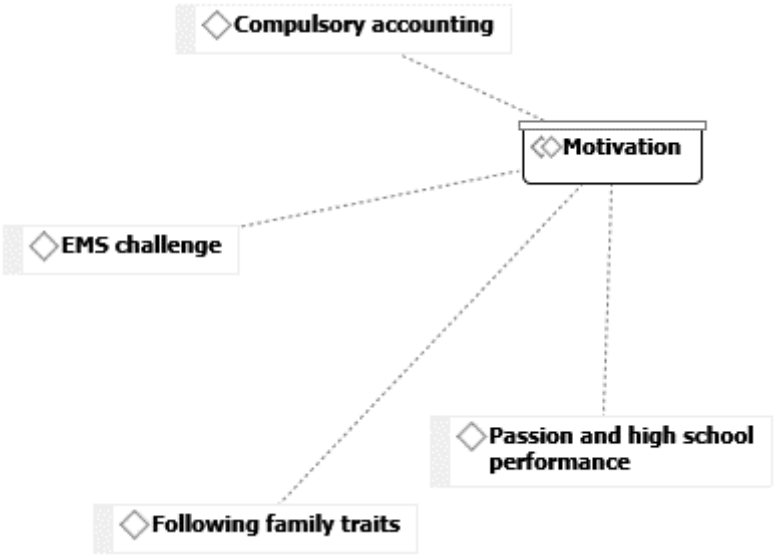

Figure 4.20: Sub-themes from motivation

4.4.1.1 Passion and high school performance

Participants who had taken Accounting up to Grade 12 level cited passion as the element that most drove them to study the BEd qualification with Accounting as a subject. Asanda stated that:

> It's because prior to my BEd degree, I had done an accounting degree… so I love accounting…so it was only like inevitable to do accounting as a major when I was doing my BEd which is my second passion.

Lesley shared similar sentiments narrating that:

> I have a passion for accounting. First of all, it's my number one subject… if I have a choice at the school in the future... I would definitely choose accounting over any other subject.

According to these student participants in the project, the passion for Accounting started while they were at high school. They decided that they wanted to be teachers majoring in the subject. They refer to their good performance in Accounting and commerce subjects as one of the reasons that made them choose the BEd qualification, as Esethu mentioned:

> I always had this idea of wanting to teach Accounting and from performing well in high school… our teachers used to pay us for Saturday classes to teach... that's when I developed a passion for teaching...teaching other students even getting a chance to teach someone who's also in the same classes as you... so I felt like I had the knowledge and know how to explain and make a difference in other learners.

4.4.1.2 EMS Challenge

Some of the participants reflected that they noticed that in high school EMS was a problem subject; especially the Accounting part of it. According to Esihle, there were some difficulties with regards to EMS at high school and accounting teaching. Esihle aimed to solve that problem. She stated that:

> Seeing that in high school perhaps that we were struggling in Accounting… and most people coming from EMS subject didn't want to go through with Accounting. They only liked the theoretical subjects of the combination of the EMS… so I felt like being part of people who will teach accounting…so that I can make a change even if I'm teaching EMS. I know that I can build a confidence for learners to choose accounting because they like basic accounting in EMS but then going beyond they don't perform well in Accounting so that's the main reason.

Sive confirmed what Esethu raised about learners who like the theoretical parts of the EMS subject in high school as he reflected that:

> I've got a great dislike for Accounting let me be honest with you... and the thing that adds to that dislike is that I never knew that I was going to do it here. I only came for Business and Economics that's it.

Jacky noticed that learners are discouraged from taking Accounting and the number of those who are permitted to do it is very low. His response was:

> Well, firstly in schools the total amount of learners that are permitted to that certain subject is very low, so at school already there is a problem, I don't know how to say it... I can say discouragement or there's something that drives learners away from Business Economics and Accounting… so therefore my goal is to implement strategies and ways of making learners more interested in that specific field.

What is being raised by the participants supports what was discovered by Letshwene (2014:72): that teachers do not teach or focus on the accounting section of EMS. This elision is what discourages learners from selecting Accounting in Grade 10.

4.4.1.3 Following family traits

According to two participants, they were motivated to do the BEd qualification by their family members. Jacky and Lesley pointed out that their family members were in the teaching profession and that is what motivated them to follow in the same field. Below is an extract from their interviews:

> **Jacky:** ... in that concept I would like to point out the fact that from my mother's side all of her sisters and brothers are teachers… and then of my mother's oldest child who is my sister she is a teacher graduated here at this institution... and then the younger one the second born is still doing banking but he's also looking forward to do teaching, so it's in the family footsteps.

> **Lesley:** … it was totally my decision, but guidance into teaching has definitely came from my two siblings… they are both teachers so they encouraged me to go into education.

4.4.1.4 Compulsory Accounting

The participants who did not take Accounting in Grade 12 were doing Accounting at the selected UoT only because it was a compulsory part of the subject EMS. They were passionate about the other two parts of EMS: Economics and Business Studies. Sive mentioned that he did not like Accounting and he did not select it in Grade 10 when he made subject choices in high school. This is similar to Esihle's sentiments; that the problem in Accounting emanates from the senior phase EMS and learners are dropping the subject as a result. Below are extracts from Sive's and Entle's responses; expressing their disapproval of the system being used at the selected UoT:

> **Sive:** ... there's nothing that motivates me behind Accounting… cause when I came here I merely came for the fact that I'm going to do EMS as in Business Studies and

> Economics... I didn't think I would do this accounting introduction. Now when I came here I had to be forced to do that thing... so that same reason is the one that is manifesting again now... so I'm having a problem with Accounting. It's compulsory. I really don't like it and I'm not good at it.
>
> **Entle:** … I wanted to do Business Studies so that I can teach it in high school because I loved it in high school... but then it was a must to do Accounting and Economics as one subject for EMS... so that's why I did accounting.

They both feel that they were forced to do Accounting and if they had a choice they would not have selected it because their interest is not in Accounting but the other two parts of EMS: Business Studies and Economics.

4.4.2 Theme 2: Learning environment

Questions that were asked with regards to the learning environment ranged from the role of lecturers, the classroom atmosphere in terms of the size, assistance outside the classroom, and the methods that the participants used in order to understand Accounting. Figure 4.21 below presents the sub-themes that prevailed under the learning environment factor.

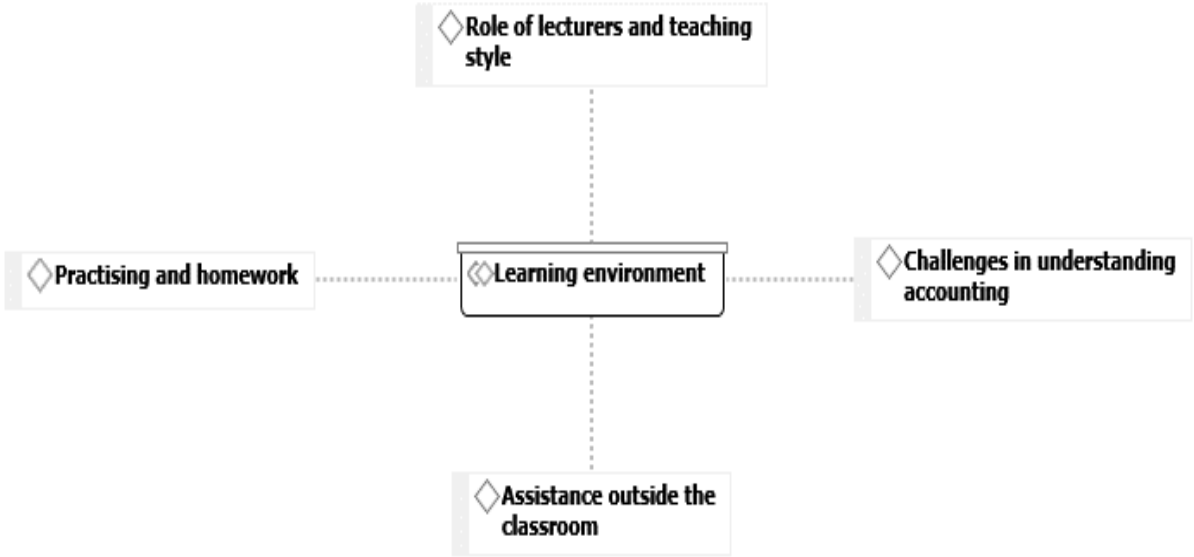

Figure 4.21: Sub-themes from learning environment

4.4.2.1 Role of lecturers and teaching style

The participants raised several issues that were positive with regards to the role of the lecturer in their academic performance. Jacky preferred lecturers to be learner-centred in

their approach to teaching. According to him, he learned better when solutions to class activities came from students rather than the lecturer. He narrated:

> The previous lecturer was teacher-centred... so she was the one speaking the most and not inter-acting... so a lecturer that is very inter-active has more chance to get more success or let's say the performance rate would increase if there's more interaction... so all answers of all the activities we do in class comes from the students themselves... so he gives us the opportunity to calculate everything.

The participants were motivated when the lecturer offered feedback on how they performed and who the top achievers were in a certain assessment. They mentioned a well-argued introduction to a topic as one of the most important elements to grasp their attention. Nolonwabo explained:

> When we write exams or any test, he will be like ok here are my top achievers… then from the whole class the will be like 10 or 15 then out of that 10 obviously everyone wants to see who got best marks… so it's kind of competition that encourages me to be in that top 10… every time he calls the top 10 I want to be there.

Esethu liked the fact that the lecturer used many sources and did not rely on the prescribed textbook only. She applauded the fact that the lecturer tolerated criticism and allowed students to challenge his views during the lesson. Asanda noted the emphasis that the lecturer placed upon ensuring that every student understood the work at hand and gave many examples and exercises to practise.

4.4.2.2 Assistance outside the classroom

Nosisi mentioned that she always practised and that she enjoyed the activities that were assigned to them via Blackboard. She stated that "we like computers and cell phones"; suggesting that the use of technology was important to her. Esethu confirmed these sentiments about the use of technology for more learning and revealed that the internet-based information and videos assisted her considerably when she was not in class. She explained:

> What assists me so much is going through the videos in Google... there is a learning extra channel, it assists me very well because they are doing past papers so actually some of the things that are done there are the things that we do but in more advanced... so for the basics I always use that and also the notes that the lecturer provides.

Some of the participants noted that their friends, or working as a small team, assisted them when they were not in class. Lesley believed that what helped him to perform well academically was discussion of the subject with his peers. He stated:

> Outside of the classroom definitely the people that I was with on campus, like my peers... I surrounded myself with hardworking people and we kind of feed off each other's ethos… like philosophy about hardworking.

According to Sive, practising with friends does help to a certain extent; however, when assessments needed to be done then it was as if he had not practised. He explained:

> Even if I practise with friends... I understand at the moment when they explain… but come to the exams or tests I see flames you know.

Asanda created good relations with accounting mentors that she had during teaching practice: whenever she struggled or needed help outside the classroom, she would contact them to assist. Looking at the responses above, it seems that participants had different kinds of assistance that they utilised when they were not in class.

4.4.2.3 Practising and homework

Participants believed that what assisted them to perform better in Accounting was doing homework, practising and preparing for class. Jacky explained:

> We know Accounting it's something that needs to be practised… so before class you have to... even if it's two minutes glimpse in your book… but you have to revise what you've done previously in a lesson.

However, Sive and Nosisi confessed that they did not always practise or prepare. Asanda and Nolonwabo cautioned that:

> **Asanda:** If you don't do accounting homework, or you don't practise Accounting… it's like in mathematics... I mean, that's a recipe for failure.
>
> **Nolonwabo:** In Accounting you have to do your homework… in order for you to understand it you have to do your homework.

Entle pointed out that she always did her homework as a means of preparing for her next class.

4.4.2.4 Challenges in understanding Accounting

According to Entle, what becomes a challenge in Accounting is not practising and not attending class. Nolonwabo cited the pace of the lessons: sometimes they were too fast for her to grasp all the information. She explained:

> I would say sometimes he moves a little bit too fast. I don't know if it's the time or what, but there are times when you feel like his rushing it... even though I say I couldn't understand he would quickly explain it again but quickly move again… so sometimes he rushes it.

She noted that doing your homework in Accounting was difficult and if you did not do it then you became lost. Like Entle, she emphasised the importance of practising. Esethu mentioned that language in some instances became a barrier to Accounting because classes were conducted in English whereas in high school everything was explained in her own language.

Sive and Asanda proposed that there was a gap between what was being taught at university and what was required in schools where they were supposed to teach. Asanda stressed that when she was in teaching practice, creativity was demanded whereas that was something not taught at university. Sive stressed that sometimes the content and the focus of the university was different to that of high schools. He explained:

> I don't know how to put this man… but what we do here it's just completely different when it comes to teaching it in high school. In one of the subjects here we do too many graphs everything is related to graphs, graphs, graphs… but when you go to high school you find the percentage of anything that's got to do with graphs its less than 10%... there's more content than these graphs and calculations and stuff we do here in varsity.

Sive's particular challenge with Accounting was the fact that he hated the subject. But he raised the issue of class size as one of the main impediments to understanding Accounting. According to Sive, if the number of students in his class were reduced, he gained the attention that he needed. He narrated:

> If we would be fewer nhe... I think the attention I would get to my problems will be much positive... I would improve… it's just that we've got a big group nhe... so if the other people get it right then it's done... he doesn't know what is going on with some certain individuals... but he knows my problem... he normally comes and checks... but he doesn't pay much attention because he knows I'm that guy who really doesn't push too much in Accounting.

Some of the second-year level participants confirmed what was raised by Sive. According to Entle, the challenge with the class size was the noise which made it difficult to listen and concentrate. Esethu suggested:

> I think maybe it can be easier if we can be split when we are too many in class… because of the time and the duration of the lecture… sometimes a lecturer can't have like specific attention to other learners.

The participants doing third and fourth year of their qualification did not have a problem with the class size; mainly because their classes are relatively small. Asanda stated that if they were too many, then she was going to sit in front in order to be able to focus.

Theme 3: Class attendance

The responses about class attendance during the quantitative phase were not reliable and were not analysed further. However, the researcher decided to investigate the influence of class attendance during the qualitative phase. Four sub-themes emerged from class attendance and they are displayed below in figure 4.22

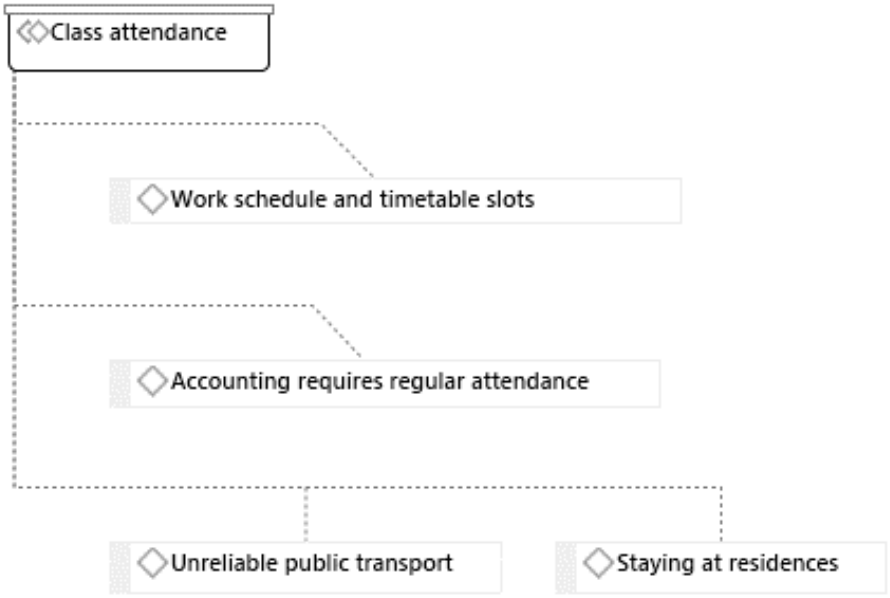

Figure 4.22: Sub-themes from class attendance

4.4.2.5 Staying in residences

The participants who stayed in the university residences did not seem to face challenges with attending classes. Nosisi asked if she did not attend classes, what she would be doing in residence the whole day; and then she said she enjoyed Accounting. To such students, not attending class is their choice and they claimed that they can attend classes anytime of the day. Esethu and Asanda stated that they could attend class at any time because they were staying in the nearby residence. Sive agreed with them about always attending class because he himself was staying at the residence. He stated that the only time he would miss class was when he was travelling from home after certain weekends off.

4.4.2.6 Unreliable public transport

Participants who stayed at the residence expressed that what made them attend classes frequently was the fact that they did have to travel with public transport to reach class. Asanda remarked:

> Attending classes could be a factor for people who take the public transport... but for me, I stay at residence... it's my choice not to attend.

