THE INTEGRATION OF GENERAL EDUCATION IN THE
ACADEMIC PROGRAMME TO ENHANCE THE SELF-EFFICACY OF
ACCOUNTING STUDENTS AT UNIVERSITIES OF TECHNOLOGY IN
KWAZULU-NATAL

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DECLARATION

I, Suntharmurthy Kristnasamy Naidoo, declare that the thesis is my own work and that the work has not been submitted previously for another degree. In addition, it is not been concurrently submitted in candidature for another doctoral degree. All sources that were utilised in the current study have been acknowledged by complete references.

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“Matha Pitha Guru Deivam” is a very popular phrase in Sanskrit language and often mentioned in Hinduism. When translated word for word, it means “Mother, Father, Teacher and God”. The meaning of this phrase is the greatest truth, and is the order in which one should offer reverence. The phrase is a basic ideology in existence from the time of the Vedas and beyond and signifies the hierarchy in which one should respect these entities.

I would first like to thank my late mother, Velliamah Naidoo, for first holding my hand and teaching me how to write. Without her continuous support and encouragement, I never would have been able to achieve my goals. This one is for you mom!

Second, a very special thank you to my late father, Kristnasamy Naidoo. You have given me the greatest gift of all, education and the freedom of choice. I would not be who I am today without your support and I hope I have made you proud.

I express my gratitude to my supervisor, Dr S. Govender and co-supervisor, Mr Viv Moodley for providing me with the necessary guidance and support in successfully completing this project.

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"Sri Krishna said to Arjuna: But those who always worship me with exclusive devotion, meditating on my transcendental form - to them I carry what they lack, and I preserve what they have" (Bhagwat Gita: Chapter 9 verse 22). Thank you, God, for giving me the strength to complete my studies even when circumstances seemed impossible.
ABSTRACT

The current study can be attributed to the poor graduation rate of learners in the Management Accounting qualification and the essential factors preventing learners from achieving a good grade in the Management Accounting module.

In addition to formal training, such as owning a company and obtaining a degree in Accounting, accountants generally need a range of skills in order to be effective. Clear interpersonal communication, customer service, critical thought, analysis and writing are all necessary skills. The skills mentioned are components that form part of General Education. Moreover, it is essential that learners believe in their capabilities to succeed in the Accounting module in particular and business in general. The cost of failure by learners has a negative impact on both the public and private sectors. Thus, the research set out to examine the relationship between General Education and Self-efficacy of Accounting learners.

The term Self-efficacy at its very elementary point refers to the confidence in one's aptitude to accomplish specific tasks. Albert Bandura takes it a step further and defines Self-efficacy as an individual’s belief about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives.

For the purposes of the present study, the target population comprised first year students registered for the Cost and Management Accounting module and lecturers from the Department of Management Accounting. The research was structured within both a quantitative and qualitative research approach by means of a questionnaire and semi-structured interview schedule. The questionnaire was prepared using a 5-point Likert Scale with closed-ended and structured questions. The interview schedule consisted of questions that allowed for probing.

The findings from the quantitative aspect of the study provided valuable information, indicating similarities between the level of Self-efficacy in learners prior to undertaking the General Education Modules and those who did not undertake the General Education Modules. The study only noted a significant difference in the post-test (Self-efficacy) scores of the group that undertook the General Education Modules and not with the group that did not undertake the General Education Modules.
The interviews revealed that there is an opportunity for the improvement of General Education skills. Hence, the main strategy would be to incorporate General Education skills into the curriculum. Similar to General Education skills, there is also a lack of Self-efficacy in current learners. Further attention must be devoted to communication skills, as these are essential. These skills appear to be very poor amongst current learners and respondents believed that Self-efficacy could have a positive effect on the academic performance of learners. Methods for enhancing Self-efficacy reveal that the main strategies should revolve around innovative teaching, learning and research methods; increasing skills development such as critical thinking and computer skills; and promoting more Self-efficacy based workshops and programmes.
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<td>Cost and Management Accounting</td>
</tr>
<tr>
<td>DHET</td>
<td>Department of Higher Education and Training</td>
</tr>
<tr>
<td>DUT</td>
<td>Durban University of Technology</td>
</tr>
<tr>
<td>EFL</td>
<td>English First Language</td>
</tr>
<tr>
<td>ESL</td>
<td>English Second Language</td>
</tr>
<tr>
<td>FASSET</td>
<td>Financial and Accounting Services Sector Education and Training</td>
</tr>
<tr>
<td>GE</td>
<td>General Education</td>
</tr>
<tr>
<td>IEB</td>
<td>Independent Examinations Board</td>
</tr>
<tr>
<td>IES</td>
<td>International Education Standards</td>
</tr>
<tr>
<td>IFAC</td>
<td>International Federation of Accountants</td>
</tr>
<tr>
<td>LoLT</td>
<td>Language of Learning and Teaching</td>
</tr>
<tr>
<td>MUT</td>
<td>Mangosuthu University of Technology</td>
</tr>
<tr>
<td>NEEDU</td>
<td>National Education Evaluation and Development Unit</td>
</tr>
<tr>
<td>NEIMS</td>
<td>National Education Infrastructure Management System</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>NSES</td>
<td>National School Effectiveness Study</td>
</tr>
<tr>
<td>PASW</td>
<td>Predictive Analytic Software</td>
</tr>
<tr>
<td>SACE</td>
<td>South African Council for Educators</td>
</tr>
<tr>
<td>SACMEQ</td>
<td>Southern and Eastern African Consortium for Monitoring Education Quality</td>
</tr>
<tr>
<td>SAICA</td>
<td>South African Institute of Chartered Accountants</td>
</tr>
<tr>
<td>SATAPS</td>
<td>Standardised Assessment Tests for Accessing and Placement</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>UNISA</td>
<td>University of South Africa</td>
</tr>
</tbody>
</table>
CHAPTER ONE

1 BACKGROUND AND OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Over the many years of lecturing experience at the university, the researcher has found that some learners are eager to learn and willing to tackle new challenges while others seem uninterested or unmotivated. Some of these learners demonstrate high levels of confidence in their abilities, while others seem unsure of themselves. The research question then arises; what affects the students’ beliefs in their capabilities to succeed in Accounting studies? The Vice-Chancellor of DUT pointed out that the institution would carry out the first experiments with the new General Education curriculum elements. The rollout was scheduled to take place effectively in 2016, giving DUT a year to prepare for this launch. The Vice Chancellor also indicated that the new curriculum would be the signature of DUT, ensuring that DUT graduates are provided with a more holistic education curriculum. This would ensure that they are not merely educated for the job market, but also get a more holistic education.

The University of Central Arkansas (2018) indicates that General Education has six skills areas. These focus areas are: (i) Written Communication; (ii) Critical Thinking; (iii) Oral Communication; (iv) Information Technology; and (v) Quantitative Analysis and Researching. According to Greer (2012:10), General Education helps learners to achieve a synthesis of oral and written communication, physical and natural sciences, humanities, arts and social sciences, fitness and wellness skills, comprehension and knowledge. It is a comprehensive collection of learning experiences organized through subject disciplines to provide the requisite skills and information to work in society. Washington State University (2019) notes that General Education is important in order to operate well in the workforce and it promotes the incorporation of the planned careers of learners in wider, more inclusive and multiple contexts. Exposure to the different beliefs, viewpoints and cultural practices is valuable training for the kinds of work that college graduates do, an experience that will greatly enrich their understanding of the context and significance of careers.
Siegle (2000) defines Self-efficacy as a judgment of an individual on being able to perform a particular task. Self-efficacy refers to the "I can" or "I can't" creed of a learner. Self-efficacy and self-esteem are distinct. Siegle (2000) claims that, unlike self-esteem which represents how learners feel about their worth or importance, Self-efficacy represents how positive learners are about particular tasks being carried out. The researcher also posits that Self-efficacy is unique to the task being attempted and that high Self-efficacy in one field does not correlate with high Self-efficacy in another. For example, high swimming confidence would not equal high baseball confidence or high Mathematics Self-efficacy does not naturally follow high spelling Self-efficacy, for comparative purposes. It has been found that Self-efficacy beliefs have certain shifts in the success sense of a student, interfere with self-regulated learning processes and arbitrate the academic achievement of learners (Zimmerman 2000:82).

Self-efficacy is an important motivational concept, which according to Gist and Mitchell (1992: 186) affects individual decisions, goals, emotional responses, commitment, coping and resilience. The authors further argue that Self-efficacy changes because of learning, experience and feedback. The construct of Self-efficacy has received increasing empirical attention in the organizational behaviour literature. Gist and Mitchell (1992: 183) claim that it is easier for people who believe they will do well on a mission than for those who believe they will fail. Improvements in Self-efficacy are correlated with bona fide improvements in the level of skills.

However, additional understanding of efficacy arises through shifts in temperament, motivation, and the mission itself. General Education will empower learners to be more self-reliant while studying. Zimmerman (2000:89) argues that Self-efficacy has proven to be sensitive to changes in learning methods especially those involving greater self-regulation and predicative outcomes of achievement.

1.2 BACKGROUND

The thesis focuses on the relationship between six main components of General Education, namely written communication, oral communication, critical thinking, quantitative analysis, science, understanding and computer literacy and self-efficacy of learners or their beliefs in Accounting studies or their beliefs in their capabilities to succeed in Accounting studies. In an email communication on 05 December 2014, the Vice-Chancellor of DUT state that the
inclusion of the General Education component will change the nature of education within the institution. General Education would be part of a process that is responsible for the formation of the entire undergraduate programme from first to final year and may be included as stand-alone modules or embedded within programme or faculty modules. This study therefore seeks to examine the relationship between General Education and Self-efficacy of Accounting learners.

In addition, learners need to believe in their capabilities to succeed in Accounting in particular and business in general. The cost of failure by learners has a negative impact on both the public and private sectors. Most South African universities receive funding from the government as well as the private sector in the form of donations and bursaries from companies and individuals. Government funding provided to universities focuses on learner numbers and pass rates. There is also a personal financial burden as failure affects learners and parents directly since they are liable for part or all of the tuition costs.

The research objective is to investigate the extent of the relationship between the General Education Modules and Self-efficacy. For the purposes of the present study, the target population consists of first year learners registered for the subject Cost and Management Accounting within DUT and MUT. The construction of the study will be within a quantitative and qualitative research approach and carried out with the aid of a questionnaire and semi-structured interview schedule. The 5-point Likert Scale with closed-ended and structured questions will form the basis of the questionnaire. The interview schedule will consist of questions allowing for probing.

1.3 RESEARCH PROBLEM

Skills in General Education, including written communication, oral communication, critical thinking, quantitative analysis, science, information and computer literacy, amongst higher education learners are crucial for success at the tertiary levels in general and the Accounting levels in particular. A low level of General Education skills affects the performance of learners and creates an obstacle for promotion prospects at the workplace. It usually affects their ability to learn and prosper in the workplace environment. De Villiers (2010: 17) emphasises the need
for Accounting professionals and advisors to business, to possess both technical and soft skills, which include communication skills, in order for these individuals to be successful, effective and for continued growth. Carlsen (1999: 136) suggests that teacher knowledge should consist of five main areas of knowledge namely, (i) General Education Context, (ii) Relevant Education Context, (iii) General Pedagogical Knowledge, (iv) Knowledge of Subject Matter and (v) Knowledge of Pedagogical Content. The studies indicate that most teachers lack knowledge in these key areas.

According to Taylor, Van der Berg and Mabogoane (2012: 20), grade six language teachers did not perform well on the SACMEQ reading test. The National Education Evaluation and Development Unit (NEEDU) (2013: 40) states that the most notable aspect identified is that 72 percent of the three best learners in each class studied were reading below the average grade two student level, and 22 percent were on or below the ‘bad’ norm. Ramos (2010: 31) points out that reading strategies and writing skills have a strong connection. The results indicated by NEEDU (2013) and Ramos (2010) show that reading strategies are valuable predictors of writing abilities.

The Centre for Development and Enterprise (CDE) (2011: 4) indicated that many existing teachers are not teaching well in Maths, Science, Commerce and Technology, and are poorly managed. Problems arise when a majority of these teachers is improperly trained. In one study, researchers found that of 73 matric Physical Science teachers from Dinaledi schools in South Africa (with extra Mathematics and Science resources) who were tested on basic problem-solving skills, only 60 percent were able to solve the problems (CDE 2011: 4) over the last 20 years. Research has shown that South African teachers have insufficient awareness of the subject matter. Two sections of research thirteen years apart suggest that the problem has persisted.

These low levels of communication skills affect the academic performance of learners, not just in the Accounting programme, but also professionally. Communication skills affects both oral and written communication. Research confirms that Accounting professionals and lecturers believe that oral and written communication is pivotal for success in the Accounting profession. Wessels (2005: 91) argues that professional accountancy bodies attach critical importance to communication and problem-solving skills. Newly appointed graduates with poor
communication skills will lead to unproductive work, poor teamwork, inefficient control and eventually, failure in management (Gray 2010: 51). The problem stems from different personal backgrounds and different types of education. Gray (2010: 51) points out that 91% of all Accounting professionals indicate that oral communication skills are important for new graduates and 74.5% indicate that new graduates rarely have the skills needed.

The Financial and Accounting Services Sector Education and Training Authority (FASSET) (2011: 11) points out that the number of people needed in the occupational category regarding the financial sector is 78 percent for professionals, which includes Accounting and Auditing trainees and 13 percent of people required in the clerical and administrative fields. The South African Institute of Chartered Accountants (SAICA) (2008b:4) indicates that 24,444 students passed the Higher-Grade version in 2006 for the Accounting Higher Grade subject.

Furthermore, in higher education, graduates increased from 3,142 to 4,978 in 2006 for the first three-year degree. The number of new labour market entrants in 2006 was 5752, nearly a thousand more than the graduates generated in the same year, as highlighted by SAICA (2008b: 4). SAICA points out that higher education does not generate enough graduates to meet the need for new entrants into the market. The demand at post-graduate level, based on the realistic scenario, shows that there would be a deficit of 35 percent in 2018, and if the economy were to grow at a higher rate, the deficit would be 65 percent in 2018 (SAICA 2008b: 4). Clearly, from these figures, the supply is not in keeping with the demand in the South African labour market.

South Africa’s performance in terms of producing professional Accounting and Auditing trainees to meet the labour market demand has confirmed the seriousness of the problem and the urgency of finding solutions. Due to the inadequate or lack of General Education skills of learners entering university of technologies, with an email communication on 05 December 2014 by the Vice-Chancellor of Durban University of Technology (DUT) indicates that steps are taken to address these shortages of skills through General Education Modules. The Vice-Chancellor indicates that the new curriculum will be the signature of DUT and will ensure that DUT graduates be provided with a more holistic education curriculum, thereby ensuring that they are not simply trained for the job market but get a more holistic education. The Vice-Chancellor of DUT further states that the inclusion of the General Education (GE) component
will change the nature of education within the institution. GE will be part of a process that is responsible for the formation of the entire undergraduate programme from first to final year. GE may be included as stand-alone modules or embedded within programme or faculty modules.

1.4 RATIONALE OF THE STUDY

The rationale for the study is that the majority of children in South Africa are taught in an African home language from Grade R to Grade 3 and then suddenly turn to English as an instructional medium in Grade 4 (Evans and Cleghorn 2014:3). The move to English as a medium of instruction strategy is to ensure that children in their mother tongue have a solid base of literacy in their mother tongue. On the other hand, in urban areas some children learn from the beginning of their education in their second language. The switch to English at different grades between the two groups may have an impact on the learners’ communication skills. Naidoo and Garbharran (2013: 492) conducted a study into communication skills as a subject in the programme Cost and Management Accounting at a South African University. The study revealed that respondents, with a majority of 48% and 53% respectively for both English First Language (EFL) and English Second Language (ESL), acknowledged that the English language affected them in obtaining better ranks in Cost and Management Accounting (CMA). The study also indicated that 23 percent of both EFL and ESL were unsure if it affected them. Furthermore, the researchers reported that both EFL and ESL respondents, with a majority of 65% each, showed that CMA lecturers were unaware of the weak comprehension of English by the learners.

The Department of Basic Education (2014: 109) indicated that the level of pass achieved by learners in Mathematics increased between the years 2011 and 2013. There was also a sharp decline in the pass rate in 2014. The percentage of those candidates who passed Mathematics at 40 percent increased from 30.1 percent to 40.5 percent between the years 2011 and 2013. There was also a decrease in the year 2014 to 35.1 percent for candidates who passed Mathematics at 40 percent. Moreover, there was a decrease in the number of candidates writing Mathematics from 241 509 in 2013 to 225 458 in 2014. The 5.4 percent decline in candidates who passed Mathematics at 40 percent and the declining number of 16 051 learners writing
Mathematics 2014 remains a great concern. Similar scenarios persisted in Mathematical Literacy. Taylor, Van der Berg and Mabogoane (2012: 20) suggested that grade 6 language teachers did not score well on the SACMEQ reading exam. NEEDU (2013: 40) notes the most striking aspect as that being 72% of the three best learners in each class studied were reading below the average grade 2 student benchmark and 22% were on or below the weak level. Ramos (2010: 31) postulates that reading strategies and writing skills have a strong connection. Such results show that reading strategies are valuable predictors of writing abilities.