According to Jacky and Lesley, the challenge with public transport was the industrial strikes and unreliability to be on time; meaning when they missed classes it was due to something outside their control. Jacky described the situation at times:

> I attend all my lessons, and then maybe external factors would influence my class attendance… because sometimes trains are running very late in the morning… then I get late to class... and then sometimes I'm sitting in class then I'm already worrying about how am I going to get home because of trains are running late, so all of that has an influence on you… but you just have to stand strong and do what you must do... because what is the use of you attending university if you do not attend classes.

As one can see from the above statements, the unreliability of public transport affected students' class attendance and reduced concentration during class because students were thinking about the transport going back home. Jacky revealed that he sometimes left before the class was over to rush for the transport and could not go to the library to study. Public transport affected students before the class started, during the class and after the class was over.

4.4.2.7 Accounting requires regular attendance

The participants seemed to understand that Accounting required them to be in class every day because it is a progressive subject; meaning each lecture build on previous lessons. Missing a lecture makes a student to be confused in class since every class continues from the previous one. Below are extracts from the interviews:

> **Sunell**: If we miss out on one Accounting class you feel lost... so we basically aim to be in every class.

> **Entle:** I know if I do not go to class then I would not understand what is happening… and if I missed it when the lecturer was explaining it, I'm not going to get a chance to understand it the way I was going to understand it in class... so I make sure that I go to class.

> **Nolonwabo:** I would say the lessons improve my class attendance… because once you are there its easier for you to understand... but if you miss a lesson or two the third lesson comes you would be like you don't know what's happening… even though you do know like the work, but still you are kind of confused... because you were not there the previous lesson.

> **Sive:** What influences my attendance in Accounting... it's because I need to be there… cause the problem is that if you miss one class you feel that I've missed something. There's new things almost every day in accounting... so I really feel the moment you miss one class you feel I'm left behind... so what makes me to come to class is not like I want to be there... it's just that I need to be there… so that I know what they are talking about. Then get over and get done with this whole thing and sometimes it just feels like I'm there for the register... so that I don't have a bad name. My mind and spirit is not there in accounting class.

From the above extracts, it was clear that participants agreed that if you miss an accounting class once, then you struggle to understand what is happening in class. Even Sive who dislikes the subject, knew that it was important for him to be in class.

4.4.2.8 Work schedule and timetable slots

According to the participants, other challenges that influenced their class attendance were the work schedule and the timetable slots. Participants revealed that in certain instances, they did not attend classes; such as when they had an assignment or other study commitments. Lesley and Nosisi explained:

> **Lesley:** When it comes to group assignments... so then different people are off at different times... because maybe I do accounting, economics, and business... and the other person does accounting but with two other subjects... so then sometimes we would for instance if we had an economic assignment then we decide okay we're not going to either attend accounting because this is the only period that we have.

> **Nosisi:** What most of the time prevents me from attending classes... maybe I have to study for an exam.

Asanda said what influenced her class attendance were the topics that were being covered during specific periods. She said that if the schedule showed that they were going to do a topic that she had done before, then she did not attend. Entle pointed out that when the accounting period was on a Friday, they sometimes bunked the class because they disliked Friday classes.

4.4.3 Theme 4: Learning approach

The intention of this theme was to seek to understand participants' approach or attitude towards studying Accounting. If students study in order to understand, that is referred to as a deep learning approach, whereas if their interest is on memorising and passing Accounting only, then that would be judged as a surface learning approach. The question that was frequently asked was: "When you study Accounting, is it to merely pass it in order to get your degree, or to understand it?" One category that was extracted from ATLAS.ti was named 'Intention of studying Accounting'.

The third and fourth year level participants interviewed all studied Accounting with the intention to understand it. They realised that understanding it was crucial, because they were majoring in it and therefore would be required to teach it as their specialisation.

> **Asanda:** It could never be merely to pass for me… it's to understand it, because I'm going to teach it... so I need to be open-minded about it and be interested in it obviously… so I think that's why it's not just for passing.

The second-year level participants recognised that although their interest was to pass the subject and get rid of it they could not pass Accounting without understanding it. Here are some of their interview extracts:

> **Entle:** I try to understand the work because in accounting it is difficult to memorise… because you can memorise but when it comes to an exam paper you cannot understand if you didn't study to understand… so I make sure that I understand so that even if they change the exam paper I will understand... so I make sure that I understand and not memorise it.

> **Jacky:** Well formulas and stuff like that you study to memorise… but the content based questions can't be memorised… especially in accounting figures differ all the time so you can't memorise anything. Let's say you memorise a figure of a total assets account or something like that... then you get an assessment and then there you see a total assets account and you put that amount it's not going work like that… because there's formality into doing things right… and Accounting is much more practical and there's lots of calculations involved and different accounts, so basically you can memorise it… but I would say I study Accounting to understand it.

Lesley mentioned that to him it was not about understanding it but that he always went beyond what was expected of him in Accounting because of the passion he had for it. Entle revealed that at the beginning of her course, her intention was to pass Accounting and nothing more; but that changed and she learnt to love the subject. Sive hated Accounting unashamedly and his response was:

> I can't wait till next year if I do pass this thing this year. I just memorise like this is the way it was done in the previous activity maybe… I'm just thinking ok maybe this is the way it should be done again… that's what comes to mind.

Asanda disliked rote learning because she said it was important to understand something so that even if it was turned upside down, you could still understand. It was clear from these responses of the participants, that they knew that Accounting required a deep learning approach. Whether they applied it or not has not been established within the limits of the study.

4.4.4 Theme 5: FMF protests

The objective of including the FMF protests in this research was to determine to what extent disruption affected participants' academic performance in Accounting. Some students believed that they were affected; while others thought differently. For example, Asanda pointed out that her academic performance was not affected; because first she did not need to join the protest since she had received a bursary. Second, lecturers supported her and there was Blackboard that helped her during the protests. She reported:

> For me in Accounting it didn't because then again I said of my lecturers throughout were very supportive. So we made use of things like Blackboard and email that sort of kind of thing. And also I was on a bursary so I wasn't thinking so much about the fees that I owe, so it didn't really affect me.

Seven categories emerged under the FMF protest theme. Figure 4.23 below displays an overview of the categories that were extracted:

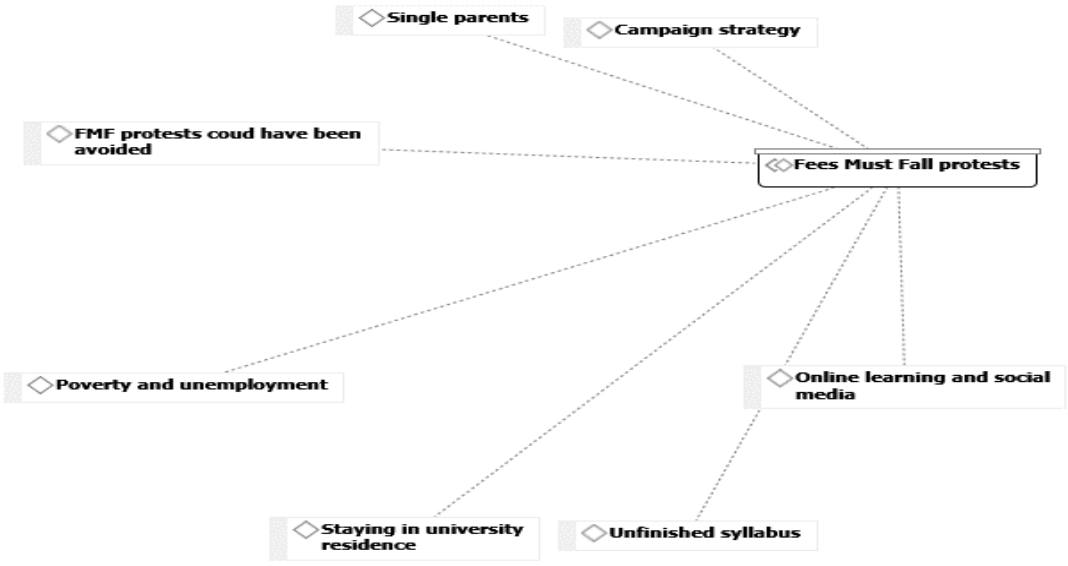

Figure 4.23: Sub-themes from Fees Must Fall protests

4.4.4.1 Poverty and unemployment

One of the questions asked was whether participants thought the protests were for a just cause. Esethu explained that she lost the entire year; not studying because she could not afford the registration fees. Sive was in support of the protests because his parents were unemployed and therefore could not afford to pay the university fees. According to him, the most important needs were food, accommodation and payment of university fees. Jacky had to get a job in order to support his mother; he believed that he really needed funding for his studies. He described the situation:

> Well I believe yes I do need government funding and the reason is because I live with my mother and she is a pensioner… so travelling is a problem it costs money… that's why I'm forced to work casual... just to get to varsity and home especially for the days you are here and you have class in the morning… and then you are here the whole day… and then you have class in the afternoon... you get hungry and stuff like that you see... so you do need not a large amount of money just minimal injection.

4.4.4.2 Single parents

Asanda stated that she was only supported by her grandfather for her studies. Esethu relied upon her unemployed mother and her father was absent in her life. She explained:

> Oh, yes, I do need funding because my mom is not working… and my father I could say ran away because he's still alive… but he doesn't support me… so at times it would be difficult but I always use that as a motivation to study… because there's no other way to come out of that situation than having your own degree and work.

Nolonwabo mentioned that she was being supported by a single mother of four children; while Jacky was relying on his mother's pension to study. One of the reasons these students could not afford higher education fees was because of single parents.

4.4.4.3 FMF protests could have been avoided

One of the issues raised by participants was that the FMF protests could have been avoided. According to them, there was a gap between universities and the funding schemes. Sive claimed that, although the funding schemes sometimes paid for their fees, the university would still indicate that they had outstanding fees. Only when the students started to strike, the university agreed that everything was paid for. He explained:

> In a nutshell … when you go to NSFAS you see that your account has been paid... they check your student number and confirm that your account has been paid… the problem is here at the university… they tell you no you must go check with NSFAS in Wynberg… when you go there they tell you they've paid when you come here again they tell you different story, then people start striking cause you've been taken for a fool now. When they start striking then the money comes out… and it shows 'no man there was funds there all along'.

He believed that if the university did the right thing from the onset, some protests could have been avoided.

Those with bursaries like Asanda, did not see a need for FMF protests as everything was paid for them. According to Esethu, there was no need for the government to wait for protests before they funded students' education because affordability of higher education fees was viable.

4.4.4.4 Campaign Strategies

Some of the participants disagreed with the campaign strategy that was used by protesters. Sunell believed that the protests should have been peaceful and reasonable. She explained:

> If you want to bring a point to them rather do it peacefully… don't burn down the buildings, because think about it you want a free education but now you burn the whole library… so now you have to pay more fees in any case because they have buy back the books. It doesn't really make sense.

Jacky agreed with Sunell, pointing out that:

> It's unnecessary for the students to protest for fees must fall… and then still damage the institution and then expect money in return for damaging… it's not logical, you see so I don't agree with the fees must fall protests.

Entle and Lesley believed that there were hidden agendas around FMF protests. Lesley explained:

> I think what they want, the outcome is justified… but the way it's being done… there is a lot of underhand tactics... but people had other agendas during those strikes. I don't think it was done in the best way, but I agree with what they ultimately want… but just how they went about it, I wasn't comfortable with that... the breaking down of infrastructure and things like that.

Therefore the participants supported the intention of having FMF protests; however, they did not promote the implementation of the protest strategy. They felt that other peaceful methods could have been used.

4.4.4.5 Staying in university residences

Those who were staying in the university residences experienced, and were affected by, the protests differently from those who were not residing on campus. Those staying in residences had 24 hour access to online learning and social media platforms; whereas those who were not staying on campus had to buy data to access internet and should have had access to computers to access Blackboard. From the responses, it seems that the way students staying in the university residences were affected by FMF protests was markedly different to that of those who were staying off campus.

First, their attendance of classes was not affected by FMF protests: they could respond quickly to the timetable changes because they are close by; those who stayed off campus struggled to reach the university. Once they did so, they were chased away or the class was cancelled. However the residences were easy targets for the protesters who could easily switch off electricity to the residences or throw water at students. Students in residences had no choice but to join the protest marches even if they did not want to: they realised that they would be chased out of their residences. Esethu described the situation:

> Yes, it did affect because we were victims at residences... because whenever they wanted to do something they would force us to join the strike… because I am from the Eastern Cape Province… so I don't have any place here to go, if I don't want to be part of the strike. I have to be at residence because I don't know maybe the strike can end anytime and then we are back to classes... so during the day you are forced to be out of residences because they would knock and then pour water in your units and all that stuff. At night they would switch off the power so you can't do anything because they are forcing all of us not to write even if you want to.

Nolonwabo confirmed that for those staying off campus, it was difficult because lectures would be cancelled at short notice this created uncertainty and wasted transport money. She explained:

> It did quite a lot because sometimes you know that you go to school… and it would be chaotic... sometimes you'd just say mfxm I'm not going to school... but then that day I did not come to school people will be like we did attended accounting… but I would ask how because other classes we did not attend... they would say no today there was no FMF... things like that, and I was like [laughing] … so it affected me that way.

Asanda appreciated the fact that she was staying at a university residence because it enabled her to be flexible to any changes occurring. Nosisi concurred with Asanda: that staying at university residences was somehow advantageous because she had access to data and Blackboard which afforded her an opportunity to submit online assessments at any time she wanted.

4.4.4.6 Online learning and social media

Online learning platforms and social media platforms became prominent during the FMF protest; more especially for communication between staff and students. Online learning platforms such as Blackboard were used for assessment, sharing of notes and for communication, whereas social media such as whatsapp were popular for quick communication. These platforms, however, faced certain challenges. They all required student users to buy data first: Blackboard demanded a computer and internet access; while social media required an advanced cell phone. Esethu and Lesley explained:

> **Esethu:** Yes, we used Blackboard a lot for assessments... and what is it that you must do and also we have group chats with a class group on whatsapp yeah... so the lecturer would communicate with us via class rep and we always knew… and if there are people who couldn't, the lecturer always give them second chance if maybe they didn't write the online tests.
>
> **Lesley:** We could now only communicate on whatsapp. The lecturer created a group and he would send us like class work on whatsapp and we were emailing it back to him... and so that's basically our contact time during the FMF protests.

Sunell was not convinced about the use of these platforms since they deprived her of an opportunity to be with her lecturers face-to-face. She pointed out that:

> We had to do activities on Blackboard with no contact with the lecturer… so that affected the performance because we had to do everything on our own... there was no contact with the lecturer.

Entle, like Sunell, was critical about the use of Blackboard. She testified:

> What you call this … activities on Blackboard... so we were doing it on our own, we didn't get a time for class so that he can explain what we supposed to do, so it was affecting us in that way… because we were doing it alone in residences... so we were just attempting not sure sometimes… but you have to do it because there's a due date.

Esethu raised the issue of authenticity of the work submitted via the online platform. According to her, there was a risk that students might copy each other's work by submitting for each other; which might compromise the reputation of the university. She believed that the performance measured via the online assessment might not reflect students' understanding of Accounting. Use of these platforms had positives and negatives.

4.4.4.7 Unfinished syllabus

Participants pointed out that the syllabus was jeopardised in various ways during the FMF protests. According to Jacky, lecturers anticipated the possibility of the protests as they occurred annually and were planned well in advance. Jacky did not consider that the protests in that particular year had much effect on his academic performance. He reflected:

> It wasn't so deep because the lecturers were aware of the oncoming or let's say ongoing protests every year... so therefore they adjust the curriculum or the syllabus for the year so that we complete our assessments before that time of the year.

Nosisi's sentiments corresponded with those of Jacky in terms of the lecturers' pre-planning of the syllabus to accommodate the possibility of the protests. She reflected:

> Like I can't say it did affect my performance… because the lecturers like most of the lecturers were prepared. They did most of the work before the fees must fall actually took place... they saw the vibe before it actually happened… so we did most of the work before it actually happened.

Entle reported that the protests did affect her performance because her group of students did not write the end-of-the-year examinations. According to Esethu, protests forced them to be assessed on 75% of the work they had done while they should they have been assessed on all the work: then, she felt, the performance would have been better. Sunell stated that the unfinished portion of their syllabus had to be finished in the following year while they were at another academic level. Lesley took issue with not writing the end of the year exams. He explained:

> In terms of the fees must fall protests for the first, second and third year we weren't allowed to write an end of year exam… so you couldn't really gauge what was and how you were progressing… because they will just now use your year mark and then send you over to accounting 2, to accounting 3... so we were not really challenged with an assessment at the end of the year… so you couldn't have that as a yardstick to determine your own performance… that definitely affected me negatively in that regard.