1.5 SIGNIFICANCE OF THE STUDY

The study envisages that the Self-efficacy level of learners who undertake the General Education Modules will be higher than prior to the introduction of the modules. GE will enable student to have more confidence in themselves when dealing with quantitative analysis, problem solving; critical and creative thinking; written and oral communication; information and technological literacy; teamwork and ethical deliberation. The improvement in the students GE skills will positively influence their beliefs in their capabilities to succeed in Accounting studies.

The findings from the questionnaires and the interviews will establish the degree of the relationship between the General Education Modules and Self-efficacy. The findings will positively contribute to the university’s learner pass rate and ultimately government funding. The study will also benefit the learners directly with the implementation of the General Education modules into the curriculum. The study also proposes to develop a strategy to enhance Self-efficacy in the context of General Education and to develop a framework to measure the impact of Self-efficacy on Accounting learners’ ability to communicate effectively from year 1 to year 3.

1.6 RESEARCH AIM AND OBJECTIVES

The aim of study seeks to examine the relationship between General Education and Self-efficacy of Accounting learners. The following objectives of the study will assist in achieving the main research aim:
To ascertain the level of Self-efficacy of learners prior to undertaking the General Education Modules and of those who are not undertaking the General Education Modules respectively;

- To determine the level of Self-efficacy of learners after undertaking the General Education Modules versus of those who did not undertake the General Education Modules respectively;

- To establish if there is a significant difference between the pre-test (Self-efficacy) scores of those of the group that undertook the General Education Modules versus those of the group that did not undertake the General Education Modules;

- To ascertain whether there is a significant difference between the pre-test (Self-efficacy) scores and post-test (Self-efficacy) scores of those of the group that undertook the General Education Modules versus those of the group who did not undertake the General Education Modules respectively;

- To determine whether there is a significant difference in the post-test (Self-efficacy) scores of those of the group that undertook the General Education Modules versus those of the group that did not undertake the General Education Modules;

- To develop possible intervention strategies to enhance Self-efficacy in the context of General Education; and

- To develop a framework to measure the impact of Self-efficacy on Accounting students’ ability to communicate effectively from year 1 to year 3.

The following research questions emerged from the objectives of the study:

- Is there any difference in the level of Self-efficacy of learners before and after undertaking the General Education Modules?

- What is the difference between the pre-test (self-efficacy) scores of those of the group that undertook the General Education Modules and those of the group that did not undertake the General Education Modules?

- What is the difference in the post-test scores of those of the group that undertook the General Education Modules and those of the group that did not undertake the General Education Modules?

- What possible strategies can be implemented to enhance Self-efficacy in the context of General Education?
• Is there a possible framework that can be developed to measure the impact of Self-efficacy on Accounting students’ ability to communicate effectively?

In current study design, there will be two groups, an experimental group and a control group, which are not equivalent. The experimental group will involve CMA learners from DUT and the control group will involve CMA learners from MUT. Participants will be purposely allocated either to the control group or to the experimental group as randomization would prove impractical.

1.7 RESEARCH HYPOTHESES

The research hypotheses are as follows:

**Null Hypothesis**

There will not be a statistically significant difference between the pre-test and post-test Self-efficacy scores of the group that did not undertake the General Education modules;

**Alternate Hypothesis**

There will be a statistically significant difference between the pre-test and post-test Self-efficacy scores of the group that undertook the General Education modules;

**Null Hypothesis**

There will not be a statistically significant difference in the pre-test Self-efficacy scores of the group that undertook the General Education modules and the group that did not undertake the General Education modules.

**Alternate Hypothesis**

There will be a statistically significant difference in the post-test Self-efficacy scores of the group that undertook the General Education modules and the group that did not undertake the General Education module; and
1.8 SUMMARY OF THE RESEARCH CHAPTERS

The study comprises six chapters. An overview outlining each chapter in the thesis follows.

**Chapter One**

This chapter provides the introduction and sets the basis for the study. It provides an overview of the research problem, aim of the study, research objectives, underlying principles and significance behind the study. The chapter includes the main aspects of the research methodology, indicating the population, sample size and type of study.

**Chapter Two**

Chapter Two relates to the General Education aspect of the study. The chapter begins with a definition of General Education. The state of rural schools, infrastructure, schooling culture, teaching and learning methods and socio-economic status are included the chapter. The chapter discusses the current level of education of the teachers and learners regarding Mathematics and language (reading and writing) skills.

The chapter also provides an international and local perspective on the skills requirements of Accountants by the International Federation of Accountants and the South African Institute of Chartered Accountants. The literature review includes an overview of DUT’s policy on General Education.

The chapter covers the definition, role and sources of Self-efficacy. The study further highlights exactly how the sources and dimensions of Self-efficacy be relevant and implemented within the Management Accounting discipline. The chapter includes the impact of Self-efficacy on human performance and the relationship between Self-efficacy and performance. The chapter concludes by addressing the limitations or drawbacks of the Self-efficacy Theory.

Refer to Figure 1.1 on page 17 regarding the diagrammatic overview of study in relation to the Self-efficacy aspect.
Chapter Three

Chapter Three outlines the theoretical framework underpinning the study and research paradigms.

Chapter Four

Chapter Four focuses on the methodology employed in the research to achieve its objectives. This includes qualitative and quantitative research approaches, sampling structure and methods for collecting and analysing data. It also offers insight into the population and sampling selection process and the designing of the questionnaire. For the purposes of the present study, the target population consists of learners from DUT and MUT in KwaZulu-Natal.

Chapter Five

The chapter reports on the findings collected via the questionnaires and interviews.

The statistician responsible for the qualitative analysis use a Cluster Analysis, Hierarchy Chart, Tree Maps and Word Cloud. The SPSS version 22 for windows software programme was utilised to assist with the analysis of the quantitative data.

The Cronbach Coefficient Alpha Test and histograms were utilised to evaluate the reliability and validity of the data obtained from the final survey. Data are presented in a chronological way to provide a more meaningful result that will be easy to understand and provide value.

Chapter Six

The final chapter provides an overview of the study, draws conclusions and provides appropriate recommendations. The chapter also indicates the limitations of the study and provides areas for future research. The chapter begins by indicating by what means the research problem, purpose and objectives were reached. The chapter points out appropriate recommendations makes suggestions and indicates areas for future research.
1.9 SCOPE AND LIMITATIONS

This study focuses on Accounting learners and is confined to DUT and MUT in KwaZulu-Natal. Therefore, the findings/results may or may not apply to other Universities of Technology or any other tertiary institution depending on the students’ former educational and cultural background.

1.10 ANNEXURES

A selection of annexures attached at the end of the study serve to provide further support for the research processes of the current study. The annexures include the final questionnaire, as well as all related data gathered from the observation of the survey.

1.11 CONCLUSION

The area of focus of the study entails the relationship of the components of General Education, which includes written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy on learners’ Self-efficacy or beliefs in studying Management Accounting. The study therefore set out to examine the relationship between General Education and Self-efficacy of Accounting learners.

The problem statement was discussed in the current chapter, which led to the motivation and significance for commencing a study of such a nature. The chapter included the research questions, together with specific objectives and a brief outline of the various chapters. Figure 1.1 below also provides a diagrammatical overview and essence of this study. The figure details aspects of forthcoming chapters.

The next chapter will focus on the theoretical background for the study, followed by the development of the research hypotheses. The theoretical background includes a literature review concerning the significance and impact of General Education on learners.
Figure 1.1  Work Flowchart Framework

**Chapter 1 - Introduction**
- Introduction
- Research Problem
- Background
- Significance of the Study
- Research Aim & Objective
- Research Hypothesis
- Research Methodology
- Research Strategy & Outline of Chapters
- Scope and Limitations
- Conclusion

**Chapter 2 - Literature Review: General Education**
- Introduction
- Defining General Education
- S.A Schools Public Schools
- Gen. Ed. at School Level
- IFAC
- Prof. Acc. Bodies Requirements
- Labour Market Skill Req.
- Learning Initiatives
- DUT’s Policy and Procedures
- Self-Efficacy & Self-Esteem
- Self-Efficacy Roles & Sources
- Self-Efficacy Dimensions
- Self-Efficacy on Management Accounting
- Self-Efficacy & Learner Performance
- Self-Efficacy & Assessment Processes
- Self-Efficacy and Information Processing
- Self-Efficacy Dimensions
- Conclusion

**Chapter 3 - Literature Review: Student Self-Efficacy**
- Introduction
- Theoretical Framework
- Research Paradigm
- Conclusion

**Chapter 4 - Research Methodology**
- Introduction
- Research Design
- Sampling Design
- Data Collection Method
- Data Analysis
- Reliability and Validity
- Decision Making
- Research Ethics
- Conclusion

**Chapter 5 - Data Analysis**
- Introduction
- Qualitative Data Analysis
- Quantitative Data Analysis
- Conclusion

**Chapter 6 - Conclusions & Recommendations**
- Review of Study Rationale
- Summary of the Study
- Summary of the Findings
- Scope and Limitations
- Recommendations
- Future Research
- Conclusion

Source: Self-generated.
CHAPTER TWO

2 LITERATURE REVIEW: GENERAL EDUCATION AND SELF-EFFICACY

2.1 GENERAL EDUCATION

Chapter One provided the foundation and rationale for undertaking the current academic research study. The chapter addressed the problem statement, background, aim and objectives, significance of the study, limitations and delimitations. The latest empirical research study focuses on creating a new theory and this research study includes a summary of the literature as one of its sections. For this study, the literature review forms the basis and support for the new knowledge that the research offers. The aim of Chapter Two and Chapter Three is to outline and synthesize the hypotheses and suggestions of other scholars on the topic currently under study.

The first part of the chapter outlines the General Education aspect of the study by defining General Education for a clear understanding of the concept, while second part of chapter addresses the aspect of Self-efficacy in learners, as reported in the first chapter.

2.2 DEFINING GENERAL EDUCATION

Penn State University (2012) describes General Education as the breadth of knowledge covering humanity's main intellectual and artistic competencies and achievements. General Education should include an understanding and appreciation of the diverse nature of knowledge characterised by the natural sciences, quantitative skills, social-behavioural sciences, humanities and arts. Competencies in self-expression, quantitative analysis, knowledge literacy and social engagement are needed to achieve and communicate this understanding and appreciation (Penn State University 2012). General Education assists learners in developing intellectual interest and strengthening their ability to reason, thereby giving learners a deeper sense of creative appreciation.
DUT (2012: 2) describes General Education as a structure for programme design with a common ideology and common characteristics of the student. General Education aims at helping learners think critically by establishing beliefs, understanding customs, respecting diverse cultures and views and most importantly, making use of that knowledge. It is comprehensive and not specialized; integrative and not fragmented (DUT 2012:2).

General Education is planned, according to the University of Illinois (2011), to serve as a base for lifelong learning and to prepare learners for the world beyond tertiary experience: a world in which one needs to be able to:

- Think independently of others;
- Understand and analyse knowledge objectively;
- Assess and evaluate claims;
- Create and present convincing oral and written claims;
- Discover one's heritage, history and that of others;
- Comprehend, perceive and assess the arts; and
- Reflect critically on how human beings influence and are influenced by political, economic, cultural and family structures.

There is agreement that competence in core skill areas such as communication, numeracy, information technology and problem-solving are important for foundation education and training learners as future employees in evolving and flexible job roles (Green 1998: 23). Jessup (1990) (cited in Green 1998: 28) posits that General Education is necessary only to the degree that it 'underpins' competent performance in the planned work tasks and can therefore be limited to core competencies. Green (1998: 28) claims that logical, analytical and verbal skills are often correlated with the development of good General Education that can be supported by core learning skills, which are usually embedded in vocational skills.

The next section of the research focuses on contributory factors affecting the standard of education in South African schools as the level of education forms the basis of the current study. The current level of education at schooling level will provide the basis of the Durban University of Technology’s reasoning for the inclusion of the General Education component into the institution’s curricula.
2.3 SOUTH AFRICAN PUBLIC SCHOOLS

Even though the present government is working to remedy the prevailing imbalances in education, there remains disparities between rural and urban education. Illiteracy rates are at about 18 per cent of adults over the age of 15, around 9 million adults are not technically literate and teachers are poorly trained in township or rural schools (South Africa Info Reporter 2015a). Despite these challenges, much has been achieved since the scrapping of apartheid legislation. For example, black African enrolments have almost doubled from 1994, increasing by 91 percent or 4.4 percent per year and total enrolments have risen by 41 percent or 2.3 percent annually (South Africa Info Reporter 2015a).

A majority of public schools have much larger classes than private schools, despite the average educator to learner ratio being 1 to 30.4 in South Africa (South Africa Info Reporter 2015a). Educator and learner equity still need to be realised. The reason for not achieving student equity is largely due to the poor quality of primary and secondary schooling. The low standard of primary and secondary schooling is a concern for the present government. The key educational problems are in the poorer rural provinces like the Eastern Cape and KwaZulu-Natal but teachers are better trained and schools are generally much better equipped in the more affluent areas like Gauteng and the Western Cape (South Africa Info Reporter 2015a).

The new curriculum, known as the National Curriculum and Assessment Policy Statement (CAPS), focuses mainly on literacy and numeracy and provides very clear recommendations for streamlining what is learned in schools to close the gap between well-resourced and deprived schools (South Africa Info Reporter 2015a).

2.3.1 Rural Schools

Many issues that have a negative effect on good education delivery mark rural schools. Rural areas are secluded and largely under-developed. Because of this isolation, numerous remote communities and their schools are poor and underprivileged and lack the necessary facilities for water, healthcare, infrastructure and transportation, energy and Information technology. The following sections will address the education standards or quality of education in rural
schools in comparison with more well-equipped urban schools. The section will begin by defining the term ‘rural’ and addresses South Africa’s population in the context of education.

### 2.3.1.1 Definition of Rural

According to the Department of Education (2005a:3), the interpretation of the term 'rural' appears to illustrate different rurality characteristics: settlement or demographic patterns; ecological characteristics; political or economic factors; and cultural and social-cultural or historical factors. South African colonialism and apartheid have left a lasting mark on all characteristics of life in the country through land dispossessions, redistribution policies and structural exclusion from opportunities to enhance personal and social well-being, making poverty the most prevalent feature of rural regions (Department of Education 2005a: 3).

Moreover, the Department of Education (2005a:3) states that the rural concept must include traditional authority areas such as predominantly 'community-owned' land in the former homelands, as well as formal rural towns such as mainly industrial farms in formerly 'white' South African regions.

### 2.3.1.2 South Africa’s Population

There have been three official censuses in South Africa since the first democratic election in 1994: The first in 1996, the second in 2001 and the third in October 2011. The population in 1996 was 40.6-million and increased by 10.4 percent to 44.8 million by 2001. The population thereafter increased by 15.5 percent, almost seven million people in the space of 10 years, to reach a total of 51.7 million in 2011 (refer to Table 2.1).

The number of people living in metropolitan areas has risen from 52 percent in 1990 to 62 percent in 2011 and the proportion of those living in rural areas has fallen from 48 percent to 38 percent during the same period (South Africa Info Reporter 2013). Although there was a decrease in percentage of people living in rural areas, the number remains relatively high. Table 2.1 indicates South Africa’s total population according to the country’s latest (2011) statistical data.
Table 2.1  Total Population

<table>
<thead>
<tr>
<th>Population group</th>
<th>Number</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>African</td>
<td>41 000 938</td>
<td>79.2 percent</td>
</tr>
<tr>
<td>Coloured</td>
<td>4 615 401</td>
<td>8.9 percent</td>
</tr>
<tr>
<td>Indian/Asian</td>
<td>1 286 930</td>
<td>2.5 percent</td>
</tr>
<tr>
<td>White</td>
<td>4 586 838</td>
<td>8.9 percent</td>
</tr>
<tr>
<td>Other</td>
<td>280 454</td>
<td>0.5 percent</td>
</tr>
<tr>
<td>Total</td>
<td>51 770 560</td>
<td>100 percent</td>
</tr>
</tbody>
</table>


To conceptualise the rural figures from Table 2.1 and Table 2.2 using examples from three provinces, namely Eastern Cape, KwaZulu-Natal and Limpopo, Gardiner (2008: 8) indicates that 62 percent of public schools are located in these three provinces. More than half of the children between the ages 7 to 18 years old in South Africa are also in the three regions, although not all these schools and children are in the rural parts of the country. For example, the in 2007 Eastern Cape had 1715 rural schools with 357 710 learners; Limpopo had 2 348 rural schools with 929 188 learners; and 2 956 such schools with 1 097 499 learners were in KwaZulu-Natal (Gardiner 2008: 8). Gardiner (2008: 8) points out that the word ‘rural’ becomes very relevant when used in an educational context, with the question of size and scale.

According to the CDE (2014a: 2), the largest single youth concentration in South Africa is from Soweto (375 000), followed by the CBD of Johannesburg (307 000); CBD of Pretoria (205 000); Tembisa township in Ekhurhuleni (161 000); Khayelitsha in Cape Town (124 000); and Soshanguve in Tshwane (114 000). Table 2.2 indicates South Africa’s population by province, according to the country’s latest census statistical data.
Table 2.2 Population by Province

<table>
<thead>
<tr>
<th>Province</th>
<th>Population</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Cape</td>
<td>6,562,053</td>
<td>12.7 percent</td>
</tr>
<tr>
<td>Free State</td>
<td>2,745,590</td>
<td>5.3 percent</td>
</tr>
<tr>
<td>Gauteng</td>
<td>12,272,263</td>
<td>23.7 percent</td>
</tr>
<tr>
<td>KwaZulu-Natal</td>
<td>10,267,300</td>
<td>19.8 percent</td>
</tr>
<tr>
<td>Limpopo</td>
<td>5,404,868</td>
<td>10.4 percent</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>4,039,939</td>
<td>7.8 percent</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>1,145,861</td>
<td>2.2 percent</td>
</tr>
<tr>
<td>North West</td>
<td>3,509,953</td>
<td>6.8 percent</td>
</tr>
<tr>
<td>Western Cape</td>
<td>5,822,734</td>
<td>11.3 percent</td>
</tr>
<tr>
<td>TOTAL</td>
<td>51,770,560</td>
<td>100 percent</td>
</tr>
</tbody>
</table>


The younger generation is actually more knowledgeable than older individuals are and the more educated the younger generation gets, the more they prefer to live in bigger cities. The CDE (2014a: 2-3) indicates that the overall figure for young individuals obtaining higher education is six percent, with the figure rising to ten percent for young people in large metropolitan areas, but falls to three percent in remote areas.

2.3.1.3 Analysis of Rural Schools

When the term ‘rural’ is used in an educational context it becomes an important factor as far as the issue of size and scale are considered. Although there was a drop in the percentage of those individuals living in rural areas from 48 percent to 38 percent, as indicated by the article titled “South Africa two-thirds urbanised” in 2013, this percentage remains relatively high. The overall figure for young people having a higher education is six percent and the figure rises to
ten percent for young people in large metropolitan areas, but falls to three percent in remote areas. With the statistical data provided, one can reasonably assume that there are fewer learners from rural areas achieving higher education than learners from urban areas. However, young people without education are more likely to be unemployed and similarly non-educated older adults.

2.3.2 Infrastructure

Gardiner (2008: 13) postulates that the rural communities in villages are hard to reach and that the physical conditions in rural schools are insufficient for learner education relative to urban schools. While major infrastructural growth has occurred since 1994 according to the National Education Infrastructure Management System, the National Assessment Report 2007 of the Department of Education indicates that many rural schools still lack safe drinking water, energy, libraries, laboratories and technology (Gardiner 2008: 13).

The National Education Infrastructure Management System (NEIMS) noted a more detailed statistic on the lack of resources at public schools across the country. According to Equal Education (2018), the NEIMS study on the lack of resources at public schools across the country noted that of the 24,793 public ordinary schools:

- 3 544 schools have no power, while another 804 schools have an unreliable source of electricity;
- There is no water source for 2402 schools, although another 2611 schools have an inadequate water supply;
- 11 450 schools only use pit septic tank toilets and 913 do not have any ablution facilities;
- 22 938 schools do not have stocked libraries, while 19 541 do not even have a space for a library;
- 21 021 schools have no laboratory facilities, while 1 231 schools have stocked laboratories;
- 2 703 schools have no fencing at all; and
- Around 19 037 schools do not have a computer centre; while another 3 267 have a computer centre-designed room, but do not have computers in stock.
Equal Education (2018) also points that there are currently over 400 schools in the Eastern Cape that are classified as ‘mud-schools’; many of these schools consist of mud and shacks. Gardiner (2008: 13) adds that over one-fifth of Eastern Cape, KwaZulu-Natal and Limpopo schools have over 45 learners per classroom. In addition to the poor infrastructure of schools, many of the schools are grossly under-resourced in terms of reading materials. According to NEEDU (2013: 42), much of the responsibility for improving the poor infrastructure of schools must lie with the provinces, where the budgets for Learning and Teaching Support Material (LTSM) do not provide for supplying schools at the required levels. These are not conducive conditions in which to provide a sound and quality education for young learners.

Figure 2.1 indicates the comparative data of the number of schools that are lacking essential facilities for the year 2011 and 2014. As illustrated in Figure 2.1, there are indications of some improvements in the government’s battle to provide schools with of science and computer laboratories. John (2014:1) from the *Mail & Guardian* newspaper reports that there are specialists within the educational sector who point out that they have seen massive disparities in the data provided and are worried about its reliability. John (2014: 1) notes that the Department of Education has informed the *Mail & Guardian* that there are 260 schools without electricity in the Eastern Cape, 90 without water and 66 without sanitation, but NEIMS estimates that there are 377 schools without electricity in the Eastern Cape, 339 without water and 366 without sanitation. According to the author, if the data’s dependability is questionable, so too will be the quality of provinces’ infrastructure implementation plans.

According to Equal Education (2018), on 29 November 2013, Basic Education minister Angie Motshekga released legally binding school facilities requirements and standards. It has become the law that for the first time in South Africa, every school must have sanitation, electricity, internet, working toilets, safe classrooms with a maximum of 40 students, security and subsequently, libraries, laboratories and recreational facilities (Equal Education 2018).
In summing up, a majority of rural schools in South Africa have poor infrastructure and lack the necessary resources to conduct quality and constructive education for young learners. There were huge disparities between the Department of Education and NEIMS reports regarding the state of schools in the Eastern Cape. John (2014) assumes that if the reliability of the data is in doubt, then the consistency of the implementation plans for infrastructure in the provinces will also be in question. A majority of these rural schools are lacking the basic facilities like clean running water, electricity, libraries, laboratories and computers. These are essential for the proper functioning of schools and a lack of these basics will negatively contribute to the quality of education that rural learners receive. On 29 November 2013, the Ministry of Basic Education issued legally binding requirements and specifications for school facilities and it will now be law that every school must have the basics in order to act as a learning environment.

2.3.3 Educational System

This section addresses issues on functional/dysfunctional schools, teacher accommodation, school time-tabling, attendance of teacher and teacher retention. The issues are pertinent to
student schooling and will highlight the standard and quality of education that learners are receiving within the country.

### 2.3.3.1 Functional and Dysfunctional Schools

The current section highlights that there are more dysfunctional than functional public schools within South Africa. These dysfunctional schools are also contributing factors regarding the standard of education received by learners. Table 2.3 indicates the characteristics of functional and dysfunctional schools within South Africa.

**Table 2.3 South Africa's Twin Education System**

<table>
<thead>
<tr>
<th>Dysfunctional Schools (75 percent of schools)</th>
<th>Functional Schools (25 percent of schools)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak Accountability</td>
<td>Strong Accountability.</td>
</tr>
<tr>
<td>Incompetent school management</td>
<td>Good school management.</td>
</tr>
<tr>
<td>Lack of culture of learning, discipline and order</td>
<td>Culture of learning, discipline and order.</td>
</tr>
<tr>
<td>Inadequate learner and teacher support material</td>
<td>Adequate learner and teacher support material.</td>
</tr>
<tr>
<td>Weak teacher content knowledge</td>
<td>Adequate teacher content knowledge.</td>
</tr>
<tr>
<td>High teacher absenteeism (1 month/year)</td>
<td>Low teacher absenteeism.</td>
</tr>
<tr>
<td>Slow curriculum coverage, little homework or testing</td>
<td>Covers curriculum, more homework or testing.</td>
</tr>
<tr>
<td>High repetition &amp; dropout (Grade 10-12)</td>
<td>Low repetition &amp; dropout (Grade 10-12).</td>
</tr>
<tr>
<td>Extremely weak learning: most learners fail standardised tests</td>
<td>Adequate learner performance.</td>
</tr>
</tbody>
</table>

2.3.3.2 Teacher Accommodation

Gardiner (2008: 11) contends that because land distribution in small towns and villages is within the authority of local government officials and their committees, teachers living in rural communities cannot assume that their homes and plots are for sale or are heritage sites. Such teachers therefore prefer to live an average distance of around 36 kilometres from where they teach, usually in neighbouring towns (Gardiner 2008: 11). The researcher also argues that these rural teachers live in nearby towns because they can use their housing assistance to buy residential property and go to school there with their own children.

2.3.3.3 School Timetable

Taylor (2013) states that the school schedule is adhered to nearly 90 percent of the time in about 70 percent of the schools and that time management is a major problem in about 30 percent of the schools studied in 2012. South African pupils receive schooling of a considerably poorer quality than many of the country’s poorer neighbours (Taylor 2009: 26). The initial issue with most South African schools is a culture that allows for a very loosely confined approach to academic or teaching time.

According to Taylor (2009: 26), the culture of loosely restricted approach to academic or instructional time is evident at four levels:

i. The school day was loosely illustrated, with teachers and learners coming and going in various schools as they please and regular stoppages for a variety of reasons, such as planning for a matric farewell or athletics training;

ii. The timetable is more a guideline than a system requiring strict adherence, and teachers spend much less time in the classroom than the timetable defines;

iii. Once in class, pacing is very slow to meet anywhere close to all the requirements of the curriculum; and

iv. Homework provides an indispensable complement to school time and needs concerted attention from school administrators, teachers and parents, but only two out of five Grade 6 children receive regular homework-oriented support at home.
2.3.3.4 Teaching Time

In South Africa, many teachers devote less than half of their time at school to carrying out their basic function of teaching. According to Chisholm, Hoadley, Kivilu, Brookes, Prinsloo, Kgobe, Mosia, Narsee and Rule (2005: XI), who carried out a national survey in 10 schools:

- Teachers work 41 hours a week on average, out of the total of 43 hours expected;
- 41 percent of the 41 hours per week is spent on teaching, which translates to 3.4 hours a day;
- About 14 percent of the time spent in school is allocated to organizing and training; and
- A total of 14 percent invested is in evaluation, assessment, documentation and record-keeping.

2.3.3.5 Teacher Attendance

Often, teacher attendance is a major concern in schools in South Africa. Spaull (2012) points out a 2007 study conducted by SACMEQ which found that South Africa had the highest teacher absenteeism rate among all 14 African countries that responded to this survey. Spaull (2012) also notes that for Grade 6 teacher absenteeism, the South African average is 20 days (i.e. a whole month) and the bulk of absenteeism (12 days) was due to teacher strikes. The researcher adds that the HSRC made similar findings in their study of educator leave in 2010 that there was a loss due to leave in 2008 between 20-24 days of daily instructional time. Spaull (2012) suggests that the 2010/2011 annual report of the Department of Basic Education shows that an additional 20 teaching days per teacher had been lost during the teachers' strike in 2010.

Taylor (2009: 19) highlights that an analysis of the data obtained from school principals and teachers during research on the Southern and Eastern African Consortium for Monitoring Quality in Education (SACMEQ) shows high levels of teacher absenteeism and late arrival, as stated by principals. The researcher adds that such a problem is particularly prevalent in the system's four poorest income groups, where between 97% and 100% of principals' report that it is an issue, but a sizeable proportion of schools in the wealthiest income group (26%) also report having a similar challenge. Taylor (2009: 19) points out that when school principals became aware of the problem of absenteeism and late teacher attendance, most principals
appeared to shrug and write-off the practice because of the untrustworthiness of buses and trains, absence of participation of teachers or labour involvement.

Table 2.4 refers to Grade 6 absenteeism statistics based on 996 teachers in 2007. There are remarkable differences in provincial teacher absenteeism. Of the four provinces, regarding Grade 6 self-reported teacher absenteeism statistics; there are major variations between the Western Cape and the East Cape, Limpopo and KwaZulu-Natal. It is remarkable that such significant numbers of teachers have been missing for a whole month. KwaZulu-Natal had 73 percent of Grade 6 teachers absent in 2007 for more than a month. In the Eastern Cape there were 12 percent of teachers that were absent for more than 2 months, which is the equivalent of being absent for 1.3 days in a five-day working week.

The CDE (2011:5) adds that while teachers' formal qualifications have increased, current teachers spend very little time in the classroom and many teach inappropriately even when they are in class. The CDE (2011: 5) further points out that according to government studies, many teachers often arrive late, leave early, spend just 46 percent of their time teaching each week and barely teach at all on Fridays. The idea of teachers’ poor school attendance being so widespread nationally is unacceptable.

Table 2.4   Grade 6 Teacher Absenteeism for 2007

<table>
<thead>
<tr>
<th>Provinces</th>
<th>Western Cape</th>
<th>Eastern Cape</th>
<th>Limpopo</th>
<th>KwaZulu-Natal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent absent &gt; 1 week striking</td>
<td>32 percent</td>
<td>81 percent</td>
<td>97 percent</td>
<td>82 percent</td>
</tr>
<tr>
<td>Percent absent &gt; 1 month (20 days)</td>
<td>22 percent</td>
<td>62 percent</td>
<td>48 percent</td>
<td>73 percent</td>
</tr>
<tr>
<td>Percent absent &gt; 1 months (40 days)</td>
<td>5 percent</td>
<td>12 percent</td>
<td>0 percent</td>
<td>10 percent</td>
</tr>
</tbody>
</table>

2.3.3.6 **Teacher Retention**

The South African Council for Educators (SACE) (2010: 21) highlights that the three main reasons cited by teachers for intending to exit the professions are: Distance from School, Low Job Satisfaction and High Stress. Similarly, the Department of Education (2005b: 58) in an earlier study found that teachers placed great importance on the environment in the school, along with teacher salaries. These findings indicate that in an attempt to reduce teacher demand owing to teachers leaving the profession, the environment has to be conducive to retaining teachers. The revision of educator salary scales and new career paths are a step forward in reducing the demand caused by teachers exiting the profession.

SACE (2010: 21) highlights that the potential number of teachers who were willing to leave the profession was more than 55 percent. Teachers who have indicated that they were willing to leave the profession were mainly skilled in technology, natural sciences economics and management. An elemental job satisfaction analysis found that teachers were more likely to leave due to a lack of career progress and recognition, accompanied by a lack of job security and, last but not least, poor educational structure (SACE 2010: 21). The CDE (2015:3) also estimates that the teaching force will have to increase from around 426,000 in 2013 to around 456,000 in 2025 in order to meet the anticipated enrolment of learners, an increase of approximately 30,000 teachers over a 12-year period. According to these statistical data, there will be a great shortfall in teachers by the year 2025. Some of the causes for underperforming schools relates to the operation of two different characteristics of educational systems, as indicated in Table 2.3. Spaull (2012) claims that teachers are far more important than textbooks, and that pupils are unable to learn unless a teacher teaches them the curriculum. The researcher also states that teachers are often unable to teach something that they do not know.

2.3.3.7 **Analysis of the Educational System**

As pointed out above by researchers, teachers living in small towns that are far away from schools they are meant to teach in will have a negative impact on the teachers’ arrival and departure times from schools. Departure times would reduce the opportunity for students to attend after school, restrict the awareness of the teacher about what is happening in the
community and limit their ability to engage in social activities. As highlighted above, the school timetable is adhered to about 90 percent of the time in roughly 70 percent of the schools and time management is a significant problem in about 30 percent of South African schools. Schools cannot do without a school timetable since it is an influential administrative tool. It is extremely significant, even though not many people seem to notice its importance to the school and to them. The school schedule should preferably operationalize the school's goals and objectives by providing the curriculum with an appropriate structural dimension.

In the SACMEQ study, school principals reported a high level of teacher absenteeism and late coming. The CDE also found that many teachers more often than not come late, leave work early, allocate only 46% of their time to teaching every week and never work on Fridays whatsoever. Teachers also leaving the profession due to distance from school, low job satisfaction and high stress has exacerbated the problem. The CDE estimates that the teaching force would have to increase in order to accommodate the growing enrolment of learners. According to the statistical data above, if the problem did not get the necessary attention, then there will be a huge shortfall of teachers.

The inability of principals to practice a tight time management system in their schools suggests a general failure to assume responsibility and exercise control over their own working environment. It appears that South African teachers, administrators and officials have not gone beyond the dependency culture fostered by successive authoritarian regimes. South African policy-makers should take note of their Kenyan counter-parts and consider control measures similar to these when drafting policy documents to ensure that the country’s learners are obtaining the best quality education. The issues surrounding the education system reflect the poor quality of education that learners are receiving in South Africa.

2.3.4 Teaching and Learning Methods

The present section begins with an introduction to the various teaching and learning methods and later within the section. The section also addresses the issues of inappropriate teaching methods and the possible effects thereof on student quality resulting from the inappropriate approaches within the schooling system.
Learners study differently and appreciating their differences will help a teacher to impart knowledge to learners in more appropriate ways. According to Felder and Brent (2005: 58), learners differ in three ways and these differences affect the way they study. The three different ways are namely:

i. Learning styles (i.e. individual ways of absorbing and understanding information);
ii. Learning methods and research instructions (i.e. surface, deep or strategic approach);
and
iii. Intellectual development (i.e. attitudes about knowledge nature and how to learn and evaluate it) (Felder and Brent 2005: 58).