These sentiments show that the participants were not unanimous about how they were evaluated during the FMF protests; which affected the measurement of their academic performance. They believed that if there had been no protests, their performance would have been better.

4.5 SUMMARY

This chapter presented, analysed and interpreted the findings from the data collected by using questionnaires, document analysis and semi-structured interviews. The qualitative results complemented the findings from the quantitative phase. According to the questionnaire responses, the participants motivated themselves to perform well in Accounting. Document analysis revealed that the academic performance of the pre-service accounting students manifested no more than a slight decrease caused by increased numbers of students in first and second year level as a result of the new curriculum. The interviews revealed that some students were passionate about Accounting and that their academic performance was good. Some students raised the issue that they were motivated to do Accounting to provide a solution to the EMS challenge in schools or because they were following a family trend. Those who were not motivated cited the fact that it was compulsory to do Accounting as one of the EMS components.

With regards to learning environment, the sub-factors that were significant under quantitative results were raised prominently during interviews: such as the lecturer's teaching style, external class assistance, class activities for practising and homework. Student participants highlighted their challenges with learning Accounting.

Responses for class attendance were unreliable under the quantitative phase but during interviews participants clarified what affected their class attendance and their academic performance. They highlighted unreliable public transport, work schedules and timetable slots as some of the sub-themes. According to them, staying in the university residences was advantageous and contributed to regular attendance at lectures. They mentioned that in order to perform well in Accounting, students needed to attend classes on a regular basis.

The learning approach adopted by students was perceived to have a significant influence upon their academic performance. The quantitative analysis and interviews revealed that participants who were passionate about Accounting adopted a deep learning approach; while those who had never done Accounting in high school understood that the deep learning approach was the relevant approach for Accounting. But some student participants used a surface learning approach by memorising the content.

Fees must Fall protests were believed to have had a significant effect upon academic performance. During interviews, participants highlighted how it affected their academic

performance. They cited the reasons behind the protests, the campaign strategies used, and how they coped with the protests.

The following chapter provides conclusions and recommendations based on the findings of this research.

CHAPTER FIVE

DISCUSSION OF FINDINGS AND RECOMMENDATIONS

5.1 INTRODUCTION

High academic performance and competency of pre-service accounting education students are vital factors in the development, improvement and growth of the accounting profession. The objective of this study was to determine the effect each identified factor has on pre-service accounting education students' performance. The identified factors were: motivation, learning environment, class attendance, learning approach, and the Fees Must Fall protests that occurred in the years 2015 to 2017. The previous chapter presented, analysed and interpreted the findings collected using quantitative and qualitative techniques.

This chapter provides a summary of the quantitative and qualitative findings in relation to the pre-identified factors that exerted an influence upon academic performance. The contribution of this study is outlined and suggestions for future research are made. Conclusions and recommendations are presented. The limitations of this research are acknowledged. This chapter begins with a summary of the research to indicate methods and techniques used to arrive at the conclusions, which formed the basis for recommendations.

5.2 SUMMARY OF THE RESEARCH

The research question for this study was formulated as follows: 'To what extent do identified factors affect academic performance of pre-service accounting education students at a selected UoT?' To answer this question, an explanatory mixed method design was selected. A sample was purposively selected which included all the second to fourth year pre-service accounting education students at the selected UoT. The sample selection was adequate because the intention of the study was to obtain an in-depth understanding of the effect of the pre-identified factors upon these students' academic performance. Therefore the findings of this study cannot be generalised but can be transferred if deemed fit by the reader.

During the first phase of the study, quantitative data were collected by means of a questionnaire from 132 participants. During the second phase, qualitative data were collected by using semi-structured interviews with 12 participants. The quantitative data collected were analysed by using SPSS version 25 software; while the qualitative data were analysed using Atlas.ti software.

5.3 SUMMARY AND BRIEF DISCUSSION OF THE FINDINGS

The following section provides a summary of the findings as per the analysis made using SPSS for the quantitative phase and Atlas.ti for the qualitative phase.

5.3.1 Demographic information

Demographic information revealed that female students were in the majority at all three selected academic levels. This finding is similar to that of D'Souza and Maheshwari (2010:106) who discovered that there is a new trend in universities: female students' enrolments exceed those of male students. The number of students who enrolled for Accounting significantly decreased in the third and fourth year academic levels compared to the second year. The majority of students were staying at their homes while studying.

5.3.2 Grade 12 results

The quantitative results revealed that the majority of the participants did not do Accounting in Grade 12. The study revealed that those who took Mathematical Literacy were more than those who had done pure Mathematics; while most of those who chose pure Mathematics received 49% or below. The participants who chose both Accounting and Mathematics in Grade 12 performed better in their Grade 12 Accounting compared to their performance in Grade 12 pure Mathematics. Learners can be successful in Accounting even if their performance in Mathematics is not good. This is contrary to the findings of Guney (2009:21) who concluded that good performance in Mathematics is a determinant for a good performance in Accounting.

5.3.3 Motivation

After the quantitative results obtained from the questionnaire were analysed, it was established that motivation had a significant impact upon the academic performance of these pre-service accounting education students. These results correspond to those of

D'Souza and Maheshwari (2010) and Yazdani and Godbole (2014) who found that motivation was a key factor that influenced academic performance of students. Correlation between motivation and the learning approach proved to be particularly significant in terms of the guidance that the students received. Motivation indicated a reasonable relation with how the subject administration was carried out. This statistic was demonstrated by a Pearson's correlation coefficient of 0.403 which is in line with findings of Jurisevic (2012) that show subject administrative activities such as providing feedback to students about how they performed in their assessments, do increase motivation.

The following sub-themes emerged during the process of qualitative analysis:

- Compulsory Accounting
- EMS Challenge
- Following family traits
- Passion and high school performance

Some of the student participants motivated themselves to perform well in Accounting; while others were motivated by other people and the rewards associated with passing Accounting. This observation confirmed the findings of Lemos and Verissimo (2014) that both intrinsic and extrinsic motivation have an effect on academic performance.

5.3.4 Learning environment

The learning environment manifested six sub-factors that were analysed during the quantitative analysis. These were: (a) lecturer's teaching style; (b) external class assistance; (c) class preparation; (d) subject administration; (e) class size; and (f) class activities. Four of these sub-factors had a questionable Cronbach's α value, while the other two, lecturer's teaching style and class activities, had an acceptable Cronbach's value of $\alpha > 0.7$. The Pearson's correlation coefficient for these two sub-factors indicated that there was a strong relation between them. These findings about teacher influence on academic performance correspond to those of Urdan and Schoenfelder (2006), Hawk and Shah (2007) and Lee et al. (2009). The descriptive statistics for class activities indicated the second largest mean of 4.21 (out of a maximum level of 5 of the likert scale used); indicating that participants agreed or strongly agreed that class activities had an influence on their academic performance. All of the above sub-factors showed factor loadings which exceeded the minimum acceptable level of ±0.3 which caused them to be analysed. With regards to the quantitative phase, participants believed that these six sub-factors had a significant influence on their academic performance.

Analysis of the qualitative phase results revealed that participants believed there were four sub-themes that they regarded as having an influence upon their academic performance:

- The role of lecturers and teaching style
- Assistance outside the classroom
- Practising and homework
- Challenges in understanding Accounting

The first three of these sub-themes were similar to those that were raised under the quantitative phase analysis (see table 5.1 below):

Table 5.1: Similar sub-factors/ sub-themes from quantitative and qualitative results

	Quantitative results	**Qualitative results**
Sub-factor/ Sub-theme	Lecturer's teaching style	The role of lecturers and teaching style
	External classroom assistance	Assistance outside the classroom
	Class preparation	Practising and homework

During the quantitative phase analysis, the majority of respondents indicated that class size had no influence upon their academic performance. However, during the qualitative phase, one second-year level student indicated that large class size actually did have a negative influence due to the lack of individual attention provided to students and the noise disruption caused. Other students at the same level felt differently: third- and fourth-year level students indicated that class size was advantageous because their classes were small and allowed them to receive individual attention which improved their performance. According to these results, class size did have an impact upon academic performance: either positive, when it was small, or negative, when it was too large. These findings were contrary to those made by Kirk and Spector (2006) that students perform better in large class groups than in small class groups.

5.3.5 Class attendance

During the quantitative phase of this study, class attendance responses were not reliable; with a Cronbach's value of α of 0.597 for six items. This rating is regarded as poor and did not warrant further analysis. During the qualitative phase of this study, however, class attendance appeared to be a prominent factor with regards to academic performance in Accounting. Participants indicated that it was not possible to perform well in Accounting without attending classes. According to these students, frequent and consistent class

attendance was a prerequisite for good performance in Accounting. They indicated that the following factors influenced their class attendance:

- Passion for Accounting
- Staying at the university residence
- Unreliable public transport
- Work schedule and timetable slots

Although quantitative results could not provide reliable responses concerning whether class attendance affected academic performance, qualitative results concurred with the findings of Steenkamp and Frick (2010), Mushtaq and Khan (2012), and Kassarnig et al. (2017) that class attendance does influence the academic performance of pre-service accounting education students. The frequency of class attendance which was deemed by participants to be necessary corresponds with the findings of Cohn and Johnson (2006).

5.3.6 Learning approach

The quantitative phase for the learning approach indicated an acceptable Cronbach's rating of alpha of 0.791 with five items loading above 0.5; a threshold that confirms that they were practically significant. Pearson's correlation coefficient indicated that there was a practically significant correspondence of 0.552 between the learning approach and the course guidance. Some respondents indicated that they were interested in understanding Accounting in an authentic and sustained way, whereas other students were content to memorise it.

The qualitative phase confirmed the results of the quantitative phase. The second-year level students who did not select Accounting in Grade 12 recognised that understanding is important in Accounting. But they memorised some parts of Accounting and tried to understand other parts: they used both a surface learning approach and a deep learning approach. This combination of learning stances was in line with the conclusions of Duff (2004:426) that accounting students should use all learning approaches. The participants who were majoring in Accounting were driven by passion and they studied Accounting to understand it. These students clearly stated that they did not memorise content material These participants applied a deep learning approach, mainly because they were majoring in Accounting and felt that it was necessary for them to understand Accounting as they would teach it in future. This tendency confirms the findings of Teixeira et al. (2013:194) that adopting a deep learning approach allows students to retain knowledge for life.

5.3.7 Fees must Fall protests

The Fees must Fall protests showed an acceptable Cronbach's rating of alpha of 0.716 with five items loading between 0.663 and 0.714. The majority of participants believed that if government financed their studies, their academic performance would improve. Guney (2009) had a similar finding that (i) financial difficulties of students affected their academic performance negatively, and (ii) this injustice should be addressed for academic performance to improve. Student participants cited communication as a major challenge they faced during FMF protests.

Student participants in this study noted that single parenthood, poverty and unemployment were amongst some of the severest causes of the FMF protests. Poverty as a driver of FMF protests was highlighted in the DHET (2016) report which revealed that higher education fees were unaffordable to poor students and to those with unemployed parents. Students believed that the FMF protests could have been avoided if government were pro-active. According to many students, government is aware of the social challenges of the country. Many students disagreed with the campaign strategy of destroying property during the protests. Those staying at university residences were affected differently from those who travelled from their homes or lodgings to campus. Those staying on campus had 24-hour access to internet and were forced to join the protests: they were coerced to do so by the protestors. Online learning and social media became the solution for coping with the protests. Among the consequences of the protests, was the fact that the syllabus was not finished in some instances.

5.3.8 Conclusion

Motivation, learning environment, learning approach and the Fees must Fall protests had significant effects on student participants' academic performance in Accounting. Class attendance would have had an effect on their academic performance if it had been poor but the participants averred that they ensured that as far as possible they always attended Accounting classes. Fees must Fall protests curtailed class attendance and generally compromised the learning environment because teaching methods had to be blended with online teaching platforms and social media which reduced the number of face-to-face classes. The motivation of the participants determined the learning approach they adopted.

5.4 CONTRIBUTION OF THE STUDY

The findings of this study can be used by students to improve their academic performance in Accounting. Lecturers can implement these findings in their classroom instruction and improve daily tuition as well as the motivation of students by: (i) ensuring a conducive and blended learning environment, (ii) outlining to students the appropriate learning approach for Accounting, and (iii) creating awareness about the importance of class attendance in Accounting.

Institutional policy makers can use this research as a basis for modifying minimum admission requirements for the BEd SP&FET programmes for students who wish to major in commercial subjects. This study provides a framework for restructuring the BEd SP&FET programme curricula.

5.5 RECOMMENDATIONS

The following recommendations are based on the literature review and the findings of this research. These recommendations might improve academic performance of pre-service education students in Accounting and EMS subjects, and enhance the quality of teaching and learning of these subjects. Implementation of these recommendations should contribute positively in growing the accounting profession. This research recommends that:

At school level:

- DBE should consider separating financial literacy (i.e. the accounting component) from the EMS subject in the Senior Phase. It should be a stand-alone subject as it requires specialised teachers with sufficient knowledge and passion for it. This might increase the number of learners who may select Accounting up to Grade 12.

- DBE should ensure that adequately qualified and competent EMS educators are employed. Senior phase educators who are passionate about Accounting will help in increasing the numbers of learners choosing Accounting in Grade 10.

At university level:

- Close relations should be established between university lecturers, DBE curriculum officials, and high school teachers in developing and structuring the curriculum.

- The admission policy for the BEd SP&FET qualification for students who wish to teach commercial subjects should be adjusted. The minimum admission requirement should include the stricture that students who wish to major in commercial subjects should have completed Accounting up to Grade 12 in high school: since all the BEd SP&FET commerce students are required by DBE to be able to teach EMS in the Senior Phase.

- The three components of the BEd SP&FET subject EMS should not be taught concurrently but be divided into separate academic terms to allow students to focus fully on each component and understand it. The accounting component should be allocated more time in the timetable.

- Since it was established that motivation had a significant effect upon the academic performance of pre-service accounting education students, lecturers should be motivational in their approach to teaching Accounting.

- The learning environment should be interactive and friendly; allowing students to ask questions freely and without fear of ridicule for making mistakes in class. Lecturers' teaching style comprised a prominent factor in influencing the academic performance of students; lecturers should diversify their teaching styles to ensure that different learning styles are covered. Lessons should be blended with online teaching methods.

- Since Accounting is a progressive subject, consistent and frequent class attendance should be encouraged. If possible, there should be a certain mark percentage allocated for class attendance.

- Students should be made aware that to perform better in Accounting, they need to use deep learning rather than surface learning when studying.

- Lecturers should structure the curriculum to be flexible for unforeseen student protests; this should be done by blending face-to-face teaching and learning with

online teaching and learning. The social media tools appeared to be an effective and efficient mode of communication; these can be used throughout the academic terms, not only during protests.

5.6 SUGGESTIONS FOR FUTURE RESEARCH

Factors affecting the academic performance of students are not limited to those identified and discussed in this study. Future research might broaden the number of factors at a different institution. Another avenue that can be explored in future research, is the role of EMS on the decreasing number of learners choosing Accounting in Grade 10. An investigation should be conducted into the reasons why Accounting is increasingly unpopular among Grade 10 learners and why schools are increasingly dropping Accounting as a subject in their schools. Research should be conducted to identify the best university curriculum that will ensure that universities produce highly competent graduates who are able to teach all three EMS components without favouring one over another. Another avenue for future research is to investigate the reasons why pre-service education students do not choose Accounting as a major in their third year of study.

5.7 LIMITATIONS OF THE STUDY

The first limitation of this study is based on the nature of the research design: an explanatory mixed method design was used with the intention to understand in-depth the factors affecting pre-service accounting education students' academic performance. The focus was necessarily upon the quality of the knowledge produced by this research rather than the number of participants. The findings are not generalisable as a result but do provide a basis for comparison with similar research performed in other higher education institutions.

The second limitation is the sample selection method and size: at the selected UoT not all students following the BEd SP&FET programme were selected to participate in the study: the first-year EMS students were excluded due to minimal university experience. The number of participants for this study were 132 for the quantitative phase and 12 for the qualitative phase. There is a possibility that the results might be different should this study be conducted with a larger sample size than the current one.

The third limitation is based on the time period during which the study was conducted. The participants selected were those who were active students during one academic year

(2018), therefore their views and their perceptions were not comparable to other academic periods.

Another strategy that might improve the results of this study is to increase the number of factors deemed to have an effect on academic performance of pre-service accounting education students. The study was limited to a few pre-identified factors deemed to have an impact upon academic performance of pre-service accounting education students. Should the number of factors be increased, the results might change.

5.8 CONCLUSION

This chapter provided an overview of the entire research project, a summary of the findings, and recommendations. Limitations of the study were acknowledged and possible avenues for future research were suggested. The objective of this research project as a whole was to determine the effect each identified factor has on pre-service accounting education students' performance. Based on the findings, as noted in Chapter 4 and the reviewed literature in Chapter 2, the following conclusion was reached:

- The pre-identified factors to a greater or lesser extent all had an impact upon the academic performance of the pre-service accounting education students at the selected UoT. These factors improved or reduced these students' academic performance.

The literature review in Chapter 2 and the findings in Chapter 4 respond to the stated research question. Implementation of this study's recommendations should assist in reducing the rapidly-growing numbers of learners and schools deciding not to select or offer Accounting. The country requires many more chartered accountants who alone are able to audit company accounts and ensure ethical standards. Chartered accountants provide necessary information that assists in growing businesses and so reduce unemployment and make the country economically viable.

LIST OF REFERENCES

Abhayawansa, S. & Fonseca, L. 2010. Conceptions of learning and approaches to learning—a phenomenographic study of a group of overseas accounting students from Sri Lanka. *Accounting Education: an international journal*, *19*(5), pp.527-550.

Adamski, A., Fraser, B.J. & Peiro, M.M. 2013. Parental involvement in schooling, classroom environment and student outcomes. *Learning Environments Research*, *16*(3), pp.315-328.

Adu, E.O. & Ngibe, N.C. 2014. Continuous Change in Curriculum: South African teachers' Perceptions. *Mediterranean Journal of Social Sciences*, *5*(23), pp.983-989.

Ahmad, Z., Ismail, H. & Anantharaman, R.N. 2015. To be or not to be: An investigation of accounting students' career intentions. *Education+ Training*, *57*(3), pp.360-376.

Ahmed, W. & Bruinsma, M. 2006. A Structural Model of Self-concept, Autonomous Motivation and Academic Performance in Cross-cultural Perspective. *Journal of Research in Education Psychology, 10*(4), pp.551-576.

Akkoyunlu, B. & Yilmaz-Soylu, M. 2008. A study of students' perceptions in a blended learning environment based on different learning styles. *Educational Technology & Society*, *11*(1), pp.183-193.

Ali, N., Jusoff, K., Ali, S., Mokhtar, N. & Salamat, A.S.A. 2009. The factors influencing students' performance at Universiti Teknologi MARA Kedah, Malaysia. *Management Science and Engineering*, *3*(4), pp.81-90.

Al-Twaijry, A.A. 2010. Student academic performance in undergraduate managerial-accounting courses. *Journal of Education for Business*, *85*(6), pp.311-322.

Andrietti, V. 2014. Does lecture attendance affect academic performance? Panel data evidence for introductory macroeconomics. *International Review of Economics Education*, *15*, pp.1-16.

Baard, R.S., Steenkamp, L.P., Frick, B.L. & Kidd, M. 2010. Factors influencing success in first-year Accounting at a South African university: The profile of a successful first-year Accounting student. *South African Journal of Accounting Research*, *24*(1), pp.129-147.

Bamuhair, S.S., Al Farhan, A.I., Althubaiti, A., Rahman, S. & Al-Kadri, H.M. 2016. Class attendance and cardiology examination performance: a study in problem-based medical curriculum. *International Journal of General Medicine*, *9*, pp.1-5.

Barnes, H., Dzansi, D., Wilkinson, A. & Viljoen, M. 2009. Researching the first year accounting problem: Factors influencing success or failure at a South African higher education institution. *Journal of New Generation Sciences*, 7(2), pp.36-58.

Beyaztas, D.I. & Senemoglu, N. 2015. Learning Approaches of Successful Students and Factors Affecting Their Learning Approaches. *Egitim ve Bilim,* (40)179, pp.193-216.

Biggs, J.B. 1989. Approaches to the enhancement of tertiary teaching. *Higher Education Research and Development*, *8*(1), pp.7-25.

Biggs, J. B. & Tang, C. 2007. *Teaching for quality in learning at university*. 3rd ed. England: Society for Research into Higher Education & Open University Press.

Bilgin, A. & Crowe, S. 2009. Approaches to learning in statistics. *Asian Social Science*, *4*(3), pp.36-42.

Blom, N. 2018. SA's public transport system unreliable, inadequate and dangerous. *Business Day:* 05 June

Bosua, W.S. 2015. The effect of prior knowledge and academic performance on success in first-year university accounting. *Journal for New Generation Sciences*, *13*(3), pp.17-33.

Brooks, D.C. 2011. Space matters: The impact of formal learning environments on student learning. *British Journal of Educational Technology*, *42*(5), pp.719-726.

Byrne, M., Flood, B. & Willis, P. 2002. The relationship between learning approaches and learning outcomes: a study of Irish accounting students. *Accounting Education*, *11*(1), pp.27-42.

Chen, J. & Lin, T.F. 2008. Class attendance and exam performance: A randomized experiment. *The Journal of Economic Education*, *39*(3), pp.213-227.

Chiang, B., Nouri, H. & Samanta, S. 2014. The effects of different teaching approaches in introductory financial accounting. *Accounting Education*, *23*(1), pp.42-53.

Chisholm, L. 2005. The politics of curriculum review and revision in South Africa in regional context. *Compare: A Journal of Comparative and International Education*, *35*(1), pp.79-100.

Clark, S.D. & Latshaw, C.A. 2012. "Peeling the onion" called student performance: An investigation into the factors affecting student performance in an introductory accounting class. *Review of Business*, *33*(1), pp.19-27.

Cohn, E. & Johnson, E. 2006. Class attendance and performance in principles of economics. *Education Economics*, *14*(2), pp.211-233.

Conard, M.A. 2006. Aptitude is not enough: How personality and behavior predict academic performance. *Journal of Research in Personality*, *40*(3), pp.339-346.

Conradie, E., Kirsch, D. & Moyce, M. 2012. *Study & Master Accounting: Learner's Book. Grade 10*. Cambridge University Press.

Cotti, C., Gordanier, J. & Ozturk, O. 2018. Class meeting frequency, start times, and academic performance. *Economics of Education Review*, *62*, pp.12-15.

Creswell, J.W. 2012. *Educational research: planning, conducting, and evaluating quantitative and qualitative approaches to research*. 4th ed. Upper Saddle River, NJ: Merril/ Pearson Education.

Creswell, J.W. & Clark, V.L.P. 2011. *Designing and conducting mixed methods research*. 2nd ed. London: Sage publications.

Creswell, J.W. 2014. *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage publications.

De Villiers, P. & Steyn, G. 2007. The changing face of public financing of higher education, with special reference to South Africa. *South African Journal of Economics*, *75*(1), pp.136-154.

De Vos, A.S., Strydom, H., Fouche`, C.B. & Delport, C.S.L. 2011. *Research at Grass Roots: For the Social Sciences and Human Service Professions*. 4th ed. Pretoria: Van Schaik.

Deci, E.L. & Ryan, R.M. 2011. Self-determination theory. *Handbook of Theories of Social Psychology*, *1*(2011), pp.416-433.

Department of Basic Education. 2002. *Revised National Curriculum Statement Grades R-9 (Schools).* Pretoria, Republic of South Africa: Department of Basic Education.

Department of Basic Education. 2011(a). *National Curriculum and Assessment Policy Statement (CAPS): Senior Phase Grades 7-9. Economic and Management Sciences.* Pretoria, Republic of South Africa: Department of Basic Education.

Department of Basic Education. 2011(b). *National Curriculum and Assessment Policy Statement (CAPS): Further Education and Training Phase Grades 10-12. Accounting.* Pretoria, Republic of South Africa: Department of Basic Education.

Department of Basic Education. 2015. *Economic and Management Sciences, Accounting, Business Studies and Economics: Improving the Quality of Learner Attainment 2015.* Pretoria, Republic of South Africa: Department of Basic Education.

Department of Basic Education. 2017. *The 2017 National Senior Certificate Schools subject report.* Pretoria, Republic of South Africa: Department of Basic Education.

Department of Higher Education and Training. 2014. *Revised policy on the minimum requirements for teacher education qualifications*. Pretoria, Republic of South Africa: Department of Higher Education and Training.

Department of Higher Education and Training. 2016. *Report of the Commission of enquiry into Higher Education and Training to the President of the Republic of South Africa*. Pretoria, Republic of South Africa: Department of Higher Education and Training.

Dey, I. 2018. Class attendance and academic performance: A subgroup analysis. *International Review of Economics Education*, *28*, pp.29-40.

Dolmans, D.H., Loyens, S.M., Marcq, H. & Gijbels, D. 2016. Deep and surface learning in problem-based learning: a review of the literature. *Advances in Health Sciences Education*, *21*(5), pp.1087-1112.

Donnison, S. & Penn-Edwards, S. 2012. Focusing on first year assessment: Surface or deep approaches to learning?. *International Journal of the First Year in Higher Education*, *3*(2), pp.9-20.

Dos Reis, K.M. 2012. *Challenges pre-service teachers face while learning to teach Accounting in the context of mentoring* (Unpublished PhD thesis, Cape Peninsula University of Technology).

D'Souza, K.A. & Maheshwari, S.K. 2010. Factors influencing student performance in the introductory management science course. *Academy of Educational Leadership Journal*, *14*(3), pp.99-119.

Du Plessis, A., Muller, H. & Prinsloo, P. 2005. Determining the profile of the successful first-year accounting student. *South African Journal of Higher Education*, *19*(4), pp.684-698.

Du Plooy-Cilliers, F., Davis, C. & Bezuidenhout, R. 2014. *Research matters.* Claremont: Juta and Company Ltd.

Duff, A. 2004. Understanding academic performance and progression of first-year accounting and business economics undergraduates: the role of approaches to learning and prior academic achievement. *Accounting Education*, *13*(4), pp.409-430.

Duncan, J. 2016. *Protest nation: The right to protest in South Africa*. University of KwaZulu-Natal Press.

Erdem, H.E. 2013. A cross-sectional survey in progress on factors affecting students' academic performance at a Turkish university. *Procedia-Social and Behavioral Sciences*, *70*, pp.691-695.

Everaert, P., Opdecam, E. & Maussen, S. 2017. The relationship between motivation, learning approaches, academic performance and time spent. *Accounting Education*, *26*(1), pp.78-107.

Fanon, F. 1967. *The Wretched of the Earth*. London: Penguin Books.

Fraser, B.J. & Walberg, H.J. 2005. Research on teacher–student relationships and learning environments: Context, retrospect and prospect. *International Journal of Educational Research*, *43*(1-2), pp.103-109.

Garkaz, M., Banimahd, B. & Esmaeili, H. 2011. Factors affecting accounting students' performance: the case of students at the islamic azad university. *Procedia-Social and Behavioral Sciences*, *29*, pp.122-128.

George, D., & Mallery, P. 2003. *SPSS for Windows step by step: A simple guide and reference. 11.0 update (4th ed.).* Boston: Allyn & Bacon.

Gijbels, D., Donche, V., Richardson, J.T. & Vermunt, J.D. eds. 2013. *Learning patterns in higher education: Dimensions and research perspectives*. London: Routledge.

Gordon, C. & Debus, R. 2002. Developing deep learning approaches and personal teaching efficacy within a pre-service teacher education context. *British Journal of Educational Psychology*, *72*(4), pp.483-511.

Guney, Y. 2009. Exogenous and endogenous factors impacting student performance in undergraduate accounting modules. *Accounting Education, An International Journal*, 18(1), pp.51-73.

Hall, M., Ramsay, A. & Raven, J. 2004. Changing the learning environment to promote deep learning approaches in first-year accounting students. *Accounting Education*, *13*(4), pp.489-505.

Hawk, T.F. & Shah, A.J. 2007. Using learning style instruments to enhance student learning. *Decision Sciences Journal of Innovative Education*, *5*(1), pp.1-19.

Healy, M. & McCutcheon, M. 2010. Teaching with case studies: An empirical investigation of accounting lecturers' experiences. *Accounting Education: an international journal*, *19*(6), pp.555-567.

Helm, C. 2015. Determinants of competence development in accounting in upper secondary education. *Empirical Research in Vocational Education and Training*, *7*(1), pp.1-36.

Holley, L.C. & Steiner, S. 2005. Safe space: Student perspectives on classroom environment. *Journal of Social Work Education*, *41*(1), pp.49-64.

Hosal-Akman, N. & Simga-Mugan, C. 2010. An assessment of the effects of teaching methods on academic performance of students in accounting courses. *Innovations in education and teaching international*, *47*(3), pp.251-260.

Hsu, M.C., Chiang, C. & Liang, C. 2014. The mediator effects of imagination between learning environment and academic performance: A comparison between science and engineering majors. *International Journal of Technology and Design Education*, *24*(4), pp.419-436.

Joubert, J.A. 2010. *Significant predictors of success and non-completion in first year accounting at a South African university*. Unpublished PhD thesis, University of the Free State.

Jover, J.M.N. & Ramírez, J.A.M. 2018. Academic performance, class attendance and seating location of university students in practical lectures. *JOTSE*, *8*(4), pp.337-345.

Jung, S. & Lee, S. 2011. Exploratory factor analysis for small samples. *Behavior Research Methods*, *43*(3), pp.701-709.

Jurisevic, M. 2012. Students' motivational patterns to learn. *Studia Psychologica*, *54*(3), pp.221-236.

Kassarnig, V., Bjerre-Nielsen, A., Mones, E., Lehmann, S. & Lassen, D.D. 2017. Class attendance, peer similarity, and academic performance in a large field study. *PloS one*, *12*(11), p.e0187078. https://doi.org/10.1371/journal.pone.0187078

Kirk, F.R. & Spector, C.A. 2006. Factors affecting student achievement in cost accounting. *Academy of Educational Leadership Journal*, *10*(1), pp.91-104.

Kusurkar, R.A., Ten Cate, T.J., Vos, C.M.P., Westers, P. & Croiset, G. 2013. How motivation affects academic performance: a structural equation modelling analysis. *Advances in Health Sciences Education*, *18*(1), pp.57-69.

Landin, M. & Pérez, J. 2015. Class attendance and academic achievement of pharmacy students in a European University. *Currents in Pharmacy Teaching and Learning*, *7*(1), pp.78-83.

Langa, M., Ndelu, S., Edwin, Y. & Vilakazi, M. 2017. # Hashtag: An Analysis of the# FeesMustFall Movement at South African Universities.

Latif, E. & Miles, S. 2013. Class attendance and academic performance: a panel data analysis. *Economic Papers: A Journal of Applied Economics and Policy*, *32*(4), pp.470-476.

Leavy, P. 2017. *Research design: Quantitative, qualitative, mixed methods, arts-based, and community-based participatory research approaches*. New York: Guilford Publications.

Lee, J.C.K., Yin, H. & Zhang, Z. 2009. Exploring the influence of the classroom environment on students' motivation and self-regulated learning in Hong Kong. *The Asia-Pacific Education Researcher*, *18*(2), pp.219-232.

Lemos, M.S. & Veríssimo, L. 2014. The relationships between intrinsic motivation, extrinsic motivation, and achievement, along elementary school. *Procedia Social and Behavioral Sciences*, *112(1),* pp.930-938.

Letshwene, M.J. 2014. *Improving Grade 10 accounting teachers' competencies in the Ekurhuleni District of the Gauteng Province.* Unpublished PhD thesis, University of South Africa.

Lizzio, A., Wilson, K. & Simons, R. 2002. University students' perceptions of the learning environment and academic outcomes: implications for theory and practice. *Studies in Higher education*, *27*(1), pp.27-52.

Louis, W.R., Bastian, B., McKimmie, B. & Lee, A.J. 2016. Teaching psychology in Australia: Does class attendance matter for performance? *Australian Journal of Psychology*, *68*(1), pp.47-51.

Mlambo, H.V., Hlongwa, M. & Mubecua, M. 2017. The Provision of Free Higher Education in South Africa: A Proper Concept or a Parable? *Journal of Education and Vocational Research 8*(4), pp. 51-61.

Moore, J. 2012. A personal insight into researcher positionality. *Nurse researcher*, *19*(4), pp.11-14.

Moradi, M., Salehi, M. & Khalilianmovahed, S. 2013. The Effect of Mathematics Subject on Accounting Students of Private and State Universities in Iran. *Egitim Bilimleri Fakultesi Dergisi*, *46*(2), pp.263-276.

Msomi, D.D. 1995. *The pre-service preparation of secondary school mathematics teachers-a case study of curriculum effectiveness.* Unpublished Masters thesis, Rhodes University.

Mushtaq, S.N.K. 2012. Factors affecting students' academic performance. *Global Journal of Management and Business Research*, *12*(9), pp.16-22.