The definition of a teaching method applies to the basic concepts; teaching and learning; and strategies of management used in classroom instruction. The type of method of learning should depend on what suits the teacher, the educational ideology of the teacher, the socioeconomic environment and the subject area(s). Methods of teaching mainly fall into two categories: teacher-centred and student-centred approaches to learning.

2.3.4.1 Teacher-Centred Approach

Referring to Table 2.5 on the subject of a teacher-centred approach to learning, teachers are the main authority figures in the teacher-centred approach to learning model. The main purpose of the student is to passively obtain knowledge (through lectures and direct instruction), with an end goal of examination and evaluation. Teachers' primary function is to share knowledge and information with their learners. The framework considers teaching and evaluation as dual independent units, with student learning assessment performed by objectively scored assessments.

2.3.4.2 Student-Centred Approach

Referring to Table 2.5 on the subject of a student-centred approach to learning, while teachers are, still an authoritative figure in the learning method focused on the students, teachers and learners perform an equally integral role in the education process. The key role of the teacher is to mentor and promote the learning of students and overall subject awareness. Student performance is determined in both theoretical and practical types of assessment, including
group tasks, student assignments and class involvement. Through the process of measuring student learning constantly during teacher instruction, teaching and assessment are connected.

To get a better understanding of these approaches, it is essential to discuss the three main teaching styles in educational pedagogy: Direct Instruction, Inquiry-Based Learning and Cooperative Learning. There are five teaching positions or models, within each of these three major teaching forms. The five teaching positions or models according to Gill (2019), are:

- **Expert**

  An expert is analogous to a mentor. Experts share information, display their skills, direct learners and provide input for enhancing comprehension and learning promotion.

- **Formal Authority**

  Formal authority applies to teachers who have control. Teachers adopt a conventional lecture style and share many of the same attributes as experts, but with much less interactions amongst student.

- **Personal Model**

  The personal model involves hybrid-teaching styles, which combine the best strategies with the appropriate learning outcomes for learners in a responsive format.

- **Facilitator**

  The facilitator designs participatory learning activities and supervises classroom assignments, while sharing information and guidance for critical thought.

- **Delegator**

  The delegator arranges community study, monitors participants, arranges for training, and encourages group and individual engagement to achieve learning goals.
Table 2.5 Teacher and Student-Centred Learning Approaches

<table>
<thead>
<tr>
<th>Teacher-Centred Paradigm</th>
<th>Learner-Centred Paradigm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information is transmitted from teacher to learners</td>
<td>Learners construct information through gathering and synthesizing information and integrating it with the general skills of inquiry, communication, critical thinking, problem solving.</td>
</tr>
<tr>
<td>Learners passively receive information</td>
<td>Learners are actively involved.</td>
</tr>
<tr>
<td>Emphasis is on acquisition of knowledge outside the context in which it will be used</td>
<td>Emphasis is on using and communicating knowledge effectively to address enduring and emerging issues and problems in real-life contexts.</td>
</tr>
<tr>
<td>Teacher’s role is to be primary information giver and primary evaluator</td>
<td>Teacher’s role is to coach and assist. Teacher and learners evaluate learning together.</td>
</tr>
<tr>
<td>Teaching and assessing are separate</td>
<td>Intertwining of teaching and assessing.</td>
</tr>
<tr>
<td>Assessment is used to monitor learning</td>
<td>Assessment is utilised to promote and analyse learning.</td>
</tr>
<tr>
<td>Emphasis is on correct answers</td>
<td>The emphasis is on producing better questions and learning from errors</td>
</tr>
<tr>
<td>Desired learning is evaluated indirectly through the use of objectively scored tests</td>
<td>Assessment of desired learning through papers, projects, performances and portfolios.</td>
</tr>
<tr>
<td>Focus is on a single discipline</td>
<td>Approach is compatible with interdisciplinary investigation.</td>
</tr>
<tr>
<td>Culture is competitive and individualistic</td>
<td>Culture is cooperative, collaborative, and supportive.</td>
</tr>
<tr>
<td>Only pupils are viewed as learners</td>
<td>Teacher and pupils learn together.</td>
</tr>
</tbody>
</table>

2.3.4.3 Inappropriate Teaching Approaches

The teaching methods used by teachers in schools located in rural areas are in many cases inadequate to their unique setting. Inappropriate teaching and learning methods can have dire consequences for the type of education that rural learners receive and will affect their tertiary education later in their lives. A discussion on inappropriate teaching practices such as mono-grade teaching and rote learning in rural schools follows.

Mono-Grade Teaching

In lightly populated areas, multi-grade teaching is in existence. According to Surty (2011: 9), teachers at universities in South Africa are being educated in mono-grade settings, yet there are more than 6,500 multi-grade schools. The current teacher curriculum does not empower teachers to coordinate a multi-grade environment or manage collective research and materials. It is a major stumbling block and as a consequence, teachers have to contend with varying levels of intellectual learners in the same classroom, but the teachers were not actually taught how to teach multiple grades in a school environment (Surty 2011:9). Perumal (2009: 38) conducted extensive research on inclusive education in South Africa and recorded that teachers taught various grade levels and senseless rote learning that puzzled learners instead of empowering them academically.

Surty (2011: 12) posits that the Department of Education acknowledged the need for multi-grade training and collaborated with the Centre for Multi-Grade Education at the University of Technology in Cape Peninsula to train teachers nationally. The preparation is composed of the following:

- Design of the classroom;
- Collective education;
- Self-directed learning;
- Instruction with peers;
- Ways to include learners, administrators, school authorities and the governing society; and
- Management within classroom environments.
Rote Learning

According to Gardiner (2008: 21), the total number of teacher training institutions in South Africa from 1994 to 1998 was 120, but reduced to 50 with a significant percentage of these institutions in rural parts of the country. The researcher states that a large number of such teacher-training institutions were of inadequate quality and qualified teachers used static, memorisation-learning approaches in the classroom. The scholastic ideology-facilitating teacher training is known as ‘Fundamental Pedagogics’. Gardiner (2008: 21) argues that this educational philosophy, established during colonialism, promoted an authoritarian approach to learners and prevented students from questioning or promoting objective reasoning by pupils. A study on MBChB learners at the University of Pretoria found that rote learning is a superficial approach which lacks understanding or insight, whilst a deep approach which requires understanding is needed (Pickworth 2001: 140).

2.3.5 Quality of Educators

The current section addresses the quality of teachers in South African schools, highlighting the factors affecting the quality of teachers within the country, namely teacher training, language of teachers, teacher qualification and teacher content knowledge.

2.3.5.1 Teacher Training

In 2001, the remaining 50 colleges were absorbed into the 27 universities within South Africa, wherein all teacher training is now taking place. Transferring teacher education to universities could have the benefits of improving the performance of teacher education over the longer term. Gardiner (2008: 22) suggests, however, that it has created some short-term issues. For example, as universities have little or no expertise in educating teachers for all of the lower grades, it would have a negative impact on the schooling of pupils in rural and poorer urban regions. The knowledge of the subject-content or the teaching and learning skills that these teachers received during their university training could well have been incomplete. It is important to remember that ‘fully trained and supervised’ are not common terms and can mean different things in South Africa. For example, according to CDE (2014b: 7), ‘majored’ may
mean two years at one of the former teacher-training colleges that many perceive as equivalent to one year at a university. Phurutse (2003: 6) points out that most teachers in small towns only have a three-year teacher certificate and that they have no postgraduate qualifications. A similar study to Phurutse (2003) on higher education in South African schools conducted about eleven years later by Moloi, Mkwanazi and Bojabotseha (2014: 473) also highlighted that teachers in townships and rural areas remain poorly trained.

Large class sizes and the lack of training to teach multiple grades resulted in discontent amongst teachers, which intensified this issue (Brown 2010: 206). An earlier study carried out by Wallace and Adams (1989: 84) confirms that rural teachers are faced with large class sizes and different aptitude of pupils, hence most of these teachers attempt to resolve the situation by rigid teaching styles, aimed at inducing rote learning.

2.3.5.2 Language of Teachers

The use of language in the teaching of potential teachers is a big concern at universities. Coursework at the university is entirely in English, but some learner curricula have not prepared them to read in-depth and focus on educational problems in that language. Gardiner (2008:22) suggests that university courses do not train potential teachers on how to translate their teaching principles and ideas into learners' and their parents' daily experiences. Gardiner (2008:22) further reports that universities prepare prospective teachers to look for ways to make changes in schools and classrooms, rather than teaching them how to function as part of a school team. There has also been increasing concern about the decreasing quality of tertiary-level learners in South Africa because of the level of English linguistic skills due to the fact that so many of these learners come from a small-town background where teachers are not adequately qualified to teach the English language (Tshothsho 2006: 1 & 219).

2.3.5.3 Teacher Qualification

On 18 March 2011, government announced the launching of the National Education Evaluation and Development Unit procedures to be set up in the public schooling system to increase accountability. The Minister of Basic Education, Angie Motshekga, states: ‘When we mapped
the Education Roadmap in 2008, we resolved to ensure the effective evaluation of all teachers based on the extent to which learner performance improves' (CDE 2011: 4). For the government to make such bold announcements on measures, it provides some indication that government is acknowledging that the quality of teaching in South Africa is not meeting the desired standards. Although the CDE supports this intervention and looks forward to successful execution, teachers should not be the easy targets for a large and dysfunctional program (CDE 2011:4). There have also been high-quality teachers in the public education system who produce success despite the challenges. In such a context, the CDE examined the situation within the country involving teacher supply and demand and found that more and better teachers are urgently required in South Africa.

South Africa produces inadequate teachers, particularly in crucial courses such as Mathematics and Science. The teacher education program produces about a third of the country's need of approximately 25,000 new teachers a year. The program needs to generate about 15,000 additional teachers a year, specifically in scarce subject areas such as Mathematics, Science, Business and Technology (CDE 2011: 4). Bauer (2011: 1) from the Mail & Guardian quotes SADTU spokesperson Nomusa Cembi "The starting salary in the teaching profession is low compared to other professions, even though teachers have completed a four-year degree". The low starting salary impedes people from entering the teaching career path. The development and education of teachers is fundamental to creating a sustainable situation. The CDE (2011: 5) points out that many promising professional teachers either emigrate or take up other careers, resulting in thousands of teaching staff being lost each year. The CDE further reports that a quarter, or as much, of all newly qualified teachers often do not even take up teaching positions in South African schools, primarily discouraged by low pay and a poor professional image.

According to the CDE (2011: 4), many existing teachers in Maths, Science, Commerce and Technology are not teaching well and poorly supervised. CDE indicates that the reason is partially that many of them have undergone bad training. In one of the studies, the researchers found that of 73 secondary school physical education teachers from Dinaledi schools in South Africa (with extra mathematics and science resources) who were tested on basic problem-solving skills, only 60 percent were capable of solving the problems (CDE 2011: 4). In South Africa, most teachers are also often under or poorly utilised, although there is a dire shortage of Mathematics teachers, many of these qualified Mathematics teachers are not teaching
Mathematics despite being enthusiastic to do so. The CDE (2011:4) also points out that in a different study their researchers found that 16,581 teachers in the Eastern Cape were qualified teachers, but only 7,090 were actually teaching mathematics and only 5,032 of these had a qualification for mathematics.

There is a sizeable inconsistency regarding the quality of teacher subject qualifications. It appears that teacher education is not a resource priority in many higher education institutions and in some cases, insufficient resourcing for teacher education programmes are observed to have had a negative effect on programme delivery (Council of Higher Education (CHE) 2010: 91). Moreover, the weakness of programme design is certainly more of an obstacle to effective delivery than an inadequate allocation of resources, whilst the incapacity to deliver a quality programme has its origins in an institutional context that does not adequately support programme delivery (CHE 2010: 91-92). Moloi, Mkwanazi and Bojabotseha (2014: 474) believe that serious government intervention is crucial and that universities need to improve the right of entry, affordability and efficiency of all South African youth. Furthermore, the researchers conclude that the failure of funding and supporting a new cohort of high-quality lecturers would contribute to the lack of ability to achieve nationwide and educational aims.

2.3.5.4 Teacher Content Knowledge

Carlsen (1999: 135) believe that pedagogical content knowledge is a form of teacher awareness that covers five broad areas, namely: (i) General Education Context; (ii) Specific Education Relevance; (iii) General Teaching and Learning Knowledge; (iv) Subject Matter Knowledge; and (v) Conceptual Content Knowledge. Figure 2.2 indicates a more detailed structural view of teacher content knowledge. Knowledge of the subject matter is something in the world that is more or less recognizable and learned by instructor training. Awareness of the pedagogic material requires certain aspects of teacher awareness. According to Carlsen (1999: 135), knowledge of the pedagogical material is different, but it is associated to general pedagogical awareness and knowledge of the subject. Therefore, it follows that teachers would have to demonstrate distinct and interconnected knowledge areas in order to effectively plan and direct learning environments that promote an understanding of science and the development of scientific knowledge, while taking into account the needs of various learner groups (Botha and
Reddy 2011: 258). During their teaching practice period is the appropriate time to assess the competence of a teacher or pre-service teacher because it is the induction phase of pre-service teachers into teaching.

Research over the past 20 years has shown that South African teachers, primarily mathematics teachers, have inefficient knowledge of the content matter. Two sections of research conducted 13 years apart suggest that the problem has persisted. The first research were titled “The most definite point of convergence across the [President’s Education Initiative] studies is the conclusion that teachers’ poor conceptual knowledge of the subjects they are teaching is a fundamental constraint on the quality of teaching and learning activities, and consequently on the quality of learning outcomes” (Taylor and Vinjevold 1999: 230). The second research was titled “The subject knowledge base of the majority of South African Grade 6 Mathematics teachers is simply inadequate to provide learners with a principled understanding of the discipline providing teachers with a deep conceptual understanding of their subject should be the main focus for both pre- and in-service teacher training” (Taylor, Van der Berg and Mabogoane 2012: 20-21).

2.3.5.5 Analysis of Quality of Educators

The launching of the National Education Evaluation and Development Unit indicates that the government is acknowledging issues regarding the quality of teachers within the country. In the 2011 CDE report, CDE researchers also indicated that teachers especially in the Mathematics and Science disciplines are badly educated and poorly supervised.

Research has shown that over the past 20 years, South African teachers have inadequate subject content knowledge and as highlighted above, there were two research projects conducted over 13 years apart, which suggests that the problem has persisted. Carlsen (1999: 136) indicated that a teacher’s knowledge should consist of five key knowledge areas. As reflected in Table 2.2, the five areas of focus are: (i) General Education, (ii) Unique Context of Education, (iii) General Pedagogical Knowledge, (iv) Subject Matter Knowledge and (v) Pedagogical Material Awareness. It was also found that majority of the teachers are lacking knowledge in the key areas. A good time to assess the expertise in the field of a teacher or pre-service teacher about
teaching is during their teaching training phase, as it is the transition period of pre-service teachers into education. The poorly trained and managed teachers will certainly contribute negatively on the quality of learners that are completing their final grade 12 certificate. The affected learners will lack the necessary skills that are required for success at higher education.

The other problem of particular concern is that while teachers have completed a four-year degree, the starting pay in the teaching line of business relative to other careers is small. The low starting salary means that many qualified graduate teachers either emigrate or take on other occupations, contributing in a decline of thousands of teachers annually. The shortage of newly qualified teachers who do not take up teaching positions in South African schools is due to the negative reputation of the profession, which discourages many of these teachers, as illustrated above by the CDE.

The issues of low salaries, emigration of teachers, teachers taking up other professions are exerting more pressure on the teaching profession. It is also causing a brain drain within the teaching environment.
Figure 2.2  Teacher Knowledge

2.3.6 Socio-Economic Status

The present section addresses issues regarding socio-economic challenges experienced by many learners and the impact thereof on their quality of education. The section begins by defining poverty. It also addresses the link between the socio-economic status of students and education; significance of socio-economic status for higher learning; and the characteristics of better functioning schools. The section includes an overview of the socio-economic status of other African countries.

2.3.6.1 Definition of Poverty

According to the United Nations Educational, Scientific and Cultural Organization’s (UNESCO) (1998a) press release ECOSOC/5759, ‘poverty is fundamentally a denial of choices and opportunities, and a violation of human dignity’, which implies a lack of fundamental capacity for positive social participation. It means not being able enough to even feed and clothe a family, not getting a school or health centre to go to; not having the property where and when to grow one's own food; or a job to make their living; and not having access to resources. It means vulnerability, helplessness and the exclusion of people, families and societies. It means being prone to violence, frequently involving living in poor or vulnerable areas without access to clean water or sanitation.

2.3.6.2 Overview of Socio-Economic Status

Corrigan (2009) of the South African Institute of International Affairs points out that socio-economic development issues have been identified in six African countries that have received Country Evaluation Reports from the African Peer Review System (APRM), namely Ghana, Rwanda, Kenya, Algeria, Benin and South Africa. All these countries have gone through difficult phases in the relatively recent past. Corrigan (2009) states that the APRM Country Evaluation Report indicates that inequality, land access, inadequate education systems, gender discrimination and poor healthcare systems are common problems amongst these countries. In an article titled ‘How does socio-economic status impact on educational outcomes in South
Africa?’, the University of South Africa (UNISA) (2012) reports that an independent researcher indicated that nearly 75% of all South African children are trapped in poverty and the lack of financial and social capital causes them to go to poorly performing schools.

2.3.6.3 Socio-Economic Status and Education Relationship

The standard and quality of education that an individual receives is a contributing factor to an number of prospects that are available to the individual. The increase in educated individuals will contribute positively to higher levels of labour development. Education is a key factor in a country's socio-economic advancement and plays a key role in developing human capabilities and speeding up economic growth through a society's awareness, abilities and innovative power (Kiani 2015). Kiani (2015) also believes that the positive effects of education include declining poverty and inequality, improving health status and good governance in socioeconomic policy implementation. The lack of meaningful schooling and urban representation in committee membership and office holding leads to reduced involvement in growth programs at the advanced levels (Imoh, Nwachukwu and U-James 2009: 73).

Wall, Pettibone and Kelsey (2005: 153) postulate that socio-economic standing has a substantial influence on a person’s level of involvement related to community engagement, as well as a person’s education standards and income. Angba, Adesope and Aboh (2009: 350) highlight that as a person attains a higher education standard, the attitude of the person towards involvement in community development is likely to increase constructively. Oladipo and Adekunle (2010: 74) believe that people with high educational achievement are generally fast to adopt innovation and that there is a positive connection between both the standard of education and people's cultural-economic position in society. Higher education has provided sufficient proof of its viability over time and of its capacity to adapt and bring about change and development in society. Society has increasingly become more knowledge-based because of the scale and pace of change, so that higher learning and science now serve as critical components of individuals’, societies’ and nations' political, socio-economic and environmentally sustainable growth (UNESCO 1998b).
The most essential part of the debate involves study quality and whether or not this works adequately for the various inputs that might complicate the interpretation of resources. Taylor and Derek (2009: 8) argue that people with higher educational accomplishment and a high socio-economic status are much more inclined to become active in the school group, thus expanding the sense of duty of the school staff towards the parents and contributing positively to the school standard. Several other studies have also shown that parents with a good education history may have a detrimental impact on the education of their children. For example, the statistical models may not adequately account for other inputs that affect student achievement such as the nature of family inputs. The estimates may then erroneously assign the higher student achievement because of better family aspects as compared to some of the school characteristics (Hanushek and Woessman 2007: 64).

2.3.6.4 Socio-Economic Status on Higher Learning

According to Landy (2012), high school students who score in the top 25th percentile on standardized tests, socio-economic background remains the most important indicator of whether they will go on to achieve a college graduation.

With the cost of a four-year tertiary education increasing rapidly, affordability has become a major obstacle for equally intelligent and deserving learners. Landy (2012) points out that high-scoring learners from a poor socio-economic background, according to the 2010 Century Foundation survey, were only around 50 percent likely to actually attend a four-year college as their wealthier peers, but five times more likely to attend no college at all. Landy (2012) notes that the research conducted by the company found that 74 percent of students in highly selective colleges come from the wealthiest socioeconomic market, while only 3 percent come from the bottom fourth.

Data from the United States Department of Education indicate that learners who score in the top 25 percent on standardised tests do not have equal opportunities to pursue secondary education (Landy 2012). The author further states that data indicate that learners from rich socio-economic backgrounds are more than 80 percent more likely to attend a four-year college programme than their peers from a poor socio-economic background. Learners from a poor
socio-economic background are five times more likely to experience no college at all, as shown in Figure 2.3 on socio-economic status. Landy (2012) believes that it is socio-economic factors and not the wealthiest learners that dominate selective colleges simply because they are the smartest.

**Figure 2.3 Socio-Economic Status at Colleges**

![Socio-Economic Status at Colleges](image)

Source: Landy (2012). Adapted.

### 2.3.6.5 Characteristics of Better Functioning Schools

Despite the overwhelming impact of poverty on educational outcomes in South Africa, some properties differentiate between stronger-performing and badly functioning schools. UNISA (2012) reports that the properties of better performing schools usually involve:

- Right to use to textbooks,
- Efficient inventory control systems for textbook stocks, as well as other supporting resources,
- Regular coursework,
- Consistent assessments are carried out and well recorded,
- Existing teaching time is used efficiently,
- Planning of internal curricula and further reporting of curricula, and
An efficient register of teacher attendance and a low level of teacher absence.

2.3.6.6 Analysis of Socio-Economic Status

The current section on socio-economic status has highlighted a relationship between socio-economic status and education, with socioeconomic background remaining the most significant predictor of whether learners will go on to earn a college degree.

When learners start discovering drawbacks in educational opportunities, they may expose a collection of shortcomings, such as failure to engage in community development programs. A greater literacy level is also one of the key contributing factors to favourable attitudes towards involvement in developmental programs. The quality of a country’s education system plays a crucial role in providing a way out of poverty. Literacy and numeracy empower learners to participate in society meaningfully. Learners from poor family backgrounds face an educational disadvantage during their schooling, and since socio-economic status in large measure influences educational outcomes, which then in turn decide the socio-economic status of the next era.

Data from the United States Department of Education indicates that learners who score in the top 25 percent on standardised tests do not have equal opportunities to pursue secondary education and that learners from rich socio-economic backgrounds are more than 80 percent more likely to attend a four-year college programme than their peers from a poor socio-economic background. Finally, as some researchers pointed out, the wealthiest learners dominate selective tertiary institutions not because they are simply the most intelligent but socio-economic dynamics also play a most important role in choices of tertiary institutions by parents. The following section will address the challenges that learners experience concerning General Education.

2.4 GENERAL EDUCATION AT SCHOOL LEVEL

The present section will focus on the learners and teachers’ understanding of the subject matter on Mathematics and language proficiency. The section will also include quality learning,
critical thinking, decision-making abilities and motor skills of learners. The Rauding Theory and Blooms Taxonomy also added to a comprehensible understanding of the General Education challenges of learners.

2.4.1 Mathematics/Mathematical Literacy Levels

The current section presents statistical data on a discussion on teacher knowledge of Mathematics and student knowledge of Mathematics/Mathematical Literacy. The section begins with the teacher knowledge of Mathematics and provides results on the subject of Mathematics/Mathematical Literacy tests undertaken by the South African teachers, as compared with those of the Southern and Eastern African Consortium for Monitoring Education Quality (SACMEQ) sample.

2.4.1.1 Teacher Knowledge of Mathematics

Teachers were required to complete a SACMEQ Mathematics test consisting of 42 items grouped into five mathematical layers: numerical activities; fractions, ratios and percentages; algebraic rationale; rate of change; and location and form. The results on the Mathematics test for the South African teachers in comparison with those of the SACMEQ example is illustrated in Table 2.6.

Table 2.6 Teacher Percentage Scores on Maths Test

<table>
<thead>
<tr>
<th></th>
<th>Arithmetic operations</th>
<th>Fractions, ratio and proportion</th>
<th>Algebraic logic</th>
<th>Rate of change</th>
<th>Space and shape</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SACMEQ</td>
<td>69.55</td>
<td>57.65</td>
<td>48.75</td>
<td>44.47</td>
<td>66.33</td>
<td>57.47</td>
</tr>
<tr>
<td>SA</td>
<td>67.15</td>
<td>49.68</td>
<td>46.51</td>
<td>42.30</td>
<td>56.44</td>
<td>52.39</td>
</tr>
</tbody>
</table>

The teacher test scores percentages in both Language and Mathematics indicate that in South Africa, the Western Cape is in some way the top performing province. However, the picture is different when comparing the top province of South Africa with other African countries. Kenyan teachers, for example, outscore Western Cape teachers with a significant margin in Maths (Taylor, Van der Berg and Mabogoane 2012: 20).

Many of the South African Grade 6 mathematics teachers' subject knowledge base is insufficient to provide a pivotal understanding of the discipline to the learners. Taylor, Van der Berg and Mabogoane (2012: 20) suggest that despite the fact that many of the aspects in the teacher test are centred on knowledge not in the curriculum of primary school, it appears that teachers gain awareness through concepts, procedures and demonstrations to provide students with a versatile, conceptual understanding. The results of the test indicate that teacher performance on knowledge not in the primary school curriculum is inadequate and is not much better on a number of crucially important topics exclusively scheduled in the Grade 6 curricula.

2.4.1.2 Student Knowledge of Mathematics/Mathematical Literacy

The current section addresses student awareness of Mathematics/Mathematical Literacy. The section includes statistical data from the Department of Basic Education regarding the number of learners writing Grade 12 exams and student pass rates.

Mathematics

Between 2011 and 2013, the number of passes obtained by learners in mathematics improved. There was also a sharp decline in the pass rate in 2014. The proportion of all those candidates having passed Mathematics at 40% between 2011 and 2013 has risen from 30.1% to 40.5%. There was likewise a decrease in the year 2014 to 35.1 percent for applicants/students who passed Mathematics at 40 percent. Moreover, there was a decrease in the number of candidates writing Mathematics from 241 509 in 2013 to 225 458 in 2014. The 5.4 percent decline in candidates who passed Mathematics at 40 percent and the declining number of 16 051 learners writing Mathematics in 2014 remains a great concern.

Table 2.7 outlines the overall achievements in Mathematics by learners.
### Table 2.7 Learner Pass Rate in Mathematics

<table>
<thead>
<tr>
<th>Year</th>
<th>No. Wrote</th>
<th>No. achieved at 30 percent and above</th>
<th>Percent achieved at 30 percent and above</th>
<th>No. achieved at 40 percent and above</th>
<th>Percent achieved at 40 percent and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>224 635</td>
<td>104 033</td>
<td>46.3</td>
<td>61 592</td>
<td>30.1</td>
</tr>
<tr>
<td>2012</td>
<td>225 874</td>
<td>121 970</td>
<td>54.0</td>
<td>80 716</td>
<td>35.7</td>
</tr>
<tr>
<td>2013</td>
<td>241 509</td>
<td>142 666</td>
<td>59.1</td>
<td>97 790</td>
<td>40.5</td>
</tr>
<tr>
<td>2014</td>
<td>225 458</td>
<td>120 523</td>
<td>53.5</td>
<td>79 050</td>
<td>35.1</td>
</tr>
</tbody>
</table>


#### Mathematical Literacy

Table 2.8 illustrates the pass rate in Mathematical Literacy.

### Table 2.8 Learner Pass Rate in Mathematical Literacy

<table>
<thead>
<tr>
<th>Year</th>
<th>No. Wrote</th>
<th>No. achieved at 30 percent and above</th>
<th>Percent achieved at 30 percent and above</th>
<th>No. achieved at 40 percent and above</th>
<th>Percent achieved at 40 percent and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>275 380</td>
<td>236 548</td>
<td>85.9</td>
<td>178 899</td>
<td>65.0</td>
</tr>
<tr>
<td>2012</td>
<td>291 341</td>
<td>254 611</td>
<td>87.4</td>
<td>178 498</td>
<td>61.4</td>
</tr>
<tr>
<td>2013</td>
<td>324 097</td>
<td>282 270</td>
<td>87.1</td>
<td>202 291</td>
<td>62.4</td>
</tr>
<tr>
<td>2014</td>
<td>312 054</td>
<td>262 495</td>
<td>84.1</td>
<td>185 528</td>
<td>59.5</td>
</tr>
</tbody>
</table>

An almost similar scenario prevailed in mathematical literacy. The percentage of passes achieved by learners in mathematical literacy decreased in 2012 and increased in 2013. There was also a decline in the pass rate 2014. The ratio of those candidates who passed mathematical literacy at 40 percent has decreased from 65 percent in 2011 to 61.4 percent in 2012. There was a slight improvement 2013 to 62.4 percent for candidates who excelled in mathematical literacy at 40 percent. There was also a decrease in the number of candidates writing mathematical literacy from 312 054 in 2013 to 312 054 in 2014. The 2.9 percent decline in candidates who passed mathematical literacy at 40 percent and the declining number of 12 043 learners writing mathematical literacy 2014 also remains a great concern. Table 2.8 outlines comparative figures.

Figure 2.4 illustrates the number of learners writing Mathematics and Maths Literacy

Figure 2.4  Learners Writing Mathematics/Maths Literacy

![Figure 2.4 Learners Writing Mathematics/Maths Literacy](image)


One area of specific concern is the tendency for more learners to opt for the less demanding alternative of mathematical literacy rather than mathematics (Refer to Figure 2.4 for statistical
data), implying that the vast majority of school-leavers’ access would indeed be challenging to university courses in the fields of science, technology, medical or engineering.

2.4.1.3 Analysis of Mathematics/Mathematical Literacy Levels

The teacher percentage on test scores of both language and Mathematics reveals the Western Cape to be the uppermost and top accomplished province in South Africa. On the other hand, judging South Africa’s top province against other African countries validates that South African teachers are lagging behind their Kenyan counterparts. The results as stated above also suggest that most South African Grade 6 Mathematics teachers’ subject knowledge and experience is insufficient to provide a key awareness of the curriculum to learners.

The statistical data illustrates a 5.4 percent decline in candidates who passed Mathematics at 40 percent, with a decline of 16 051 learners writing Mathematics in the year 2014. There is also a 2.9 percent decrease in candidates who passed mathematical literacy at 40 percent, with a decline of 12 043 learners writing mathematical literacy in 2014. The decline in pass rates for both Mathematics and Mathematical Literacy is of concern, as it will mean that university modules such as science, technology, medical or engineering domains are shut to the incalculable majority of learners who have completed their Grade 12 education.

Due to an unforeseen delay of the current study, further research took place regarding the Mathematics results. It was reported that, somehow, the percentage of students having progressed in 2016 was 71.3 per cent for Mathematical Literacy, but again the 361 865 candidates who wrote only managed to get an average of 37 percent (Swanepoel 2017: 1). In just the typical subject of Mathematics alone, the pass rate of the 265 810 students was 51.5%.

However, not even the 8 070 distinctions in the subject were adequate to raise the class average score to beyond 30.8% (Swanepoel 2017: 1). The researcher thus notes that South African Mathematics Foundation Executive Director Professor Johann Engelbrecht suggests, “The fact that pupils aren’t mastering this subject indicates that there’s a bigger problem at an overwhelming majority of our public schools”. It is concerning that, subjects like those of
Mathematical Literacy and Mathematics are fields where pupil achievement has been significantly low since 2011.

2.4.2 Language Proficiency

An overwhelming majority of South African parents want their children to undertake English median schools and the use of English as a language of education (de Klerk 2000: 203), although most of these parents have limited knowledge of the English language themselves. Tshotsho (2006: 2) contends that those parents prefer English as an instructional medium because of its popularity as the primary language of Science and Technology and its significance for providing contact across cultural barriers, both locally and internationally. Ngidi (2007: 87) further endorsed the results, pointing out that parents in South Africa have a positive attitude towards the use of English, as it a globally recognized language with a positive influence for better job prospects. Rammala (2002: 200) indicates that despite teachers having a limited level of competence in English, a majority of parents still prefer English medium schools for their children.

Fakeye and Yemi (2009: 490) suggest that excellence in the English language is a strong predictor and a positive contributor to academic achievement. Cheng's (2007: 588) research on instructional development in the Accounting domain at universities emphasizes the importance of English when it is included in the course syllabus. Rauchas, Rosman, Konidaris and Sanders (2006) assert that the language courses learned in high school have become greater reliable indicators of academic achievement at tertiary level. In South Africa, although not proven statistically (only 9.6 percent of people within the country have English as a home language), English is viewed as a dominant linguistic only in the media, commerce, politics and international communication. Table 2.9 provides a more a detailed breakdown of the country’s population by language. English is, according to Gardiner (2008: 20), a key to other forms of higher education, jobs and privileged position.

NEEDU (2013: 41) points out that there were several well-organized and well-stocked reading corners regarding the display of books in the classrooms, but by contrast, many other classrooms contained very few books. NEEDU (2013: 42) suggests that in many such schools,
the 'reading corner' status points to the teacher's general apathy and disinterest in promoting learner literacy. The lack of reading from learners will have an impact on their comprehension skills, language proficiency and ultimately on their tertiary education for the reason that a majority of the tertiary institutions' examination papers are usually in English and responded to in English. However, in addition to the lack of language skills, many South African students consider English their second language and that this poses an obstacle for these students from achieving good results in the test.