Mutekwe, E. 2017. Unmasking the ramifications of the fees-must-fall-conundrum in higher education institutions in South Africa: a critical perspective. *Perspectives in Education*, *35*(2), pp.142-154.

Naidoo, T. 2012. *An exploration of first-year, non-major accounting students' learning experiences at a private higher education institution in South Africa.* Unpublished PHD thesis, University of Kwa-Zulu Natal.

Nyamapfene, A. 2010. Does class attendance still matter?. *Engineering Education*, *5*(1), pp.64-74.

Okafor, C.A. & Egbon, O. 2011. Academic performance of male versus female accounting undergraduate students: Evidence from Nigeria. *Higher Education Studies*, *1*(1), pp.9-19.

Okeke, C. & Van Wyk, M.(eds). 2016. *Educational research: An African approach*. Oxford University Press Southern Africa.

Oluwatayo, A.A., Aderonmu, P.A. & Aduwo, E.B. 2015. Architecture students' perceptions of their learning environment and their academic performance. *Learning Environments Research*, *18*(1), pp.129-142.

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N. & Hoagwood, K. 2015. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, *42*(5), pp.533-544.

Petersen, T. 2018. Cape Town rail transport 'situation' the worst in the country – Nzimande. *News24:* 27 July

Peterson, R.A. 2000. A meta-analysis of variance accounted for and factor loadings in exploratory factor analysis. *Marketing Letters*, *11*(3), pp.261-275.

Phillips, M.E. & Graeff, T.R. 2014. Using an in-class simulation in the first accounting class: moving from surface to deep learning. *Journal of Education for Business*, *89*(5), pp.241-247.

Pillay, S.R. 2016. Silence is violence: (critical) psychology in an era of Rhodes Must Fall and Fees Must Fall. *South African Journal of Psychology 2016, Vol. 46*(2), pp.155-159.

Platow, M.J., Mavor, K.I. & Grace, D.M. 2013. On the role of discipline-related self-concept in deep and surface approaches to learning among university students, *Instructional Science,* (41)2, pp. 271-285.

Príncipe, H.R. 2005. *Factors influencing students' academic performance in the first accounting course: A comparative study between public and private universities in Puerto Rico.* Unpublished PhD thesis, Argosy University.

Punch, K.F. & Oancea, A. 2014. *Introduction to research methods in education*. London: Sage publications.

Rule, P. & John, V. 2011. *Your guide to case study research*. Pretoria: Van Schaik.

Ryan, R.M. & Deci, E.L. 2000. Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, *25*(1), pp.54-67.

Sæle, R.G., Dahl, T.I., Sørlie, T. & Friborg, O. 2017. Relationships between learning approach, procrastination and academic achievement amongst first-year university students. *Higher Education*, *74*(5), pp.757-774.

Schreuder, G.R. 2014. *Teacher professional development: the case of quality teaching in accounting at selected Western Cape secondary schools.* Unpublished PhD thesis, Cape Peninsula University of Technology.

Schreuder, G.R. 2009. *The role of economic and management sciences (EMS) in preparing learners for accounting in Grade 10.* Unpublished Masters thesis, Cape Peninsula University of Technology.

Selesho, J.M. 2006. *An investigation into factors that influence the results of accounting (Education) I at the Technikon Free State.* Unpublished Masters thesis, Nelson Mandela University.

Stanca, L. 2006. The effects of attendance on academic performance: Panel data evidence for introductory microeconomics. *The Journal of Economic Education*, *37*(3), pp.251-266.

Statistics South Africa. 2016. *Financial statistics of higher education institutions*. 25 October 2016. Pretoria.

Strayer, J.F. 2012. How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning environments research*, *15*(2), pp.171-193.

Stripling, C.T., Roberts, T.G. & Israel, G.D. 2013. Class attendance: An investigation of why undergraduates choose to not attend class. *NACTA Journal*, *57*(3), pp.47-59.

Suter, W.N. 2011. *Introduction to educational research: A critical thinking approach*. London: SAGE publications.

Tashakkori, A. & Teddlie, C. (eds). 2010. *Sage handbook of mixed methods in social & behavioral research*. 2nd ed. London: Sage publications.

Tavakol, M. & Dennick, R. 2011. Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, pp.53-55.

Teixeira, C., Gomes, D. & Borges, J. 2013. The approaches to studying of Portuguese students of introductory accounting. *Accounting Education*, *22*(2), pp.193-210.

Turner, M. & Baskerville, R. 2013. The experience of deep learning by accounting students. *Accounting Education*, *22*(6), pp.582-604.

Urdan, T. & Schoenfelder, E. 2006. Classroom effects on student motivation: Goal structures, social relationships, and competence beliefs. *Journal of school psychology*, *44*(5), pp.331-349.

Van Wyk, M. M., & Tshelane, M. 2016. Approaches to teaching EMS: The learner-centered approach. In M. M. van Wyk & K. Dos Reis (Eds.), *Teaching EMS in the senior phase,* pp. 75–102. Cape Town: Oxford University Press.

Venter, A. 2016. *Cognitive preparation of NCS (Grades 10-12) accounting learners for studies at a University of Technology.* Unpublished Masters thesis, Cape Peninsula University of Technology.

Vogt, W.P., Gardner, D.C., Haeffele, L.M. & Vogt, E.R. 2014. *Selecting the right analyses for your data: Quantitative, qualitative, and mixed methods*. New York: Guilford Publications.

Vygotsky, L.S. 2004. Imagination and creativity in childhood. *Journal of Russian & East European Psychology*, *42*(1), pp.7-97.

Williams, B., Onsman, A. & Brown, T. 2010. Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, *8*(3), pp.1-13.

Wynn Jr, D. & Williams, C.K., 2012. Principles for conducting critical realist case study research in information systems. *MIS quarterly*, pp.787-810.

Xaba, W. 2017. Challenging Fanon: A Black radical feminist perspective on violence and the Fees Must Fall movement. *Agenda*, *31*(3-4), pp.96-104.

Xiang, M. & Gruber, R. 2012. Student performance in their first postsecondary accounting course: Does high school accounting matter? *In Advances in accounting education: Teaching and curriculum innovations*, pp. 297-311.

Yazdani, K. & Godbole, V.S. 2014. Studying the Role of Habits and Achievement Motivation in Improving Students' Academic Performance. *European Online Journal of Natural and Social Sciences*, *3*(4), pp.827-839.

Yong, A.G. & Pearce, S. 2013. A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in quantitative methods for psychology*, *9*(2), pp.79-94.

Yunus, M.M., Osman, W.S.W. & Ishak, N.M. 2011. Teacher-student relationship factor affecting motivation and academic achievement in ESL classroom. *Procedia-Social and Behavioral Sciences*, *15*, pp.2637-2641.

Yusoff, M.S. & Arifin, W.N. 2015. Educational environment and psychological distress of medical students: The role of a deep learning approach. *Journal of Taibah University Medical Sciences*, *10*(4), pp.411-418.

APPENDIX A: Research Ethical Clearance Certificate

Cape Peninsula University of Technology

***For office use only	
Date submitted	27 Nov 2017
Meeting date	n/a
Approval	P/Y√/N
Ethical Clearance number	EFEC 2-12/2017

FACULTY OF EDUCATION

RESEARCH ETHICS CLEARANCE CERTIFICATE

This certificate is issued by the Education Faculty Ethics Committee (EFEC) at Cape Peninsula University of Technology to the applicant/s whose details appear below.

1. **Applicant and project details (Applicant to complete this section of the certificate and submit with application as a Word document)**

Name(s) of applicant(s):	**Mvemve Shylock Mdingi**		
Project/study Title:	**Factors affecting the academic performance of students in pre-service Accounting Education at a University of Technology.**		
Is this a staff research project, i.e. not for degree purposes?	No		
If for degree purposes the degree is indicated:	M.Ed		
If for degree purposes, the proposal has been approved by the FRC	Approved		
Funding sources:	Cape Peninsula University of Technology		

2. **Remarks by Education Faculty Ethics Committee:**

This Master's research project is granted ethical clearance valid until 12 December 2019.		
Approved: √	**Referred back:**	**Approved subject to adaptations:**
Chairperson Name: Chiwimbiso Kwenda **Chairperson Signature:**		**Date: 13 December 2017**
Approval Certificate/Reference: EFEC 2-12/2017		

EFEC Form V3_updated 2016

APPENDIX B: Consent to participate in the study

Faculty of Education
Ethics informed consent form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Student Number									

Category of Participants (tick as appropriate):

Principals		*Teachers*		*Parents*		*Lecturers*		*Students*	√
Other (specify)									

You are kindly invited to participate in a research study being conducted by Mvemve Mdingi from the Cape Peninsula University of Technology. The findings of this study will contribute towards (tick as appropriate):

An undergraduate project		*A conference paper*	√
An Honours project		*A published journal article*	√
A Masters/doctoral thesis	√	*A published report*	

Selection criteria
You were selected as a possible participant in this study because:

You are doing B. Ed degree with a possibility of teaching Economic and Management Sciences and/or Accounting once you qualify

The information below gives details about the study to help you decide whether you would want to participate.

Title of the research:
Factors affecting academic performance of pre-service accounting education students at a university of technology

A brief explanation of what the research involves:

The objective of this research is to investigate to what factors affect the academic performance of students in pre-service Accounting Education at a University of Technology. You will be required to complete a questionnaire and a one semi-structured interview will be conducted.

Procedures
If you volunteer to participate in this study you will be asked to do the following things:

- To complete a questionnaire

- Will be interview once by Mvemve Mdingi at Cape Peninsula University of Technology for a period of 30 minutes before the 31 March 2018

Potential risks, discomforts or inconveniences
Not applicable

You are invited to contact the researchers should you have any questions about the research before or during the study. You will be free to withdraw your participation at any time without having to give a reason.

Kindly complete the table below before participating in the research.

	Tick the appropriate column	
Statement	Yes	No
1. I understand the purpose of the research.		
2. I understand what the research requires of me.		
3. I volunteer to take part in the research.		
4. I know that I can withdraw at any time.		
5. I understand that there will not be any form of discrimination against me as a result of my participation or non-participation.		
6. Comment:		

Please sign the consent form. You will be given a copy of this form on request.

Signature of participant	Date

Researchers

	Name:	Surname:	Contact details:
1.	Mvemve	Mdingi	021 680 1523
2.			
3.			

Contact person: Mvemve Mdingi	
Contact number: 021 680 1606	Email: mdingim@cput.ac.za

APPENDIX C: Research Questionnaire

Research Questionnaire

RESEARCHER DETAILS	
Name:	Mvemve
Surname:	Mdingi
Student number:	201253258
Email:	MdingiM@cput.ac.za
Contact number:	021 680 1523

SUPERVISOR DETAILS	
Name:	Professor Cornelis
Surname:	Vermeulen
Email:	VermeulenC@cput.ac.za

RESEARCH TITLE
Factors affecting the academic performance of students in pre-service Accounting Education at a selected University of Technology.

HOW TO COMPLETE THIS SURVEY
Please answer each question by making an X the circle/square of the applicable or most appropriate option Note: In each question select only one option unless stated otherwise

ETHICAL CONSIDERATIONS
Please note that ALL information provided by the respondent will be kept strictly confidential. With the completion of the questionnaire, the respondent's participation is deemed as voluntarily and the respondent can withdraw from the study at any time if they so wish. All information provided will strictly be used for research purposes.

PRIMARY OBJECTIVES OF THE STUDY
To investigate to what factors affect the academic performance of students in pre-service Accounting Education at a UoT.

A. DEMOGRAPHIC INFORMATION

1. Indicate your gender:

1. Male ◯ 2. Female ◯

2. Please indicate your academic level:

1. 2nd Year ◯ 2. 3rd Year ◯ 3. 4th Year ◯

3. Where do you stay while studying?

1. Home ◯ 2. Rented Space ◯ 3. University Residence ◯ Other: Specify ◯ ....

4. Where did you do your matric?

1. Rural area ◯ 2. City Suburb ◯ 3. Township ◯

B. MATRIC RESULTS

1. In which year did your complete your matric?

1. Before 2000 ◯ 2. 2000 – 2005 ◯ 3. 2006 – 2010 ◯ 4. 2011 – 2015 ◯ 5. After 2015 ◯

2. Which of the following subjects did you do in Grade 12? (Mark all applicable subjects)

1. Accounting ◯ 2. Mathematics ◯ 3. Mathematical Literacy ◯

3. If you did Accounting in Grade 12 what was your final mark?

1. Did not do ◯ 2. 0 – 29% ◯ 3. 30 – 49% ◯ 4. 50 – 69% ◯ 5. 70 – 100% ◯

4. If you did Mathematics in Grade 12 what was your final mark?

1. Did not do ◯ 2. 0 – 29% ◯ 3. 30 – 49% ◯ 4. 50 – 69% ◯ 5. 70 – 100% ◯

5. If you did Mathematical Literacy in Grade 12 what was your final mark?

1. Did not do ◯ 2. 0 – 29% ◯ 3. 30 – 49% ◯ 4. 50 – 69% ◯ 5. 70 – 100% ◯

C. MOTIVATION

Question	1	2	3	4	5
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1. I motivate myself to do well	☐	☐	☐	☐	☐
2. I set achievement goals at the beginning of the year.	☐	☐	☐	☐	☐
3. I am determined to reach my goals.	☐	☐	☐	☐	☐
4. I largely rely on other people to motivate me.	☐	☐	☐	☐	☐
5. I largely rely on my parents to motivate me.	☐	☐	☐	☐	☐
6. I do not rely on lecturers too much to motivate me.	☐	☐	☐	☐	☐
7. Teaching was my preferred course.	☐	☐	☐	☐	☐
8. I did not know that Accounting was part of my course.	☐	☐	☐	☐	☐
9. If I had a choice I would still do Accounting.	☐	☐	☐	☐	☐
10. I intend to teach Accounting after I graduate.	☐	☐	☐	☐	☐
11. I am motivated to prepare for my tests and examinations.	☐	☐	☐	☐	☐

D. LEARNING ENVIRONMENT

Question	1	2	3	4	5
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1. I have a clear understanding of course objectives.	☐	☐	☐	☐	☐
2. Course objectives have been made clear at the beginning of the year.	☐	☐	☐	☐	☐
3. The study guide is available on Blackboard.	☐	☐	☐	☐	☐
4. The study guide is not useful for my study planning.	☐	☐	☐	☐	☐
5. We always work according to the study guide.	☐	☐	☐	☐	☐
6. I can relate what we learn in Accounting in my daily life.	☐	☐	☐	☐	☐
7. When I do not understand Accounting I consult the lecturer during consultation hours.	☐	☐	☐	☐	☐
8. I know when the consultation hours of my accounting lecturer are.	☐	☐	☐	☐	☐
9. The Accounting lecturer is never available during consultation hours.	☐	☐	☐	☐	☐
10. The activities we do in class fit well with my learning style.	☐	☐	☐	☐	☐

11. I learn better when examples are demonstrated.	☐	☐	☐	☐	☐
12. I can do Accounting activities by just listening to the lecturer's instructions.	☐	☐	☐	☐	☐
13. I learn better in a more relaxed environment.	☐	☐	☐	☐	☐
14. I do not feel free to ask questions in Accounting classes.	☐	☐	☐	☐	☐
15. My lecturer encourages class participation in Accounting lessons.	☐	☐	☐	☐	☐
16. The lecturer is enthusiastic about Accounting.	☐	☐	☐	☐	☐
17. I understand the examples that we do in class.	☐	☐	☐	☐	☐
18. My lecturer does not make Accounting uninteresting to study.	☐	☐	☐	☐	☐
19. My Accounting lecturer uses Blackboard to make information available.	☐	☐	☐	☐	☐
20. My Accounting lecturer speaks loudly and clearly.	☐	☐	☐	☐	☐
21. My Accounting lecturer has the ability to explain the accounting concepts.	☐	☐	☐	☐	☐
22. My accounting lecturer is always prepared for our classes.	☐	☐	☐	☐	☐
23. I do not own any prescribed Accounting textbook.	☐	☐	☐	☐	☐
24. The textbook assists me in preparation for assessments.	☐	☐	☐	☐	☐
25. We use the textbook effectively in our lessons.	☐	☐	☐	☐	☐
26. We always get accounting homework.	☐	☐	☐	☐	☐
27. I always make time to do my Accounting homework.	☐	☐	☐	☐	☐
28. Homework helps me to prepare and understand accounting better.	☐	☐	☐	☐	☐
29. The assessments are different to the activities we do in class.	☐	☐	☐	☐	☐
30. The assessments are aligned to the specified outcomes of the Accounting topics.	☐	☐	☐	☐	☐
31. I fully understand how to calculate my marks using the weights	☐	☐	☐	☐	☐
32. I know the weight of every assessment I write.	☐	☐	☐	☐	☐
33. The size of my class makes it difficult for me to learn	☐	☐	☐	☐	☐
34. Our classrooms are not conducive for learning	☐	☐	☐	☐	☐