Table 2.9 South Africa’s Population by Language

<table>
<thead>
<tr>
<th>Language</th>
<th>Number of speakers</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afrikaans</td>
<td>6 855 082</td>
<td>13.5</td>
</tr>
<tr>
<td>English</td>
<td>4 892 623</td>
<td>9.6</td>
</tr>
<tr>
<td>IsiNdebele</td>
<td>1 090 223</td>
<td>2.1</td>
</tr>
<tr>
<td>IsiXhosa</td>
<td>8 154 258</td>
<td>16</td>
</tr>
<tr>
<td>IsiZulu</td>
<td>11 587 374</td>
<td>22.7</td>
</tr>
<tr>
<td>Sepedi</td>
<td>4 618 576</td>
<td>9.1</td>
</tr>
<tr>
<td>Sesotho</td>
<td>3 849 563</td>
<td>7.6</td>
</tr>
<tr>
<td>Setswana</td>
<td>4 067 248</td>
<td>8</td>
</tr>
<tr>
<td>Sign language</td>
<td>234 655</td>
<td>0.5</td>
</tr>
<tr>
<td>SiSwati</td>
<td>1 297 046</td>
<td>2.5</td>
</tr>
<tr>
<td>Tshivenda</td>
<td>1 209 388</td>
<td>2.4</td>
</tr>
<tr>
<td>Xitsonga</td>
<td>2 277 148</td>
<td>4.5</td>
</tr>
<tr>
<td>Other</td>
<td>828 258</td>
<td>1.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50 961 443**</td>
<td>100</td>
</tr>
</tbody>
</table>


2.4.2.1 Language Proficiency of Learners

There seems to be a strong link between the learning of language by pupils in their primary years and their ability to learn, and that it should happen at an extremely young age (CDE 2014:
Learning comes into play via the language medium, but if either teachers or the learners are not knowledgeable in the Language of Learning and Teaching (LoLT), then learning is exceptionally difficult.

At the beginning of their formal education, a number of South African youngsters are educated in their native language and would then move to another language of learning and teaching throughout Grade 4 (CDE 2014: 16; Taylor and Coetzee 2013: 1; Surty 2011: 10 and Gardiner 2008: 20). The ‘different language’ that the authors are referring to is normally English. Surty (2011: 10) points out that although learners change the language of teaching and learning from Setswana to English at Grade 4 and switch to English at this stage, they would be at a significant disadvantage when it comes to literacy and numeracy accomplishment and academic development.

Several schools have picked out English or Afrikaans as the LoLT for a prompt start to ensure a smooth transition, even as early as Grade 1 (NEEDU 2013: 38; Taylor and Coetzee 2013: 1). However, in public schools, particularly in towns and villages such as Soweto in which many African languages are spoken, it would be challenging for a school to decide on a native language for making the LoLT and it therefore often chooses English (CDE 2014: 16). Research carried out by Taylor and Coetzee (2013:3) highlights a strong link regarding English teaching in grades 1, 2 and 3 and English success in levels 4, 5 and 6. The above argument has been summarised by a report conducted of the Independent Examinations Board (IEB) on some kind of comparison of the English language skills of Grade 9 learners with the International Standardized Tests and their corresponding performance at the culmination of Grade 12 assessments of the IEB. The study showed that there is indeed an important association between English language skills as young as Grade 9, as well as the average number of distinctions learners get in Grade 12 (Oberholzer and Sidiropoulos 2013: 9). The results of Oberholzer and Sidiropoulos endorse previous English language proficiency studies inferentially as a measure of academic achievement.

The influence in changeover of learners taught in their mother tongue to a different language of learning and their language proficiency lays in the performance of learners’ matric results. The matric pass rate might have improved, but any optimism about the matric results for 2016 may very well be inappropriate. Swanepoel (2017: 1) highlights that basic education minister
Angie Motshekga states that the improvement in the rate of matric passes from 70.7 percent in 2015 to 72.5 percent in 2016 points that the academic structure is moving in the right direction. Swanepoel (2017: 1) indicates that even the average scores for non-scientific subjects does not demonstrate the enthusiasm of a higher pass rate:

English home language: 54.7 percent average mark (107 967 candidates with a pass level of 94 percent) and

English first additional language: 49 percent average mark (547 292 with a pass amount of 97.4 percent).

Tshepo Motsepe, Secretary-General of NGO Equal Education emphasises that matric outcomes are not valid due to the fact that they only display the grades of those who have been able to stay in the program for 12 years and do not disclose how many dropped out of the school system (Swanepoel 2017: 1).

2.4.2.2 Language Proficiency of Teachers

SACMEQ carried out a test essentially on teachers’ reading abilities and all items put forward were in the form of multiple-choice. The study included understanding tests on 11 different texts, spanning from those who have relatively basic vocabulary and grammar to somewhat complex technical explanations and long, complicated passages. The results of the South African teachers were evaluated in comparison with those of the total SACMEQ sample. Table 2.10 provides the language test scores of teachers.

<table>
<thead>
<tr>
<th>Table 2.10 SACMEQ Language Test Scores of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Retrieve</strong></td>
</tr>
<tr>
<td>SACMEQ</td>
</tr>
<tr>
<td>SA</td>
</tr>
</tbody>
</table>


According to Taylor, Van der Berg and Mabogoane (2012: 20), Grade 6 language teachers did not perform well on the SACMEQ reading test. Teachers performed much better on topics that
needed little more than the extraction of specifically mentioned material in the document. The output generally fell as soon as complex cognitive mechanisms became necessary to respond to questions. There were some good scores recorded on items requiring straightforward inferences, but regarding matters, involving interpretation and evaluation were usually very poorly completed.

Nel and Muller (2010: 646) highlight that if the medium of exchange of information is unclear and impeded by poor English skills on the part of both the learner as well as the teacher, then the transfer of knowledge can often not be successful. The researchers also note that the language problems that new teachers frequently face include the school's LoLT; questionable informal access of learners to English; the expectations of teachers regarding their own needs; and English skills. The researchers also point out that teacher's preconceived notions of the degree of support they offer to ESL pupils, their interpretations of a multicultural learner's differentiated performance evaluation and insufficient availability of ESL services contribute to language issues.

### 2.4.2.3 Language and Mathematics Relationship

Abedi and Lord (2001: 219) claim that language plays a significant role in the achievement of Mathematics, as learners are required to understand word problems. Perhaps unsurprisingly, one of the main elements that negatively impacts South African Mathematics excellence has been identified as limited English between some of teachers and pupils throughout the LoLT (Zenex Foundation 2007:6).

Hofmeyr (2012:1) states that it is important to have what experts call 'Cognitive Academic Language Proficiency' (CALP). CALP is a skill level that allows for the mastering of abstract concepts and technical language. With the absence of CALP in English, learners in mathematics and science cannot achieve high grades and teacher-training programmes have some degree of impact on pupil performance (Hofmeyr 2012: 1). In 2012, NEEDU (2013: 34) evaluators highlighted that many foundation-level teachers who favoured the English method of home language thought that subject-definite expressions made learning Mathematics problematic in a language not in English.
2.4.2.4 Reading Proficiency

Reading is one of the most essential skills that children learn in the early childhood years. As soon as children can read, it is possible for that child to undertake independent solitary work. It is very disturbing that there is a non-present reading culture in rural towns and communities (Gardiner 2008: 21). Children can gradually be familiarised into non-oral forms of speech, the principles of which are frequently contradictory to those of oral types. However, school reading is also completely separate from non-school reading (Bernstein 2003: 204). With an improved readability, the child is less reliant on the teacher and therefore has access to different points of view. Children who are not able to comply with sequential instructions become more reliant on the instructor and on the oral forms of discourse (Bernstein 2003: 204).

Perumal's (2009: 38) research on integrated academic performance in South Africa claims that small towns and rural communities were inadequate and lacked the tools to act properly as centres of learning. It would be difficult to find material in printed form; very little to no books, magazines or newspapers in home environment or other areas; and libraries are non-existent (Gardiner 2008: 21). The language landscape in small towns and rural communities seem to be affluent in one or two languages, according to Gardiner (2008: 21), but that affluence is part of a specific standard of living, which may not consist of much that is up-to-date and modern. Language skills rely on overcoming obstacles, attempting to find ways to talk, read, and write about the new and perhaps even the unfamiliar. An area without resources cannot promote the development of languages.

There is nothing expected of Grade 2 learners in relation to reading fluency in view of the fact that there are no reading norms established for South African pupils. However, there is an instrument with a comprehensive rigorous set of standards developed for American pupils, where the top learners in Grade 2 read at an overall rate of about 125 words a minute by mid-year. According to NEEDU (2013: 39), an average learner reads in the region of about 70 words a minute, while slower learners read at an average speed about 20 words a minute. Table 2.11 describes the suggested temporary set of reading norms for South African learners, modified from American norms.
NEEDU (2013: 40) notes the most striking feature that 72 percent of the three best pupils of each class considered were reading below an average Grade 2 student level, as well as 22 percent were on or below the poor standard. Moloi, Mkwanazi and Bojabotseha (2014: 473) also point out that the prevalence of illiteracy rates now stands at about 18 percent of adults over the age of 15, which translates into around 9 million non-functionally literate adults. According to NEEDU (2013: 40), it was encouraging to observe that in 14 schools, the mean fluency score is 110 words a minute or greater, going higher at a rate of 160 words a minute for the fastest reader in the sample.

The outcomes from NEEDU’S reading research suggest that reading confidence and aptitude in both the Foundation and Intermediate stages is alarmingly low and constitutes a national crisis. Poor reading fluency and proficiency could therefore certainly affect other grades of schooling. CDE (2014: 16) highlights that learners' poor reading skills have also been receiving awareness from the South African language researchers in Mathematics instruction examining the relationships concerning learners' language skills, especially in English, and their ability to read and perform in Mathematics. Table 2.11 illustrates a suggested interim set of reading standards for South African learners, adapted from American models.

**Table 2.11  Recommended Oral Reading for Grades 1 - 3**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Level of learner</th>
<th>Number of words per minute</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>By the end of term 2</td>
</tr>
<tr>
<td>1</td>
<td>Top</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Bottom</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>Top</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Bottom</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Top</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>Bottom</td>
<td>35</td>
</tr>
</tbody>
</table>

2.4.2.5 **Academic Writing Proficiency**

The present section begins by defining academic writing and the demand for it in higher education. It is necessary that the meaning of academic writing is clarified and one is made aware of it due to its complexity and the need for it.

**Definition of Academic Writing**

It is problematic to provide a concise definition of academic writing because it becomes difficult to get around since it applies to writing done for many purposes and academic writing is utilised in several different ways. The dictionary describes academic writing to some extent as writing done to meet a higher education requirement, which requires articles that are read or delivered at conferences by teachers and researchers (Anon. 2019b).

A general explanation of academic writing could consist of any writing assignment specified in an academic situation. Nordquist (2018), a specialist in grammar and composition, describes academic writing as types of expository and argumentative style used by university learners and researchers to communicate a body of information on a particular topic. The academic writing should typically be correct, semi-formal, impersonal and objective.

**Purpose of Academic Writing**

Academic writing is not intended to expose everything the learner knows about the subject, but rather to demonstrate that the learner understands the topic and is able to think critically about it (Whitaker 2009:2). Academic writing encourages a learner to acquire important skills in reading, assessing knowledge, arranging, debating, reacting to the arguments of others, analysing and clearly expressing the learner in writing, including English (Whitaker 2009: 2). Employers and companies value all these essential skills.

**Characteristics of Academic Writing**

Since clarifying the definition of academic writing, it becomes equally necessary to understand the characteristics of academic writing.
According to Anon. (2019b), some of the important features of academic writing are:

- There is also some amount of preparation, before a learner starts writing, to be critical and well-coordinated;
- For academic writing, a clear outline is important. A sketch will formulate ideas, but sometimes will make the learner mindful of some conceptual connections. It will assist to govern relevant evidence that should be incorporated into the paper;
- It uses formal tone and omits slang terms, phrases, acronyms or other clichés;
- Vocabulary must be simple and the words must be chosen for their accuracy;
- The third person's point of view, as academic writing focuses on educating on the truth, does not encourage a belief; and
- Logic and reasoning is a huge part of academic learning, as readers pursue the route leading only to the conclusion.

Writing in Mathematics

The impact on the quality and quantity of learners’ writing in Mathematics is not well studied in South Africa and the significance of writing is only starting to be realised. The CAPS official documents are consistent about the amount and type of writing that learners anticipate in academic subjects such as language, but not so in Mathematics.

Taylor (2011: 7) highlights that writing in South African classrooms, particularly for children from poor homes, seldom took place and that this lack of writing must be characterised as one of the huge weaknesses in the schooling system. Taylor (2011: 3) goes on to state that a huge and statistical but substantial negative influence on literacy grades happens when no paragraph length writing takes place over a period of one year and that a more positive influence was found when more than 27 writing exercises of all types were counted in learners’ English workbooks.

The low number of learners who write in Mathematics is correspondingly a concern. In 2012, NEEDU conducted an assessment on the Foundation Phase in urban schools that focussed on the number of learners’ exercise-writing books in Mathematics. NEEDU (20012: 47) highlights that majority of classes that have being visited, it was noted that far too little writing was
undertaken and there was not enough progress relating to the quantity of writing as learners moved from Grade 1 to Grade 3.

**Writing Skills**

A CIMA career demands that learners be skilled in writing reports, achieved by academic writing. Management reporting is about supplying statistics within an organization to people that guide and influence its operation. Taylor, Van der Berg and Mabogoane (2012: 13) state: “The degree to which information is re-formulated or manipulated through writing has an impact on how well the information is integrated, learned and retained”. Reports have to be written to those within the organization for planning, budgeting, motivating of staff and performance evaluation. Much emphasis is placed on decisions affecting the future and timeliness of information is essential. Management Accounting therefore provides crucial data with which the organization actually operates.

Ramos (2010: 31) points out that reading strategies and writing skills have a positive correlation. Such results show that reading strategies are worthwhile predictors of writing skills. Tshotsho (2006: 1) believes that tertiary-level South African learners face additional difficulties when writing in English, particularly when the language is foreign to them, and that these learners have not yet attained adequate levels of proficiency to encourage them to cope with written English as used in the academic communication channel. Banda (2003: 118) was also concerned about the standards of academic writing amongst learners at tertiary level due to the degree of aptitude in the English Language.

### 2.4.2.6 Analysis of Language Proficiency

Researchers Surty, Gardiner and the CDE both found that a large number of South African students are being educated in their mother tongue at the foundation stage of their formal schooling career and then turn to English in Grade 4 for learning and teaching purposes. If the English language is adopted very late, then the transition from mother tongue to English in terms of the language of learning and teaching is to detriment of learners.
A study by Taylor and Coetzee found an optimistic association concerning English instruction with the first three grades and English achievement with grades 4, 5 and 6. The positive association was further supported by a study that was conducted by the IEB, where it was found that a substantial relationship exists between English language skills as early as Grade 9, and the average number of accolades that learners gain in Grade 12.

The finding of NEEDU research into reading indicates that reading fluency and the ability of learners at the Foundation and Intermediate Phases is disturbingly weak, which is a national crisis. Therefore, reading fluency and proficiency could also certainly affect other grades of schooling. Research studies also found that Grade 6 language teachers in the SACMEQ reading test did not perform well. South African language and mathematics education researchers analysing the associations between language skills of the learners and their ability to read and excel in Mathematics also found that learners' reading skills were of poor quality. The research findings have similarly pointed out that if learners can read independently at around 50 words a minute by the end of Grade 1, then they are likely not to struggle for the remaining time of their schooling careers. Pupils must learn to read far more than they are presently doing in schools in order to improve their comprehension skills. Reading trust and understanding may have grown if teachers use strategies to expand the abilities of learners by giving them more reading and evaluating more difficult questions of understanding that involve inferential and interpretive reasoning.

The issue of pupils learning in their mother tongue at the start of their formal schooling careers and thenceforth switching to English in Grade 4, together with the poor quality of language teachers, will negatively affect the learner’s ability in English. These learners are going to have trouble in higher education due to the poor quality of language and communication skills that they are receiving earlier in their schooling careers. Even though many South African learners in higher education regard English as a second language, the Durban University of Technology together with other tertiary institutions set examination papers in English and learners answer the examinations papers in English.

The findings above indicate that there are positive correlations between reading and writing proficiencies and that reading strategies are valuable tools of writing aptitude. The process of academic writing has to be done in a meticulous way and research has shown that academic
writing is an essential tool at tertiary education levels. Learners who are proficient in researching, evaluating evidence, organizing, arguing, reacting to others’ arguments, analysing and expressing will develop good academic writing skills.

In view of the fact that the issue of language proficiency and numeracy have adequately addressed, it becomes equally important to consider and examine motor skills since it may influence students’ quality of learning.

2.5 THE GENERAL EDUCATION PREREQUISITES OF PROFESSIONAL ACCOUNTING BODIES

The present section addresses the aspect of General Education skill requirements of Accounting learners from the point of view of professional Accounting bodies. The study discusses the international education skill requirements standards as set out by the International Federation of Accountants (IFAC). The current section also reports on communication, technical and soft skills for Accounting graduates to be successful and effective and for continued growth by professional bodies.

2.5.1 International Federation of Accountants

IFAC is a worldwide body for the Accounting profession, committed to serving the community interest by improving the discipline and assisting in the development of strong foreign economies. Deloitte Global Services (2019) highlight, that IFAC comprises more than 179 associates and has members in 130 countries and territories, comprising nearly 2.5 million accountants in public Accounting, education, government, business and trade.

2.5.1.1 Purpose and Scope of International Education Standards (IES)

International Education Standards 3 recommends a mixture of skills that applicants need in order to be suitable as qualified Accountants, according to IFAC (2008a: 59). Much of the aim
of IES 3 is to illustrate how and where to obtain General Education in a variety of ways in different environments, which can potentially contribute to the growth of the mixture of skills.

IFAC (2008a: 59) asserts that the objective of IES 3 is to ensure that applicants for affiliation to an IFAC member body are fully prepared with the correct mixture of skills, such as academic, personal, technical, interpersonal and organizational, to perform as proficient Accountants. Such skills would enable accountants to work as competent professionals in an ever more dynamic and challenging environment during their careers.

Fawcett (2015: 12) believes that the soft skills and General Education skills that professional accountants require are the following:

- Intellectual skills (knowledge, understanding, analysis, application, synthesis and evaluation);
- Technical and functional competencies (numeracy, measurement, reporting, decision making, compliance);
- Personal competencies (self-management, resourcefulness, prioritize, adapt, incorporate ethical values in decision-making, career scepticism);
- Interpersonal and communication competencies (work/communicate with others); and
- Organizational and business management skills (motivation, planning, leadership).

According to IES 3, the skills indicated above are important for persons on the lookout to becoming skilled accountants. IFAC (2008a: 59) suggests that IES 3 similarly attempts to address non-business studies which encourage the development of both the prerequisite talents and may even be part of General Education learning. IES 3 does not include specialized Accounting learning, ethical standards, principles and behaviours, criteria for practical experience or professional competency evaluation.

2.5.1.2 Overview of IES 3

Talents constitute a part of a set of skills needed by competent accountants to display professionalism. IFAC (2008a: 59) notes that competencies consist of expertise, talents, specialized standards, ethics and attitudes, and that competences are an example of future
capabilities that can be applied through various surroundings. It would be important to ensure that technical Accounting training programs incorporate the above capabilities.

The increased preference of employers, stakeholders and persons regarding qualified accountants who contribute to the workplace and to society have typically triggered a greater focus on professional expertise. IFAC (2008a: 60) indicates that the qualifications requirements enable eligible accountants to effectively leverage the information acquired from General Education. IFAC further emphasises that criteria for skills requirements are not obtained from individual courses dedicated to them, but from the cumulative impact of specialized Accounting training, programming and experience in the field, developed further through lifelong personal learning. IES 3 classifies the skills as: (i) Intellectual; (ii) Technological and Functional; (iii) Personal; (iv) Interpersonal and Communication; and (v) Skills in Organizational and Business Management (IFAC 2008b: 39). According to IES 3, the acquisition of the aforementioned skills is crucial for learners owing to be specialized accountants. In addition, the above-mentioned skills will give qualified accountants a competitive edge in the market place, according to IFAC (2008b: 40), and are useful throughout the career of the accountant. However, IFAC (2008b: 40) adds that at the point of qualification, not all of those skills will be completely developed. Many of these skills may be the subject of the continued growth of the profession.

While not an end in itself, a strong base in General Education is one way of helping people become wide and diverse-minded individuals who can understand and interact effectively and who has the framework for conducting investigations, carrying out rational thought and performing critical evaluation (IFAC 2008b: 40). IFAC (2008b: 40) highlights that the foundation would allow candidates to take decisions in a broader sense of society; employ sound judgement and professional skills; help connect with different groups of people; encourage them to think collectively; and start the cycle of professional development.

2.5.1.3 International Skills Requirements of Accountants

As indicated by IES 3 in an earlier paragraph, learners in search of becoming specialized accountants ought to equip themselves with the following:
- Intellectual;
- Technical and functional;
- Personal;
- Interpersonal and communication; and
- Organizational and corporate management talents and General Education requirements.

The next section will focus on an in-depth discussion on the skills outlined above.

**Intellectual Skills**

Bloom’s Taxonomy (1956) highlights that intellectual talents are often distributed into six levels, as indicated in the section titled ‘Models and Theories Section on Quality of Learning’. The six stages are Information, Comprehension, Implementation, Analysis, Synthesis (combining knowledge from a number of areas, predicting and drawing conclusions) and Evaluation.

IFAC also reaffirms the skills. IFAC (2008b: 40) is of the opinion that the analytical skills needed should include:

- The aptitude to find, collect, organize and understand evidence from human, print and electronic sources; aptitude to locate, acquire, organize and understand information from human, print and electronic sources;
- The aptitude to analyse; study; logical and critical thinking; rational and critical analysis ability for analysis; and
- The aptitude to ascertain and solve unstructured complications that may be in unfamiliar surroundings.

According to IES 3 the above-mentioned intellectual talents enable professional accountants to resolve issues, make sound decisions and implement good judgment in difficult organizational circumstances (IFAC 2008b: 40). These intellectual skills often form part of broad General Education.
Technical and Functional Skills

Technical and organizational skills are composed of general competencies as well as Accounting skills. According to IFAC (2008b: 41), the skills take account of:

- Numeracy and IT aptitude;
- Decision modelling and risk analysis;
- Measurement;
- Reporting; and
- Conformity regarding regulatory and legislative standards.

Personal Skills

According to SAICA (2010), personal skills include the following:

- Fully independent management;
- Self-learning, motivation and initiative;
- Resource allocation (within time limits); and
- Customizability.

IES 3 notes that personal competencies are associated to qualified accountants' attitudes and behaviour (IFAC 2008b: 41). Personal competence growth can assist with independent learning and personal advancement.

Interpersonal and Communication Skills

SAICA (2010) suggests that interactive and communication talent includes the aptitude to:

- Collaborate with people/conflict resolution;
- Diversity issues;
- Dealing with appropriate results;
- Teamwork;
- Exhibition of points of view; and
- Effectively pay attention and read.
IES 3 notes that interpersonal and communication expertise enable qualified accountants to collaborate with individuals for the organization's mutual interest; obtain and communicate information; shape sound judgments; and make efficient decisions (IFAC 2008b: 41).

**Organizational and Business Management Skills**

SAICA (2010) highlights that the components of organizational and business management expertise include:

- Planning, project management and people management;
- Delegation;
- Coaching and mentoring;
- Leadership; and
- Broad business outlook/political awareness/global perspective.

IES 3 proscribes that skills in institutional and corporate management are becoming progressively essential to skilled accountants who are being requested to play a more pivotal role in the everyday management of companies (IFAC 2008b: 42). Up to that time, professional accountants’ position may well have been limited to the collection of data used by everyone but, nowadays, qualified accountants also form the backbone of the judgment-making team. Accordingly, IES 3 suggests that it is necessary for qualified accountants to comprehend all facets of how a company works and they must therefore develop a broad market view, political understanding and a global perspective (IFAC 2008b: 42).

**General Education Requirements**

IFAC (2008b: 42) claims that every specialized education curriculum should take account of a certain percentage of General Education and that this comprehensive General Education will make a significant contribution to the development of professional competences. General Education necessities vary significantly with each programme and with each country. IES 3 prescribes that General Education will focus on developing non-professional knowledge, intellectual expertise, personal expertise, interpersonal and communication expertise and management and organizational expertise.
IFAC (2008b: 42) claims that General Education will encourage lifetime education and provide a groundwork for technical and Accounting studies to draw on. IES 3 notes that the following may include General Education:

- Considering the movement of thoughts and activities in the past, the diverse traditions of the contemporary world, as well as a foreign outlook;
- Fundamental human behaviour awareness;
- Common sense of the world's wide range of ideas, problems and cultural, political and social forces;
- Experience of descriptive data analysis and assessment;
- Capacity to analyse and perform critical thought;
- Enable critical thinking;
- Admiration of art, literature and science;
- Knowledge of personal and social beliefs and investigation and decision practice; and
- Knowledge of making important judgments (IFAC 2008b: 43).

General Education can come into being through a wide variety of ways and in various conditions. IES 3 stipulates that General Education, namely Accounting, financial and specific skills; corporate and business expertise; and information technology awareness can be undertaken at any point in a degree program with a combination of the qualified Accounting topics curriculum (IFAC 2008b: 43). IES 2, in the section ‘Content of Professional Accounting Education Programs’, also details the aspect of General Education. IFAC (2008b: 43) states in IES 3 that General Education can also be entirely incorporated into Accounting degree curricula, allowing for the development of strategic expertise all the way through the curriculum.

### 2.5.1.4 Analysis of IFAC

IES 3 prescribes that learners aspiring to become qualified accountants will acquire skills such as: (i) Intellectual; (ii) Technological and Functional; (iii) Personal; (iv) Interpersonal and Communication Skills; and (v) Skills In Organizational and Business Management. Fawcett (2015: 12) affirms that the professional skills prescribed by IES 3 are important tools or requirements that all accountants should develop.
Professional skills could be acquired and developed through non-business related studies and may form part of General Education. A detailed analysis of the professional skills indicated that there is commonality amongst professional bodies like SAICA and IFAC. The specific ability standards decided upon by the professional bodies are written communication, oral communication, critical thinking, quantitative analysis, science and computer literacy.

IFAC indicates that General Education may take place at any phase in degree curriculum with the remainder of the curriculum dedicated to professional Accountancy topics. DUT's General Education policies and procedures are identical to those set out in IES 3, suggesting that DUT's themes will be a mechanism responsible for the creation of the entire undergraduate curriculum from the first to the last year and can be used as stand-alone modules or incorporated into program or faculty modules.

2.5.2 Accounting Professional’s Skill Requirements

Research findings confirm what Accounting professionals and lecturers have been highlighting for a long time that beyond being good with figures, learners also need oral and written communication skills to be successful in the Accounting environment. Wessels (2005: 91) believes that communication and problem-solving expertise are fundamental and are an important requirement by professional Accounting bodies. De Villiers (2010: 17) also highlights the need for communication, technical and soft skills for Accounting graduates to be successful and effective and for continued growth in the Accounting profession.

Gray (2010: 51) highlights that 91 percent of all Accounting specialists believe that oral communication skills are indispensable in newly qualified graduates and 74.5 percent believe that newly qualified graduates seldom had the required skills. Newly employed graduates with inadequate communication talents can lead to inefficient workforce, ineffectual control, bad teamwork and therefore a breakdown in management (Gray 2010: 51). The issue with weak communication skills comes from diverse personal experiences and various educational styles. Kerby and Romine (2009: 176) point out that Accounting business professional must possess strong oral communication skills and that members of the educational faculty agree that these skills play a significant role in the Accounting Programme.
Interpersonal skills, for instance communication, are also vital requirements for South African trainee accountants (Barac 2009: 38). Baker and McGregor (2000: 153) in their study using conjoint analysis in assessing significant characteristics of Accounting learners, found that one of the most important factors employers expect from new graduates is communication skills.

After discussing and considering the international skills requirements for Accountants by the IFAC and other professional Accounting bodies, it then becomes necessary to discuss the impact of these skills requirements on the labour market.

2.5.3 Labour Market Demands

The focus of the current section is to highlight the demand and need for Accounting professionals within the Accounting sector as highlighted by SAICA. The section addresses the future projected demands of individuals with specialised skills within the Accounting environment in an organisation; the availability of Accounting posts; the creation of new Accounting positions; availability of replacement positions in Accounting; projected Accounting occupation figures; and the supply side for Accounting talent. The section also focuses on the factors guiding the demand for Accounting Skills.

According to the findings of SAICA’s executive summary report, the number of people needed to alleviate the shortage at the old NQF level 7 and above is 5400 experienced accountants. The overall number of posts vacant required to be filled at all education stages in both the private and public sectors is 22 030. Table 2.12 provides a summarised version of the employment figures. The shortages of expertise in the South African financial sector labour market (Refer Table 2.12) has reached a worrying level, with industries similar to the Accounting Sector being the most affected. According to Marshall (2014), 2008 research findings by SAICA reveal a shortage of about 5 000 chartered accountants and more than 12 000 other accountants at various stages. However, that was eight years in the past and a five percent annual professional development means that those differences will be even larger today (Marshall 2014). The restricted growth rate is obviously not adequate to combat the skills shortage challenge in the Accounting sector. Table 2.12 highlights the vacancies of Accounting positions.
Table 2.12 Vacancies of Accounting Positions

<table>
<thead>
<tr>
<th>Education level</th>
<th>Financial services sector</th>
<th>Non-Financial services sector</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 11/Old NQF Level 3 and below</td>
<td>Filled 118</td>
<td>Filled 31,369</td>
<td>31,487</td>
</tr>
<tr>
<td></td>
<td>Vacant 0</td>
<td>Vacant 379</td>
<td>379</td>
</tr>
<tr>
<td></td>
<td>Total 118</td>
<td>Total 31,748</td>
<td>31,866</td>
</tr>
<tr>
<td>Grade 12 and Diploma or Certificate/Old NQF Levels 4 and 5</td>
<td>Filled 1,012</td>
<td>Filled 22,002</td>
<td>22,114</td>
</tr>
<tr>
<td></td>
<td>Vacant 116</td>
<td>Vacant 177</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Total 1,128</td>
<td>Total 22,180</td>
<td>22,308</td>
</tr>
<tr>
<td>First Degree/Old NQF Level 6</td>
<td>Filled 13,222</td>
<td>Filled 32,332</td>
<td>32,455</td>
</tr>
<tr>
<td></td>
<td>Vacant 7,899</td>
<td>Vacant 9,065</td>
<td>9,164</td>
</tr>
<tr>
<td></td>
<td>Total 21,121</td>
<td>Total 32,437</td>
<td>32,558</td>
</tr>
<tr>
<td>Honours Degree or higher/Old NQF Level 7 and above</td>
<td>Filled 21,506</td>
<td>Filled 41,944</td>
<td>42,160</td>
</tr>
<tr>
<td></td>
<td>Vacant 11,211</td>
<td>Vacant 11,389</td>
<td>11,500</td>
</tr>
<tr>
<td></td>
<td>Total 32,717</td>
<td>Total 53,333</td>
<td>53,550</td>
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<tr>
<td>Total</td>
<td>Filled 225,432</td>
<td>Filled 413,000</td>
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<td></td>
<td>Vacant 18,035</td>
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<td></td>
<td>Total 243,467</td>
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</tbody>
</table>


The next section begins by providing statistical data of employers’ expectations on employment growth. However, these beliefs only provide a broad indication about future growth.

2.5.3.1 Future Growth Prospects

Part of SAICA’s study was to interview the financial division managers of businesses about their future expectations regarding the total employment of their organisations. The overall majority of financial division managers were optimistic about future employment prospects.
According to SAICA (2008a: 37), only 3.7 percent of respondents anticipated their organizations to decline in excess of the five-year period and 45.6 percent anticipated expansion of their sector. SAICA (2008a: 37) indicates that even if the percentile of projected growth or reduction recorded by the respondents is compounded by current employment in the respective businesses, the projected net impact on overall employment will expand by about 10 percent throughout the five-year period. The bulk of the companies attribute the anticipated increase in jobs to economic growth. Given that the future growth prospects have being emphasised, it becomes imperative to indicate the availability of Accounting posts for individuals.

2.5.3.2 Availability of Accounting Posts

The SAICA’s research team established a model that could estimate upcoming movements in the commercial segment. The framework differentiates amongst jobs at both the financial and non-financial service sectors since the employment dynamics on the subject of financial careers differs for these two components in the economy. By way of SAICA changing the economic growth rates, three scenarios emerge; namely scenario 1 known as ‘baseline or realistic’, scenario 2 known as ‘optimistic’; and scenario 3 known as ‘pessimistic’.

Figure 2.5 indicates the past and projected future demands for Accounting positions and a discussion follows immediately hereafter. Figure 2.5 reflects the total number of Accounting positions that will be available in the South African labour market under the three scenarios.

According to the realistic scenario, the total number of positions in 2014 will increase from 362 125 to 401 000 in 2018 and under the optimistic scenario, where the economic growth is higher, the total number increases to 394 541 in 2018. In addition, under the pessimistic scenario, a scenario of lower economic growth, it is expected to increase by only 349 000 in 2018.
Figure 2.5  Total Number of Accounting Posts


Figure 2.5 represents the overall quantity of Accounting job openings under those same three scenarios on the South African employment market. According to the realistic scenario, the overall number of placements in 2014 will escalate from 362 125 to 401 000 in 2018 and under the optimistic scenario, where economic growth is higher, the overall amount increases to 394 541 in 2018. In addition, under the pessimistic scenario, a scenario of lower economic growth, it is expected to escalate by merely 349 000 in 2018. The next sections address the creation of new positions within the Accounting sector to emphasise the demand for Accounting individuals.