E. CLASS ATTENDANCE

Question	1	2	3	4	5
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1. I attend all my Accounting classes.	☐	☐	☐	☐	☐
2. Attending accounting classes improves my academic performance.	☐	☐	☐	☐	☐
3. I am not motivated to attend Accounting classes.	☐	☐	☐	☐	☐
4. My Accounting classes clash with other subjects.	☐	☐	☐	☐	☐
5. If Accounting clashes with other subjects, I prefer to attend Accounting. (Only answer if there are clashes)	☐	☐	☐	☐	☐
6. Where I stay makes it difficult for me to always attend classes.	☐	☐	☐	☐	☐
7. I always make an effort to arrive in time for my classes.	☐	☐	☐	☐	☐
8. I prefer Accounting classes to be in the morning rather than in the afternoon	☐	☐	☐	☐	☐
9. I am committed to attend Accounting classes even if they fall on Fridays	☐	☐	☐	☐	☐

F. LEARNING APPROACH

Question	1	2	3	4	5
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1. I find Accounting very interesting.	☐	☐	☐	☐	☐
2. I memorise Accounting in order to pass it.	☐	☐	☐	☐	☐
3. I study Accounting with an intention to achieve a distinction (75% and above).	☐	☐	☐	☐	☐
4. I am satisfied with getting 50% in Accounting.	☐	☐	☐	☐	☐
5. I borrow extra accounting textbooks from the library to gain more Accounting knowledge.	☐	☐	☐	☐	☐
6. I only study the topics that will be examined.	☐	☐	☐	☐	☐
7. I study Accounting in order to pass it rather than knowing and understanding it.	☐	☐	☐	☐	☐

G. FEES MUST FALL (FMF)

Question	1	2	3	4	5
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1. FMF protests affected my studies negatively.	☐	☐	☐	☐	☐
2. If government can finance my studies then my academic performance will improve.	☐	☐	☐	☐	☐
3. High education fees have a negative effect on my academic performance	☐	☐	☐	☐	☐
4. FMF protests negatively affected my opportunity to communicate with my lecturer about assessment preparation.	☐	☐	☐	☐	☐
5. The examination venues were conducive for fair assessment during FMF protests.	☐	☐	☐	☐	☐
6. If I had received counseling after the FMF protest my performance would have improved.	☐	☐	☐	☐	☐
7. Changes of assessment dates after the FMF protests did not allow enough time for me to study for exams.	☐	☐	☐	☐	☐

APPENDIX D: Interview Questions

Interview questions

Variable	Question
	Did you do accounting in Grade 12?
Motivation	1. What motivates you to study B Ed in commerce? And in Accounting specifically?
	2. What guidance did you have prior to doing the B Ed with commercial subjects?
Learning environment	3. What are your views about the teaching styles of your accounting lecturers?
	4. Outside the classroom what assists you in studying accounting?
	5. How do you normally prepare for the accounting class?
	6. Are the assessments aligned with the outcomes and content as stated in the subject guide?
	7. Does the class size influence your academic performance in accounting? Why? / explain
	8. How do class activities assist your performance in accounting?
	9. What do you think are the objectives of the Accounting/EMS subject?
	10. How does your accounting lecturer encourage you and how does that influence your performance in accounting?
	11. What helps you to understand accounting, and what prevents you from understanding accounting?
Class Attendance	12. What influences your class attendance and how can it be improved?
Learning approach	13. When you study accounting, is it to merely pass it in order to get your degree? And when you study, do you try to understand it, or to memorise it?
FMF protests	14. How did Fees Must Fall protests affect your academic performance in accounting?

APPENDIX E: Frequency Distribution Tables

Notes

Output Created		06-JUN-2018 13:45:18
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Data colllection\My Questionnair WITH DATA.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Number QA_1 QA_2 QA_3 QA_3Other QA_4 QB_1 QB_2 QB_3 QB_4 QB_5 QC_1 QC_2 QC_3 QC_4 QC_5 QC_6 QC_7 QC_8 QC_9 QC_10 QC_11 QD_1 QD_2 QD_3 QD_4 QD_5 QD_6 QD_7 QD_8 QD_9 QD_10 QD_11 QD_12 QD_13 QD_14 QD_15 QD_16 QD_17 QD_18 QD_19 QD_20 QD_21 QD_22 QD_23 QD_24 QD_25 QD_26 QD_27 QD_28 QD_29 QD_30 QD_31 QD_32 QD_33 QD_34 QE_1 QE_2 QE_3 QE_4 QE_5 QE_6 QE_7 QE_8 QE_9 QF_1 QF_2 QF_3 QF_4 QF_5 QF_6 QF_7 QG_1 QG_2 QG_3 QG_4 QG_5 QG_6 QG_7 VAR00001 /STATISTICS=SUM /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.11
	Elapsed Time	00:00:00.09

[DataSet4] C:\@Data\Research\Research PostGraduate\MTech\CPUT\2017\MdingiMvemve\My Questionnair WITH DATA.sav

QA_1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	48	36.4	36.4	36.4
	Female	84	63.6	63.6	100.0
	Total	132	100.0	100.0	

QA_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2nd Year	100	75.8	75.8	75.8
	3rd Year	23	17.4	17.4	93.2
	4th Year	9	6.8	6.8	100.0
	Total	132	100.0	100.0	

QA_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Home	70	53.0	53.0	53.0
	Rented Space	12	9.1	9.1	62.1
	University Residence	50	37.9	37.9	100.0
	Total	132	100.0	100.0	

QA_3Other

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	132	100.0	100.0	100.0

QA_4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural area	29	22.0	22.0	22.0
	City Suburb	40	30.3	30.3	52.3
	Township	62	47.0	47.0	99.2
	4	1	.8	.8	100.0
	Total	132	100.0	100.0	

QB_1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Before 2000	3	2.3	2.3	2.3
	2000-2005	2	1.5	1.5	3.8
	2006-2010	11	8.3	8.4	12.2
	2011-2015	75	56.8	57.3	69.5
	After 2015	40	30.3	30.5	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QB_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accounting	1	.8	.8	.8
	Mathematics	9	6.8	6.9	7.6
	Mathematical Literacy	48	36.4	36.6	44.3
	Acc and Maths	39	29.5	29.8	74.0
	Acc & Maths Lit	33	25.0	25.2	99.2
	None	1	.8	.8	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QB_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Did not do	61	46.2	46.6	46.6
	0-29%	1	.8	.8	47.3
	30-49%	17	12.9	13.0	60.3
	50-69%	43	32.6	32.8	93.1
	70-100	9	6.8	6.9	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QB_4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Did not do	85	64.4	64.9	64.9
	0-29%	9	6.8	6.9	71.8
	30-49%	17	12.9	13.0	84.7
	50-69%	17	12.9	13.0	97.7
	70-100	3	2.3	2.3	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QB_5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Did not do	48	36.4	36.4	36.4
	30-49%	9	6.8	6.8	43.2
	50-69%	58	43.9	43.9	87.1
	70-100	17	12.9	12.9	100.0
	Total	132	100.0	100.0	

QC_1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	3	2.3	2.3	3.1
	Undecided	3	2.3	2.3	5.3
	Agree	52	39.4	39.7	45.0
	Strongly agree	72	54.5	55.0	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QC_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	7	5.3	5.4	6.2
	Undecided	10	7.6	7.7	13.8
	Agree	74	56.1	56.9	70.8
	Strongly agree	38	28.8	29.2	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QC_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	3	2.3	2.3	3.0
	Undecided	2	1.5	1.5	4.5
	Agree	47	35.6	35.6	40.2
	Strongly agree	79	59.8	59.8	100.0
	Total	132	100.0	100.0	

QC_4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	29	22.0	22.1	22.1
	Disagree	52	39.4	39.7	61.8
	Undecided	27	20.5	20.6	82.4
	Agree	16	12.1	12.2	94.7
	Strongly agree	7	5.3	5.3	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QC_5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	25	18.9	18.9	18.9
	Disagree	23	17.4	17.4	36.4
	Undecided	19	14.4	14.4	50.8
	Agree	45	34.1	34.1	84.8
	Strongly agree	20	15.2	15.2	100.0
	Total	132	100.0	100.0	

QC_6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	6.8	6.8	6.8
	Disagree	43	32.6	32.6	39.4
	Undecided	20	15.2	15.2	54.5
	Agree	46	34.8	34.8	89.4
	Strongly agree	14	10.6	10.6	100.0
	Total	132	100.0	100.0	

QC_7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	5.3	5.3	5.3
	Disagree	20	15.2	15.2	20.5
	Undecided	16	12.1	12.1	32.6
	Agree	32	24.2	24.2	56.8
	Strongly agree	57	43.2	43.2	100.0
	Total	132	100.0	100.0	

QC_8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	50	37.9	38.2	38.2
	Disagree	23	17.4	17.6	55.7
	Undecided	2	1.5	1.5	57.3
	Agree	26	19.7	19.8	77.1
	Strongly agree	30	22.7	22.9	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QC_9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	10.6	10.7	10.7
	Disagree	19	14.4	14.5	25.2
	Undecided	19	14.4	14.5	39.7
	Agree	24	18.2	18.3	58.0
	Strongly agree	55	41.7	42.0	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QC_10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	17	12.9	13.0	13.0
	Disagree	23	17.4	17.6	30.5
	Undecided	24	18.2	18.3	48.9
	Agree	19	14.4	14.5	63.4
	Strongly agree	48	36.4	36.6	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QC_11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	2	1.5	1.5	2.3
	Undecided	6	4.5	4.5	6.8
	Agree	47	35.6	35.6	42.4
	Strongly agree	76	57.6	57.6	100.0
	Total	132	100.0	100.0	

QD_1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	6	4.5	4.7	4.7
	Undecided	7	5.3	5.4	10.1
	Agree	81	61.4	62.8	72.9
	Strongly agree	35	26.5	27.1	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QD_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	8	6.1	6.1	6.1
	Undecided	13	9.8	9.9	16.0
	Agree	74	56.1	56.5	72.5
	Strongly agree	36	27.3	27.5	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.0	3.1	3.1
	Disagree	8	6.1	6.2	9.2
	Undecided	14	10.6	10.8	20.0
	Agree	48	36.4	36.9	56.9
	Strongly agree	56	42.4	43.1	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	26	19.7	19.8	19.8
	Disagree	47	35.6	35.9	55.7
	Undecided	32	24.2	24.4	80.2
	Agree	18	13.6	13.7	93.9
	Strongly agree	8	6.1	6.1	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.3	2.3	2.3
	Disagree	13	9.8	10.1	12.4
	Undecided	36	27.3	27.9	40.3
	Agree	53	40.2	41.1	81.4
	Strongly agree	24	18.2	18.6	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QD_6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.5	1.5
	Disagree	3	2.3	2.3	3.8
	Undecided	20	15.2	15.2	18.9
	Agree	60	45.5	45.5	64.4
	Strongly agree	47	35.6	35.6	100.0
	Total	132	100.0	100.0	

QD_7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	4.5	4.5	4.5
	Disagree	38	28.8	28.8	33.3
	Undecided	22	16.7	16.7	50.0
	Agree	41	31.1	31.1	81.1
	Strongly agree	25	18.9	18.9	100.0
	Total	132	100.0	100.0	

QD_8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	6.1	6.1	6.1
	Disagree	25	18.9	19.1	25.2
	Undecided	11	8.3	8.4	33.6
	Agree	48	36.4	36.6	70.2
	Strongly agree	39	29.5	29.8	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	73	55.3	55.7	55.7
	Disagree	34	25.8	26.0	81.7
	Undecided	16	12.1	12.2	93.9
	Agree	5	3.8	3.8	97.7
	Strongly agree	3	2.3	2.3	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	3.8	3.8	3.8
	Undecided	14	10.6	10.6	14.4
	Agree	61	46.2	46.2	60.6
	Strongly agree	52	39.4	39.4	100.0
	Total	132	100.0	100.0	

QD_11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	1.5	1.5	1.5
	Undecided	4	3.0	3.1	4.6
	Agree	39	29.5	29.8	34.4
	Strongly agree	86	65.2	65.6	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	11	8.3	8.3	8.3
	Disagree	28	21.2	21.2	29.5
	Undecided	20	15.2	15.2	44.7
	Agree	45	34.1	34.1	78.8
	Strongly agree	28	21.2	21.2	100.0
	Total	132	100.0	100.0	

QD_13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.5	1.5
	Disagree	3	2.3	2.3	3.8
	Undecided	6	4.5	4.6	8.5
	Agree	48	36.4	36.9	45.4
	Strongly agree	71	53.8	54.6	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	43	32.6	32.6	32.6
	Disagree	34	25.8	25.8	58.3
	Undecided	12	9.1	9.1	67.4
	Agree	26	19.7	19.7	87.1

	Strongly agree	17	12.9	12.9	100.0
	Total	132	100.0	100.0	

QD_15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.5	1.5
	Disagree	1	.8	.8	2.3
	Undecided	2	1.5	1.5	3.8
	Agree	46	34.8	34.8	38.6
	Strongly agree	81	61.4	61.4	100.0
	Total	132	100.0	100.0	

QD_16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Undecided	5	3.8	3.8	4.6
	Agree	35	26.5	26.7	31.3
	Strongly agree	90	68.2	68.7	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_17

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	3.0	3.1	3.1
	Undecided	16	12.1	12.3	15.4
	Agree	61	46.2	46.9	62.3
	Strongly agree	49	37.1	37.7	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_18

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	22	16.7	16.7	16.7
	Disagree	10	7.6	7.6	24.2
	Undecided	3	2.3	2.3	26.5
	Agree	44	33.3	33.3	59.8
	Strongly agree	53	40.2	40.2	100.0
	Total	132	100.0	100.0	

QD_19

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.8	3.8	3.8
	Disagree	3	2.3	2.3	6.1
	Undecided	5	3.8	3.8	9.9
	Agree	46	34.8	35.1	45.0
	Strongly agree	72	54.5	55.0	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_20

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.5	1.5
	Disagree	1	.8	.8	2.3
	Undecided	3	2.3	2.3	4.5
	Agree	32	24.2	24.2	28.8
	Strongly agree	94	71.2	71.2	100.0
	Total	132	100.0	100.0	

QD_21

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	2	1.5	1.5	2.3
	Undecided	1	.8	.8	3.0
	Agree	34	25.8	25.8	28.8
	Strongly agree	94	71.2	71.2	100.0
	Total	132	100.0	100.0	

QD_22

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	1	.8	.8	1.5
	Agree	28	21.2	21.2	22.7
	Strongly agree	102	77.3	77.3	100.0
	Total	132	100.0	100.0	

QD_23

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	38	28.8	28.8	28.8
	Disagree	17	12.9	12.9	41.7
	Undecided	4	3.0	3.0	44.7
	Agree	34	25.8	25.8	70.5
	Strongly agree	39	29.5	29.5	100.0
	Total	132	100.0	100.0	

QD_24

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	7	5.3	5.4	5.4
	Disagree	4	3.0	3.1	8.5
	Undecided	21	15.9	16.2	24.6
	Agree	44	33.3	33.8	58.5
	Strongly agree	54	40.9	41.5	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_25

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.0	3.1	3.1
	Disagree	5	3.8	3.8	6.9
	Undecided	20	15.2	15.4	22.3
	Agree	60	45.5	46.2	68.5
	Strongly agree	41	31.1	31.5	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_26

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.5	1.5
	Disagree	7	5.3	5.4	6.9
	Undecided	15	11.4	11.5	18.5
	Agree	56	42.4	43.1	61.5
	Strongly agree	50	37.9	38.5	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_27

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.6	1.6
	Disagree	10	7.6	7.8	9.3
	Undecided	23	17.4	17.8	27.1
	Agree	52	39.4	40.3	67.4
	Strongly agree	42	31.8	32.6	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QD_28

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.6	1.6
	Disagree	1	.8	.8	2.3
	Undecided	7	5.3	5.4	7.8
	Agree	56	42.4	43.4	51.2
	Strongly agree	63	47.7	48.8	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QD_29

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	32	24.2	24.4	24.4
	Disagree	37	28.0	28.2	52.7
	Undecided	15	11.4	11.5	64.1

	Agree	35	26.5	26.7	90.8
	Strongly agree	12	9.1	9.2	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_30

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	1.5	1.6	1.6
	Undecided	9	6.8	7.0	8.5
	Agree	75	56.8	58.1	66.7
	Strongly agree	43	32.6	33.3	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QD_31

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	10	7.6	7.6	7.6
	Disagree	16	12.1	12.2	19.8
	Undecided	26	19.7	19.8	39.7
	Agree	41	31.1	31.3	71.0
	Strongly agree	38	28.8	29.0	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QD_32

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	17	12.9	13.1	13.1
	Undecided	18	13.6	13.8	26.9
	Agree	55	41.7	42.3	69.2
	Strongly agree	40	30.3	30.8	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_33

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	37	28.0	28.5	28.5
	Disagree	32	24.2	24.6	53.1
	Undecided	22	16.7	16.9	70.0
	Agree	21	15.9	16.2	86.2
	Strongly agree	18	13.6	13.8	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QD_34

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	31	23.5	23.8	23.8
	Disagree	45	34.1	34.6	58.5
	Undecided	26	19.7	20.0	78.5
	Agree	16	12.1	12.3	90.8
	Strongly agree	12	9.1	9.2	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QE_1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	2.3	2.3	2.3
	Disagree	8	6.1	6.1	8.4
	Undecided	11	8.3	8.4	16.8
	Agree	43	32.6	32.8	49.6
	Strongly agree	66	50.0	50.4	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QE_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	2	1.5	1.5	2.3
	Undecided	6	4.5	4.6	6.9
	Agree	34	25.8	26.2	33.1
	Strongly agree	87	65.9	66.9	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QE_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	56	42.4	43.1	43.1
	Disagree	36	27.3	27.7	70.8
	Undecided	3	2.3	2.3	73.1
	Agree	19	14.4	14.6	87.7
	Strongly agree	16	12.1	12.3	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QE_4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	92	69.7	71.9	71.9
	Disagree	24	18.2	18.8	90.6
	Agree	4	3.0	3.1	93.8
	Strongly agree	8	6.1	6.3	100.0
	Total	128	97.0	100.0	
Missing	System	4	3.0		
Total		132	100.0		

QE_5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	6.8	26.5	26.5
	Disagree	4	3.0	11.8	38.2
	Undecided	6	4.5	17.6	55.9
	Agree	7	5.3	20.6	76.5
	Strongly agree	8	6.1	23.5	100.0
	Total	34	25.8	100.0	
Missing	System	98	74.2		
Total		132	100.0		

QE_6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	46	34.8	35.4	35.4
	Disagree	35	26.5	26.9	62.3
	Undecided	14	10.6	10.8	73.1
	Agree	18	13.6	13.8	86.9
	Strongly agree	17	12.9	13.1	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QE_7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	1	.8	.8	1.5
	Undecided	2	1.5	1.5	3.1
	Agree	45	34.1	34.6	37.7
	Strongly agree	80	60.6	61.5	99.2
	7	1	.8	.8	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QE_8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.8	3.8	3.8
	Disagree	5	3.8	3.8	7.7
	Undecided	9	6.8	6.9	14.6
	Agree	19	14.4	14.6	29.2
	Strongly agree	92	69.7	70.8	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QE_9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	5	3.8	3.8	3.8
	Disagree	9	6.8	6.9	10.8
	Undecided	6	4.5	4.6	15.4
	Agree	30	22.7	23.1	38.5
	Strongly agree	80	60.6	61.5	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QF_1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	.8	.8	.8
	Disagree	3	2.3	2.3	3.1
	Undecided	13	9.8	9.9	13.0
	Agree	52	39.4	39.7	52.7
	Strongly agree	62	47.0	47.3	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QF_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	24	18.2	18.3	18.3
	Disagree	49	37.1	37.4	55.7
	Undecided	23	17.4	17.6	73.3
	Agree	25	18.9	19.1	92.4
	Strongly agree	10	7.6	7.6	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QF_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1.5	1.5	1.5
	Disagree	6	4.5	4.6	6.1
	Undecided	10	7.6	7.6	13.7
	Agree	33	25.0	25.2	38.9
	Strongly agree	80	60.6	61.1	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QF_4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	55	41.7	42.3	42.3
	Disagree	41	31.1	31.5	73.8
	Undecided	11	8.3	8.5	82.3
	Agree	16	12.1	12.3	94.6
	Strongly agree	7	5.3	5.4	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QF_5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	14	10.6	10.9	10.9
	Disagree	31	23.5	24.0	34.9
	Undecided	19	14.4	14.7	49.6
	Agree	44	33.3	34.1	83.7
	Strongly agree	21	15.9	16.3	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QF_6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	3.0	3.1	3.1
	Disagree	23	17.4	18.0	21.1
	Undecided	20	15.2	15.6	36.7
	Agree	55	41.7	43.0	79.7
	Strongly agree	26	19.7	20.3	100.0
	Total	128	97.0	100.0	
Missing	System	4	3.0		
Total		132	100.0		

QF_7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	48	36.4	37.5	37.5
	Disagree	43	32.6	33.6	71.1
	Undecided	7	5.3	5.5	76.6
	Agree	18	13.6	14.1	90.6
	Strongly agree	12	9.1	9.4	100.0
	Total	128	97.0	100.0	
Missing	System	4	3.0		
Total		132	100.0		

QG_1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	6.8	6.9	6.9
	Disagree	13	9.8	9.9	16.8
	Undecided	10	7.6	7.6	24.4
	Agree	52	39.4	39.7	64.1
	Strongly agree	47	35.6	35.9	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

QG_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	4.5	4.7	4.7
	Disagree	14	10.6	10.9	15.5
	Undecided	14	10.6	10.9	26.4
	Agree	39	29.5	30.2	56.6
	Strongly agree	56	42.4	43.4	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QG_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	18	13.6	13.8	13.8
	Disagree	22	16.7	16.9	30.8
	Undecided	30	22.7	23.1	53.8
	Agree	32	24.2	24.6	78.5
	Strongly agree	28	21.2	21.5	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QG_4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	8	6.1	6.2	6.2
	Disagree	14	10.6	10.8	16.9
	Undecided	9	6.8	6.9	23.8
	Agree	56	42.4	43.1	66.9
	Strongly agree	43	32.6	33.1	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QG_5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	18	13.6	14.0	14.0
	Disagree	33	25.0	25.6	39.5
	Undecided	34	25.8	26.4	65.9
	Agree	28	21.2	21.7	87.6
	Strongly agree	16	12.1	12.4	100.0
	Total	129	97.7	100.0	
Missing	System	3	2.3		
Total		132	100.0		

QG_6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	21	15.9	16.2	16.2
	Disagree	30	22.7	23.1	39.2
	Undecided	29	22.0	22.3	61.5
	Agree	27	20.5	20.8	82.3
	Strongly agree	23	17.4	17.7	100.0
	Total	130	98.5	100.0	
Missing	System	2	1.5		
Total		132	100.0		

QG_7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	9	6.8	6.9	6.9
	Disagree	14	10.6	10.7	17.6
	Undecided	18	13.6	13.7	31.3
	Agree	49	37.1	37.4	68.7
	Strongly agree	41	31.1	31.3	100.0
	Total	131	99.2	100.0	
Missing	System	1	.8		
Total		132	100.0		

APPENDIX F: Reliability Statistics

SECTION C

Scale: Section C1

Relabelled: Motivation

Case Processing Summary

		N	%
Cases	Valid	129	97.7
	Excluded[a]	3	2.3
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.605	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QC_1 I motivate myself to do well	13.05	2.583	.419	.509
QC_2 I set achievement goals at the beginning of the year.	13.42	2.355	.436	.493
QC_3 I am determined to reach my goals.	13.00	2.703	.370	.546
QC_11 I am motivated to prepare for my tests and examinations.	13.04	2.788	.319	.583

Scale: Section C2

Relabelled: Accounting course guidance

Case Processing Summary

		N	%
Cases	Valid	129	97.7
	Excluded[a]	3	2.3
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.834	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QC_8 I DID know that Accounting was part of my course.	7.06	7.246	.617	.859
QC_9 If I had a choice I would still do Accounting.	6.70	7.884	.708	.761
QC_10 I intend to teach Accounting after I graduate.	6.92	7.306	.776	.692

SECTION D

Scale: Section D Factor D1

Relabelled: Lecturer's teaching style

Case Processing Summary

		N	%
Cases	Valid	126	95.5
	Excluded[a]	6	4.5
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.766	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_13 I learn better in a more relaxed environment.	23.01	6.168	.304	.793
QD_16 The lecturer is enthusiastic about Accounting.	22.79	6.037	.509	.732
QD_20 My Accounting lecturer speaks loudly and clearly.	22.80	5.424	.623	.699
QD_21 My Accounting lecturer has the ability to explain the accounting concepts.	22.75	5.579	.714	.683
QD_22 My accounting lecturer is always prepared for our classes.	22.70	5.812	.668	.697
QD_28 Homework helps me to prepare and understand accounting better.	23.05	6.110	.358	.774

Scale: Section D Factor D2

Relabelled: External class assistance

Case Processing Summary

		N	%
Cases	Valid	129	97.7
	Excluded[a]	3	2.3
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.615	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_4 The study guide IS NOT useful for my study planning.	11.22	6.582	.330	.591
QD_7 When I do not understand Accounting I consult the lecturer during consultation hours.	11.45	5.765	.439	.510
QD_8 I know when the consultation hours of my accounting lecturer are.	11.06	5.480	.453	.499
QD_9 The Accounting lecturer is ALWAYS available during consultation hours.	10.45	6.874	.366	.568

Scale: Section D Factor D3

Relabelled: Class preparation

Case Processing Summary

		N	%
Cases	Valid	127	96.2
	Excluded[a]	5	3.8
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.616	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_24 The textbook assists me in preparation for assessments.	7.94	2.171	.560	.293
QD_25 We use the textbook effectively in our lessons.	7.95	2.998	.399	.552
QD_27 I always make time to do my Accounting homework.	8.02	3.079	.332	.639

Scale: Section D Factor D4

Relabelled: Subject administration

Case Processing Summary

		N	%
Cases	Valid	126	95.5
	Excluded[a]	6	4.5
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.624	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_3 The study guide is available on Blackboard.	16.10	6.605	.381	.568
QD_19 My Accounting lecturer uses Blackboard to make information available.	15.92	7.082	.294	.611
QD_30 The assessments are aligned to the specified outcomes of the Accounting topics.	16.04	7.670	.406	.576
QD_31 I fully understand how to calculate my marks using the weights	16.62	5.726	.392	.572
QD_32 I know the weight of every assessment I write.	16.33	6.240	.477	.519

Scale: Section D Factor D5

Relabelled: Class size

Case Processing Summary

		N	%
Cases	Valid	129	97.7
	Excluded[a]	3	2.3
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.684	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_33 The size of my class DOES NOT make it difficult for me to learn	3.53	1.532	.525	.
QD_34 Our classrooms ARE conducive for learning	3.38	1.987	.525	.

Scale: Section D Factor D6

Relabelled: Class activities

Case Processing Summary

		N	%
Cases	Valid	130	98.5
	Excluded[a]	2	1.5
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.703	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_10 The activities we do in class fit well with my learning style.	4.19	.591	.542	.
QD_17 I understand the examples that we do in class.	4.20	.611	.542	.

Scale: Section D Factor D7

Relabelled: Knowledge of course objectives

Case Processing Summary

		N	%
Cases	Valid	128	97.0
	Excluded[a]	4	3.0
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.582	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_1 I have a clear understanding of course objectives.	4.09	.558	.411	.
QD_2 Course objectives have been made clear at the beginning of the year.	4.13	.494	.411	.

Scale: Section D Factor D8

Relabelled: Accounting lecturer encouragements

Case Processing Summary

		N	%
Cases	Valid	132	100.0
	Excluded[a]	0	.0
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.374	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_15 My lecturer encourages class participation in Accounting lessons.	3.73	2.169	.293	.
QD_18 My lecturer does not make Accounting uninteresting to study.	4.54	.510	.293	.

Scale: Section D Factor D9

Relabelled: Accounting learning style

Case Processing Summary

		N	%
Cases	Valid	131	99.2
	Excluded[a]	1	.8
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.509	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QD_6 I can relate what we learn in Accounting in my daily life.	4.60	.397	.358	.
QD_11 I learn better when examples are demonstrated.	4.11	.733	.358	.

SECTION E

Scale: Section E1

Relabelled: Class attendance

Case Processing Summary

		N	%
Cases	Valid	33	25.0
	Excluded[a]	99	75.0
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.597	6

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
QE_1 I attend all my Accounting classes.	20.88	9.735	.376	.533
QE_2 Attending accounting classes improves my academic performance.	20.45	11.568	.426	.553
QE_5 If Accounting clashes with other subjects, I prefer to attend Accounting. (Only answer if there are clashes)	22.12	8.485	.266	.622
QE_7 I always make an effort to arrive in time for my classes.	20.79	10.360	.478	.512
QE_8 I prefer Accounting classes to be in the morning rather than in the afternoon	20.67	9.417	.480	.490
QE_9 I am committed to attend Accounting classes even if they fall on Fridays	20.85	10.695	.204	.606

SECTION F

Relabelled: Learning approach

Case Processing Summary

		N	%
Cases	Valid	127	96.2
	Excluded[a]	5	3.8
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.791	.797	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation
I find Accounting very interesting.	15.44	13.487	.513	.308
I DO NOT memorise Accounting in order to pass it.	16.37	11.029	.575	.378
I study Accounting with an intention to achieve a distinction (75% and above).	15.37	12.679	.534	.357
I am NOT satisfied with getting 50% in Accounting.	15.84	10.499	.641	.428
I DO NOT study Accounting in order to pass it rather than knowing and understanding it.	16.00	9.905	.638	.440

SECTION G

Scale: Section G1

Relabelled: Fees Must Fall protests

Case Processing Summary

		N	%
Cases	Valid	127	96.2
	Excluded[a]	5	3.8
	Total	132	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.716	.718	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
If government can finance my studies then my academic performance will improve.	13.78	12.570	.509	.307	.655
High education fees have a negative effect on my academic performance	14.51	12.363	.445	.273	.681
FMF protests negatively affected my opportunity to communicate with my lecturer about assessment preparation.	13.91	12.912	.474	.227	.668
If I had received counselling after the FMF protest my performance would have improved.	14.75	12.238	.453	.267	.678
Changes of assessment dates after the FMF protests did not allow enough time for me to study for exams.	14.02	12.603	.494	.279	.660

APPENDIX G: Factor Analysis - Correlations – Descriptives

Factor Analysis FC1

Notes

Output Created		22-SEP-2018 03:36:49
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QC_1 QC_2 QC_3 QC_11 /MISSING LISTWISE /ANALYSIS QC_1 QC_2 QC_3 QC_11 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Maximum Memory Required	2872 (2.805K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.586
Bartlett's Test of Sphericity	Approx. Chi-Square	61.451
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
I motivate myself to do well	1.000	.500
I set achievement goals at the beginning of the year.	1.000	.543
I am determined to reach my goals.	1.000	.432
I am motivated to prepare for my tests and examinations.	1.000	.360

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.835	45.870	45.870	1.835	45.870	45.870
2	.973	24.331	70.201			
3	.703	17.586	87.787			
4	.489	12.213	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
I motivate myself to do well	.707
I set achievement goals at the beginning of the year.	.737
I am determined to reach my goals.	.657
I am motivated to prepare for my tests and examinations.	.600

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Factor Analysis - FC2

Notes

Output Created		22-SEP-2018 03:39:10
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnaire WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QC_8 QC_9 QC_10 /MISSING LISTWISE /ANALYSIS QC_8 QC_9 QC_10 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00
	Maximum Memory Required	1860 (1.816K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.684
Bartlett's Test of Sphericity	Approx. Chi-Square	169.185
	df	3
	Sig.	.000

Communalities

	Initial	Extraction
I DID know that Accounting was part of my course.	1.000	.662
If I had a choice I would still do Accounting.	1.000	.777
I intend to teach Accounting after I graduate.	1.000	.837

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.277	75.896	75.896	2.277	75.896	75.896
2	.487	16.247	92.143			
3	.236	7.857	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
I DID know that Accounting was part of my course.	.814
If I had a choice I would still do Accounting.	.882
I intend to teach Accounting after I graduate.	.915

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_13 QD_16 QD_20 QD_21 QD_22 QD_28
  /MISSING LISTWISE
  /ANALYSIS QD_13 QD_16 QD_20 QD_21 QD_22 QD_28
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FD1

Notes

Output Created		22-SEP-2018 03:55:22
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_13 QD_16 QD_20 QD_21 QD_22 QD_28 /MISSING LISTWISE /ANALYSIS QD_13 QD_16 QD_20 QD_21 QD_22 QD_28 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Maximum Memory Required	5544 (5.414K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.791
Bartlett's Test of Sphericity	Approx. Chi-Square	266.537
	df	15
	Sig.	.000

Communalities

	Initial	Extraction
I learn better in a more relaxed environment.	1.000	.173
The lecturer is enthusiastic about Accounting.	1.000	.425
My Accounting lecturer speaks loudly and clearly.	1.000	.662
My Accounting lecturer has the ability to explain the accounting concepts.	1.000	.772
My accounting lecturer is always prepared for our classes.	1.000	.723
Homework helps me to prepare and understand accounting better.	1.000	.262

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.017	50.279	50.279	3.017	50.279	50.279
2	1.033	17.213	67.492			
3	.826	13.770	81.262			
4	.522	8.693	89.956			
5	.384	6.392	96.348			
6	.219	3.652	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
I learn better in a more relaxed environment.	.416
The lecturer is enthusiastic about Accounting.	.652
My Accounting lecturer speaks loudly and clearly.	.814
My Accounting lecturer has the ability to explain the accounting concepts.	.878
My accounting lecturer is always prepared for our classes.	.850
Homework helps me to prepare and understand accounting better.	.512

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_4 QD_7 QD_8 QD_9
  /MISSING LISTWISE
  /ANALYSIS QD_4 QD_7 QD_8 QD_9
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FD2

Notes

Output Created		22-SEP-2018 06:16:26
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_4 QD_7 QD_8 QD_9 /MISSING LISTWISE /ANALYSIS QD_4 QD_7 QD_8 QD_9 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.11
	Maximum Memory Required	2872 (2.805K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.614
Bartlett's Test of Sphericity	Approx. Chi-Square	61.466
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
The study guide IS NOT useful for my study planning.	1.000	.362
When I do not understand Accounting I consult the lecturer during consultation hours.	1.000	.514
I know when the consultation hours of my accounting lecturer are.	1.000	.563
The Accounting lecturer is ALWAYS available during consultation hours.	1.000	.422

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.861	46.535	46.535	1.861	46.535	46.535
2	.931	23.276	69.810			
3	.706	17.659	87.469			
4	.501	12.531	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
The study guide IS NOT useful for my study planning.	.602
When I do not understand Accounting I consult the lecturer during consultation hours.	.717
I know when the consultation hours of my accounting lecturer are.	.750
The Accounting lecturer is ALWAYS available during consultation hours.	.650

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_24 QD_25 QD_27
  /MISSING LISTWISE
  /ANALYSIS QD_24 QD_25 QD_27
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FD3

Notes

Output Created		22-SEP-2018 06:18:25
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_24 QD_25 QD_27 /MISSING LISTWISE /ANALYSIS QD_24 QD_25 QD_27 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.04
	Maximum Memory Required	1860 (1.816K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.554
Bartlett's Test of Sphericity	Approx. Chi-Square	51.572
	df	3
	Sig.	.000

Communalities

	Initial	Extraction
The textbook assists me in preparation for assessments.	1.000	.733
We use the textbook effectively in our lessons.	1.000	.546
I always make time to do my Accounting homework.	1.000	.422

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.701	56.704	56.704	1.701	56.704	56.704
2	.833	27.770	84.474			
3	.466	15.526	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
The textbook assists me in preparation for assessments.	.856
We use the textbook effectively in our lessons.	.739
I always make time to do my Accounting homework.	.649

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_3 QD_19 QD_30 QD_31 QD_32
  /MISSING LISTWISE
  /ANALYSIS QD_3 QD_19 QD_30 QD_31 QD_32
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE  /METHOD=CORRELATION.
```

Factor Analysis - FD4

Notes

Output Created		22-SEP-2018 06:20:46
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_3 QD_19 QD_30 QD_31 QD_32 /MISSING LISTWISE /ANALYSIS QD_3 QD_19 QD_30 QD_31 QD_32 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.05
	Maximum Memory Required	4100 (4.004K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.620
Bartlett's Test of Sphericity	Approx. Chi-Square	83.864
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
The study guide is available on Blackboard.	1.000	.376
My Accounting lecturer uses Blackboard to make information available.	1.000	.278
The assessments are aligned to the specified outcomes of the Accounting topics.	1.000	.436
I fully understand how to calculate my marks using the weights	1.000	.444
I know the weight of every assessment I write.	1.000	.527

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.060	41.203	41.203	2.060	41.203	41.203
2	1.035	20.696	61.899			
3	.746	14.923	76.822			
4	.716	14.327	91.149			
5	.443	8.851	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
The study guide is available on Blackboard.	.613
My Accounting lecturer uses Blackboard to make information available.	.527
The assessments are aligned to the specified outcomes of the Accounting topics.	.660
I fully understand how to calculate my marks using the weights	.666
I know the weight of every assessment I write.	.726

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_33 QD_34
  /MISSING LISTWISE
  /ANALYSIS QD_33 QD_34
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FD5

Notes

Output Created		22-SEP-2018 06:23:02
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_33 QD_34 /MISSING LISTWISE /ANALYSIS QD_33 QD_34 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01
	Maximum Memory Required	1064 (1.039K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	40.703
	df	1
	Sig.	.000

Communalities

	Initial	Extraction
The size of my class DOES NOT make it difficult for me to learn	1.000	.762
Our classrooms ARE conducive for learning	1.000	.762

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.525	76.227	76.227	1.525	76.227	76.227
2	.475	23.773	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
The size of my class DOES NOT make it difficult for me to learn	.873
Our classrooms ARE conducive for learning	.873

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_10 QD_17
  /MISSING LISTWISE
  /ANALYSIS QD_10 QD_17
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FD6

Notes

Output Created		22-SEP-2018 06:24:40
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_10 QD_17 /MISSING LISTWISE /ANALYSIS QD_10 QD_17 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Maximum Memory Required	1064 (1.039K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	44.353
	df	1
	Sig.	.000

Communalities

	Initial	Extraction
The activities we do in class fit well with my learning style.	1.000	.771
I understand the examples that we do in class.	1.000	.771

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.542	77.102	77.102	1.542	77.102	77.102
2	.458	22.898	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
The activities we do in class fit well with my learning style.	.878
I understand the examples that we do in class.	.878

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_1 QD_2
  /MISSING LISTWISE
  /ANALYSIS QD_1 QD_2
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis FD7

Notes

Output Created		22-SEP-2018 06:26:47
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_1 QD_2 /MISSING LISTWISE /ANALYSIS QD_1 QD_2 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.03
	Maximum Memory Required	1064 (1.039K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	23.219
	df	1
	Sig.	.000

Communalities

	Initial	Extraction
I have a clear understanding of course objectives.	1.000	.705
Course objectives have been made clear at the beginning of the year.	1.000	.705

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.411	70.549	70.549	1.411	70.549	70.549
2	.589	29.451	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
I have a clear understanding of course objectives.	.840
Course objectives have been made clear at the beginning of the year.	.840

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_15 QD_18
  /MISSING LISTWISE
  /ANALYSIS QD_15 QD_18
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FD8

Notes

Output Created		22-SEP-2018 06:28:32
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_15 QD_18 /MISSING LISTWISE /ANALYSIS QD_15 QD_18 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.33
	Maximum Memory Required	1064 (1.039K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	11.618
	df	1
	Sig.	.001

Communalities

	Initial	Extraction
My lecturer encourages class participation in Accounting lessons.	1.000	.646
My lecturer does not make Accounting uninteresting to study.	1.000	.646

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.293	64.647	64.647	1.293	64.647	64.647
2	.707	35.353	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
My lecturer encourages class participation in Accounting lessons.	.804
My lecturer does not make Accounting uninteresting to study.	.804

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QD_6 QD_11
  /MISSING LISTWISE
  /ANALYSIS QD_6 QD_11
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FD9

Notes

Output Created		22-SEP-2018 06:30:43
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QD_6 QD_11 /MISSING LISTWISE /ANALYSIS QD_6 QD_11 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02
	Maximum Memory Required	1064 (1.039K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	17.589
	df	1
	Sig.	.000

Communalities

	Initial	Extraction
I can relate what we learn in Accounting in my daily life.	1.000	.679
Accounting learning style	1.000	.679

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.358	67.883	67.883	1.358	67.883	67.883
2	.642	32.117	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
I can relate what we learn in Accounting in my daily life.	.824
Accounting learning style	.824

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QF_1 QF_2 QF_3 QF_4 QF_7
  /MISSING LISTWISE
  /ANALYSIS QF_1 QF_2 QF_3 QF_4 QF_7
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis - FF1

Notes

Output Created		22-SEP-2018 06:49:07
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QF_1 QF_2 QF_3 QF_4 QF_7 /MISSING LISTWISE /ANALYSIS QF_1 QF_2 QF_3 QF_4 QF_7 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.02
	Maximum Memory Required	4100 (4.004K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.778
Bartlett's Test of Sphericity	Approx. Chi-Square	182.835
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
I find Accounting very interesting.	1.000	.478
I DO NOT memorise Accounting in order to pass it.	1.000	.535
I study Accounting with an intention to achieve a distinction (75% and above).	1.000	.513
I am NOT satisfied with getting 50% in Accounting.	1.000	.628
I DO NOT study Accounting in order to pass it rather than knowing and understanding it.	1.000	.609

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.763	55.270	55.270	2.763	55.270	55.270
2	.796	15.911	71.180			
3	.629	12.588	83.768			
4	.421	8.417	92.185			
5	.391	7.815	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
I find Accounting very interesting.	.692
I DO NOT memorise Accounting in order to pass it.	.732
I study Accounting with an intention to achieve a distinction (75% and above).	.716
I am NOT satisfied with getting 50% in Accounting.	.793
I DO NOT study Accounting in order to pass it rather than knowing and understanding it.	.780

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
FACTOR
  /VARIABLES QG_2 QG_3 QG_4 QG_6 QG_7
  /MISSING LISTWISE
  /ANALYSIS QG_2 QG_3 QG_4 QG_6 QG_7
  /PRINT INITIAL KMO EXTRACTION
  /CRITERIA FACTORS(1) ITERATE(25)
  /EXTRACTION PC
  /ROTATION NOROTATE
  /METHOD=CORRELATION.
```

Factor Analysis FG1

Notes

Output Created		22-SEP-2018 06:57:59
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	MISSING=EXCLUDE: User-defined missing values are treated as missing.
	Cases Used	LISTWISE: Statistics are based on cases with no missing values for any variable used.
Syntax		FACTOR /VARIABLES QG_2 QG_3 QG_4 QG_6 QG_7 /MISSING LISTWISE /ANALYSIS QG_2 QG_3 QG_4 QG_6 QG_7 /PRINT INITIAL KMO EXTRACTION /CRITERIA FACTORS(1) ITERATE(25) /EXTRACTION PC /ROTATION NOROTATE /METHOD=CORRELATION.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.12
	Maximum Memory Required	4100 (4.004K) bytes

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.734
Bartlett's Test of Sphericity	Approx. Chi-Square	114.556
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
If government can finance my studies then my academic performance will improve.	1.000	.510
High education fees have a negative effect on my academic performance	1.000	.440
FMF protests negatively affected my opportunity to communicate with my lecturer about assessment preparation.	1.000	.467
If I had received counseling after the FMF protest my performance would have improved.	1.000	.446
Changes of assessment dates after the FMF protests did not allow enough time for me to study for exams.	1.000	.489

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.351	47.030	47.030	2.351	47.030	47.030
2	.950	19.007	66.037			
3	.670	13.399	79.435			
4	.526	10.511	89.947			
5	.503	10.053	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component 1
If government can finance my studies then my academic performance will improve.	.714
High education fees have a negative effect on my academic performance	.663
FMF protests negatively affected my opportunity to communicate with my lecturer about assessment preparation.	.683
If I had received counseling after the FMF protest my performance would have improved.	.668
Changes of assessment dates after the FMF protests did not allow enough time for me to study for exams.	.699

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

```
CORRELATIONS
  /VARIABLES=QCF2 QCF1 QD0Factor1 QD0Factor2 QD0Factor3 QD0Factor4 QD0Factor5
QD0Factor6 QFFactor
    QGFactor
  /PRINT=TWOTAIL NOSIG
  /MISSING=PAIRWISE.
```

Correlations

Notes

Output Created		22-SEP-2018 07:09:48
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=QCF2 QCF1 QD0Factor1 QD0Factor2 QD0Factor3 QD0Factor4 QD0Factor5 QD0Factor6 QFFactor QGFactor /PRINT=TWOTAIL NOSIG /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.06
	Elapsed Time	00:00:00.09

Correlations

		Motivation	Accounting course guidance	Lecturer's teaching style	External class assisstance	Class preparation	Subject Administration	Class size	Class activities	Learning Approach	FMF protests
Motivation	Pearson Correlation	1	.112	.362**	.235**	.290**	.403**	.091	.334**	.293**	.050
	Sig. (2-tailed)		.200	.000	.007	.001	.000	.300	.000	.001	.574
	N	132	132	132	132	131	132	131	132	131	131
Accounting course guidance	Pearson Correlation	.112	1	-.036	.298**	.058	.208*	.176*	.292**	.552**	-.066
	Sig. (2-tailed)	.200		.686	.001	.510	.017	.044	.001	.000	.454
	N	132	132	132	132	131	132	131	132	131	131
Lecturer's teaching style	Pearson Correlation	.362**	-.036	1	.157	.190*	.329**	.083	.452**	.176*	-.004
	Sig. (2-tailed)	.000	.686		.073	.029	.000	.347	.000	.044	.966
	N	132	132	132	132	131	132	131	132	131	131
External class assistance	Pearson Correlation	.235**	.298**	.157	1	.237**	.265**	.198*	.143	.482**	.040
	Sig. (2-tailed)	.007	.001	.073		.006	.002	.023	.101	.000	.648
	N	132	132	132	132	131	132	131	132	131	131
Class preparation	Pearson Correlation	.290**	.058	.190*	.237**	1	.195*	-.143	.103	.129	.111
	Sig. (2-tailed)	.001	.510	.029	.006		.026	.103	.244	.145	.209
	N	131	131	131	131	131	131	131	131	130	130
Subject Administration	Pearson Correlation	.403**	.208*	.329**	.265**	.195*	1	.214*	.268**	.147	-.062
	Sig. (2-tailed)	.000	.017	.000	.002	.026		.014	.002	.094	.480
	N	132	132	132	132	131	132	131	132	131	131
Class size	Pearson Correlation	.091	.176*	.083	.198*	-.143	.214*	1	.052	.203*	-.019
	Sig. (2-tailed)	.300	.044	.347	.023	.103	.014		.559	.020	.829
	N	131	131	131	131	131	131	131	131	130	130

Class activities	Pearson Correlation	.334**	.292**	.452**	.143	.103	.268**	.052	1	.300**	-.083
	Sig. (2-tailed)	.000	.001	.000	.101	.244	.002	.559		.000	.347
	N	132	132	132	132	131	132	131	132	131	131
Learning Approach	Pearson Correlation	.293**	.552**	.176*	.482**	.129	.147	.203*	.300**	1	-.006
	Sig. (2-tailed)	.001	.000	.044	.000	.145	.094	.020	.000		.949
	N	131	131	131	131	130	131	130	131	131	131
FMF protests	Pearson Correlation	.050	-.066	-.004	.040	.111	-.062	-.019	-.083	-.006	1
	Sig. (2-tailed)	.574	.454	.966	.648	.209	.480	.829	.347	.949	
	N	131	131	131	131	130	131	130	131	131	131

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

```
DESCRIPTIVES VARIABLES=QCF2 QCF1 QD0Factor1 QD0Factor2 QD0Factor3 QD0Factor4
QD0Factor5 QD0Factor6
    QFFactor QGFactor
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Descriptives

Notes

Output Created		22-SEP-2018 07:14:08
Comments		
Input	Data	C:\Users\mdingim\Documents\1Education Faculty\AA-MEd\2018\Chapter 4\Data Analysis\My Questionnair WITH DATA - recoded.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	132
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	All non-missing data are used.
Syntax		DESCRIPTIVES VARIABLES=QCF2 QCF1 QD0Factor1 QD0Factor2 QD0Factor3 QD0Factor4 QD0Factor5 QD0Factor6 QFFactor QGFactor /STATISTICS=MEAN STDDEV MIN MAX.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.05

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Motivation	132	3	5	4.39	.507
Accounting course guidance	132	1	5	3.47	1.313
Lecturer's teaching style	132	2	5	4.57	.472
External class assistance	132	2	5	3.69	.772
Class preparation	131	2	5	3.99	.763
Subject Administration	132	2	5	4.04	.624
Class size	131	1	5	3.44	1.155
Class activities	132	2	5	4.21	.683
Learning Approach	131	1	5	3.84	.781
FMF protests	131	1	5	3.57	.855
Valid N (listwise)	130				