2.5.3.3  Creation of New Accounting Positions

Figure 2.6 represents the overall number of new financial situations generated under those same three scenarios per year. Under the realistic scenario, the overall number of placements to be formed will escalate from 9 227 in 2014 to 9 9 933 during 2018, as well as the overall number
of placements to be formed will escalate with 14 944 in 2014 to 17 466 during 2018 under the optimistic scenario. In addition, the overall amount of new vacancies will improve under the pessimistic scenario with 4 312 throughout 2014 around 4 076 throughout 2018.

**Figure 2.6 New Accounting Posts**


### 2.5.3.4 Availability of Replacement Positions in Accounting

SAICA (2008a: 45) describes replacement demand as the people in the workforce who have yet to be replaced as somewhat of a combination of emigration, retirement, mortality and individuals who change their occupations or leave the employment market. There is indirect link between the economic growth and the replacement demand and to some extent influenced by the size of total employment, which in turn affected by economic growth. Consequently, the framework created a slightly distinct number of candidates from those in the replacement demands under those same three possible situations. Figure 2.7 provides an illustration of the projected figures of the financial positions due to replacement from 2014 until the year 2018.
The financial positions due to replacement will increase from 11 285 in 2014 to 12 664 in 2018 under the realistic scenario, whilst under the optimistic scenario it will increase from 12 162 in 2014 to 14 403 in 2018. In addition, under the pessimistic scenario, it will increase from 10 468 in 2014 to 11 136 in 2018.

2.5.3.5 Projected Accounting Occupation Figures

The projected demand for Accounting occupations starts from Grade 11 or below and goes up to the honour’s degree or higher levels.

Table 2.13 illustrates the number of people required between each educational background with employment figures held at a constant point.
### Table 2.13 Vacancy Rate at a Constant Level

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Realistic Scenario</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 11 or below</td>
<td>1 552</td>
<td>1 578</td>
<td>1 593</td>
<td>1 608</td>
<td>1 626</td>
</tr>
<tr>
<td>Grade 12/Grade12 plus diploma</td>
<td>10 335</td>
<td>10 576</td>
<td>10 753</td>
<td>10 918</td>
<td>11 081</td>
</tr>
<tr>
<td>or certificate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Degree</td>
<td>3 619</td>
<td>3 777</td>
<td>3 913</td>
<td>4 039</td>
<td>4 143</td>
</tr>
<tr>
<td>Honours degree or higher</td>
<td>5 006</td>
<td>5 223</td>
<td>5 415</td>
<td>5 595</td>
<td>5 748</td>
</tr>
<tr>
<td>Total</td>
<td>20 512</td>
<td>21 154</td>
<td>21 675</td>
<td>22 160</td>
<td>22 567</td>
</tr>
<tr>
<td><strong>Optimistic Scenario</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 11 or below</td>
<td>2 020</td>
<td>2 072</td>
<td>2 115</td>
<td>2 158</td>
<td>2 205</td>
</tr>
<tr>
<td>Grade 12/Grade12 plus diploma</td>
<td>13 572</td>
<td>14 062</td>
<td>14 495</td>
<td>14 926</td>
<td>15 363</td>
</tr>
<tr>
<td>or certificate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Degree</td>
<td>4 911</td>
<td>5 222</td>
<td>5 518</td>
<td>5 815</td>
<td>6 094</td>
</tr>
<tr>
<td>Honours degree or higher</td>
<td>6 603</td>
<td>7 018</td>
<td>7 419</td>
<td>7 822</td>
<td>8 206</td>
</tr>
<tr>
<td>Total</td>
<td>27 106</td>
<td>28 374</td>
<td>29 549</td>
<td>30 721</td>
<td>31 869</td>
</tr>
<tr>
<td><strong>Pessimistic Scenario</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 11 or below</td>
<td>1 132</td>
<td>1 139</td>
<td>1 138</td>
<td>1 135</td>
<td>1 136</td>
</tr>
<tr>
<td>Grade 12/Grade12 plus diploma</td>
<td>7 473</td>
<td>7 553</td>
<td>7 570</td>
<td>7 574</td>
<td>7 575</td>
</tr>
<tr>
<td>or certificate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First Degree</td>
<td>2 524</td>
<td>2 584</td>
<td>2 619</td>
<td>2 643</td>
<td>2 646</td>
</tr>
<tr>
<td>Honours degree or higher</td>
<td>3 651</td>
<td>3 737</td>
<td>3 795</td>
<td>3 838</td>
<td>3 855</td>
</tr>
<tr>
<td>Total</td>
<td>14 780</td>
<td>15 014</td>
<td>15 122</td>
<td>15 190</td>
<td>15 212</td>
</tr>
</tbody>
</table>

Source: (SAICA 2008a: 47). Adapted.

Tables 2.14 below highlights the number of people required if vacancy rates are reduced by 5 percent.
Table 2.14 Vacancy Rate (Reduced by 5 percent per Year)

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Realistic scenario</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 11 or below</td>
<td>1 575</td>
<td>1 601</td>
<td>1 617</td>
<td>1 632</td>
<td>1 651</td>
</tr>
<tr>
<td>Grade 12/Grade12 plus diploma or certificate</td>
<td>10 806</td>
<td>11 068</td>
<td>11 266</td>
<td>11 450</td>
<td>11 633</td>
</tr>
<tr>
<td>First degree</td>
<td>4 229</td>
<td>4 413</td>
<td>4 574</td>
<td>4 525</td>
<td>4 854</td>
</tr>
<tr>
<td>Honours degree or higher</td>
<td>5 414</td>
<td>5 657</td>
<td>5 874</td>
<td>6 079</td>
<td>6 258</td>
</tr>
<tr>
<td>Total</td>
<td>22 025</td>
<td>22 739</td>
<td>23 330</td>
<td>23 887</td>
<td>24 395</td>
</tr>
<tr>
<td><strong>Optimistic scenario</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 11 or below</td>
<td>2 045</td>
<td>2 099</td>
<td>2 143</td>
<td>2 187</td>
<td>2 235</td>
</tr>
<tr>
<td>Grade 12/Grade12 plus diploma or certificate</td>
<td>14 115</td>
<td>14 640</td>
<td>15 111</td>
<td>15 579</td>
<td>16 056</td>
</tr>
<tr>
<td>First Degree</td>
<td>5 612</td>
<td>5 967</td>
<td>6 310</td>
<td>6 654</td>
<td>6 983</td>
</tr>
<tr>
<td>Honours degree or higher</td>
<td>7 083</td>
<td>7 540</td>
<td>7 986</td>
<td>8 435</td>
<td>8 867</td>
</tr>
<tr>
<td>Total</td>
<td>28 855</td>
<td>30 247</td>
<td>31 550</td>
<td>32 855</td>
<td>34 141</td>
</tr>
<tr>
<td><strong>Pessimistic scenario</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade 11 or below</td>
<td>1 152</td>
<td>1 159</td>
<td>1 158</td>
<td>1 155</td>
<td>1 156</td>
</tr>
<tr>
<td>Grade 12/Grade12 plus diploma or certificate</td>
<td>7 880</td>
<td>7 969</td>
<td>7 993</td>
<td>8 004</td>
<td>8 011</td>
</tr>
<tr>
<td>First degree</td>
<td>3 053</td>
<td>3 123</td>
<td>3 167</td>
<td>3 199</td>
<td>3 210</td>
</tr>
<tr>
<td>Honours degree or higher</td>
<td>3 996</td>
<td>4 094</td>
<td>4 163</td>
<td>4 217</td>
<td>4 243</td>
</tr>
<tr>
<td>Total</td>
<td>16 081</td>
<td>16 345</td>
<td>16 482</td>
<td>16 575</td>
<td>16 620</td>
</tr>
</tbody>
</table>


Academic rates offer only a broad roadmap to tackle the skill gaps at the different educational points that are people needed in the employment market. It can be deduced that in all three
scenarios (the realistic, optimistic and pessimistic scenarios), the demand for people with Grade 11 or below decreases. An analysis of both projection tables indicates that even with a reduced vacancy rate of 5 percent, there is still a demand or need for Accounting individuals: 24 395 according to the realistic scenario; 34 141 individuals according to the optimistic scenario; and 16 620 individuals according to the pessimistic scenario.

2.5.3.6 Supply Side for Accounting Talent

The previous sections of the study outlined the future projected demands of individuals with specialised skills, the availability of Accounting posts, the creation of new Accounting positions, the availability of replacement positions and the projected Accounting occupation figures. It is now imperative to focus on the supply side for Accounting talent to ascertain whether the supply side is meeting the demand. On the supply side, the importance is at the entrance point where financial managers are chosen from the experienced Accountants pool. The number produced is restricted to the public training segment, with a focus on Mathematics and Accounting subjects. SAICA (2008b: 4) reports that in 2006, 25 217 learners (6.8 percent of all matriculants) excelled with higher grade Mathematics. It is within this 6.8 percent of all matriculants that other academic areas of expertise such as engineering, medicine and actuarial science amongst others have to compete.

Mulder (2019) from SAICA believes that even before entering tertiary institutions, Accounting applicants must be firmly inculcated with fundamental modules such as Mathematics and Science. This is a huge task in a period of largely dysfunctional national basic education that in 2011 could only matriculate 5 515 black and 536 coloured learners with a Mathematics pass of above 60 percent (Mulder 2019). The various other professions that have to strive assertively for young talent from this tragically low production are the medical, actuarial and engineering disciplines. Mulder (2019) states that SAICA sources its once yearly opening by encouraging and absorbing learners in a variety of programs such as Mathematics and Accounting Olympiads, SAICA workshops, workshops and school feeder systems during their basic education years.
The Accounting profession is however concerned with the recruitment of Accountants and Accounting clerks. SAICA (2008b: 4) also indicated that the same trend emerged in 2006 for the Accounting higher-grade module, where 24 444 learners excelled in the Higher-Grade examination version paper. During the same year at the higher education level, graduates increased from 3142 to 4978 in the three-year first-degree programmes. During 2006, the number of fresh applicants on the employment market was 5752, about a thousand extra than in the same year (SAICA 2008b: 4).

The statistical data provided highlights that university education does not produce adequate graduates to meet employment market demands for new employees. The supply of labour for postgraduates based on the realistic scenario suggests that there would be a shortfall of around 35% throughout 2018 and when the economy expands at a faster speed, then the shortfall will rise to approximately 65% throughout 2018 (SAICA 2008b: 4).

2.5.4 Analysis of General Education Needs by Accounting Bodies

The above section addressed the General Education requirements of professional Accounting bodies. It focused on IFAC, Professional Accounting Bodies and Labour Market Requirements. The labour market requirements focused on important issues on the subject of future growth prospects by employers: the availability of Accounting positions; the creation of new financial positions; the availability of replacement positions and projected Accounting occupation figures within the country. After highlighting the skills shortages, it became imperative to focus on the supply side for Accounting talent to ascertain whether the supply side is meeting labour market demand. All relevant statistical data were SAICA obtained since they are one of the recognised professional Accounting bodies for Accountants within the country and are specialists in the Accounting field. The labour market requirements data was SAICA obtained, given that it is specialised and since there is no other research of this nature.

IFAC and professional bodies agree that a portion of General Education should be included in all professional education programmes and that this specific General Education will make a major contribution to the development of professional skills. IES 3 stipulates that General Education will focus on developing non-professional knowledge; intellectual talents; personal
talents; interpersonal and communication talents; and management and organizational talents. IFAC and professional Accounting bodies highlight those skills requirements allowing the qualified accountant to use the information gathered through General Education with success.

The demand for post-graduates on the supply side, based on SAICA's realistic scenario, indicates a deficit of around 35 percent during 2018. Should the country were to expand at a greater rate, this deficit would rise to around 65 percent during 2018. An analysis of both projections figures on vacancy rates at a constant level and at a reduced rate of 5 percent suggest that there will certainly be a demand and need for Accounting talent of 24,395 according to the realistic scenario. In view of the statistical data provided in the section regarding employment in the Accounting sector, it points out that university education is not turning out an adequate number of graduates and that the supply side for Accounting talent is not meeting the labour market demands.

Following the discussion on the impact of General Education regarding Accounting learners’ academic performance and employability, it is now essential to address the models and theories on the quality of learning at tertiary institutions.

2.6 GENERAL EDUCATION POLICY AND PROCEDURES OF DUT

Since completing a detailed analysis on the overall state of General Education within South African schools and the need for General Education skills as outlined by IFAC and other the Accounting Professional Bodies, it is equally essential that the study provide details within DUT.

In an email communication on 05 December 2014, the then Vice Chancellor of DUT, Professor Ahmed Bawa pointed out that in 2015, the institution will carry out its first experiments with the new General Education curriculum elements. The rollout would take place effectively in 2016 and DUT will have a year to prepare for this launch. According to the then Vice Chancellor, the rollout was effective in 2016, but the new Management Accounting curriculum only began in 2019. The current study began in 2015 in anticipation that General Education
modules will begin in 2016 but the late start of the new curriculum in 2019 has led to four-year delay of the study.

In the same email communication, the Vice-Chancellor also indicated that the new curriculum will be the signature of DUT and would ensure that DUT graduates be provided with a more holistic education curriculum, thereby ensuring that they are not simply trained for the job market but also acquire a more holistic approach to education. The Vice-Chancellor further maintains that the inclusion of the General Education component will change the nature of education within the institution. General Education will be part of a process for the formation of the entire undergraduate programme from first to final year and may also be included as stand-alone modules or be embedded within programme or faculty modules.

2.6.1 General Education Guidelines

Senate approved curriculum renewal at DUT concerning General Education on 29 August 2012 with the intention of implementation in January 2015. Kift (2008) highlights the importance of developing globally portable people so that they can effectively participate in information generation and management in an increasingly assorted and globalized place of work. For this purpose, curricula and pedagogy design must prepare students for jobs while simultaneously preparing them for vital citizenship in a developing and unstable democracy (DUT 2012: 1).

According to DUT (2012: 1), all its graduates after successfully completing the programme should be proficient in the following categories:

i. Strong competencies and skills like:
   - Literacy of knowledge;
   - Oral and written communication;
   - Numerical competence; and
   - Technology applications.

ii. Innovation, comprising:
   - Entrepreneurship; and
   - Management.

iii. Social Responsibility, comprising:
iv. Human Development, comprising:
   - Self-awareness; and
   - Lifelong and self-directed learning.

v. A wide knowledge of the discipline and/or career they select, as well as:
   - Acceptable discipline or technical approach to the development of information; and
   - Adaptability to the workplace.

### 2.6.2 General Education Objectives

DUT (2012: 2) states that the General Educational policy priorities shall be to:

- Create a learner-centred learning environment incorporated into the local context;
- Train students for a dynamic and increasingly competitive global work world; and
- Nurture a dedicated and vital citizenship in an evolving and vulnerable democracy in a constantly evolving world system.

### 2.6.3 General Education Model and Outcomes

Bourke, Bray and Horton (2009: 237) believe that there are three models for the delivery of General Education. The first is the Core Model, which is very restrictive and requires learners to complete a prescribed set of common modules. The second is the Distribution Model, which permits greater learner choice from the different approved categories. The third is the Decentralised Model, where the faculty or department agrees on the General Education requirements for their courses.

#### 2.6.3.1 General Education Model

According to DUT (2012: 3), the university has a combination of Core, Distribution and Decentralised models.
2.6.3.2 General Education Outcomes

DUT (2012: 3) highlights that learners can build and improve skills in information, abilities and approaches all the way through their involvement in General Education in the context of their institutional studies through the following:

- Theoretical and practical skills, as well as written and oral communication skills in English, Mathematical and/or quantitative reasoning, analytical and rational analysis and applications of technology;
- A creative and imaginative program;
- Empathy and diversity recognition in a national and global sense;
- Public accountability, as well as physical and moral knowledge and ethical thinking in resolving multifaceted social issues and problems;
- Individual development; and
- Integrative approaches for learning through general and selected fields of study.

2.6.4 General Education Components

The guiding principles for DUT’s General Education include the following:

- The General Education section will include 30 percent of the actual overall credits of an undergraduate programme and that the 30 percent comprises the following:
  - 10 percent will be institution-wide and that is external of the home faculty and academic section
  - 10 percent will be faculty-based
  - 10 percent will be programme-based;
- The management and allocation of credits is to follow the Curriculum Renewal Project requirements from the Centre for Quality Promotion and Assurance. The General Education Modules include at least eight credits and may rise in multiples of four;
- The General Education component will be made up of:
  - Mathematics and/or quantitative reasoning
  - Writing-intensive modules
  - 2-4 modules on KZN;
• General Education will be innovative and have excessive impact on teaching and learning methods, together with:
  ➢ community commitment and
  ➢ technology in teaching and learning;
• Assessment plans will comprise the measurement of General Education outcomes;
• Assessment plans will provide for the validation of exemptions and Recognition of Prior Learning;
• General Education themes will be associated with the results and graduate aspects;
• A group of General Education optional modules will become accessible for learners to select from;
• A comprehensive structure and a series of both obligatory and/or optional modules are to conclude in capstone learning proficiencies; and
• Permanent academic staff will oversee General Education (DUT 2012: 3).

DUT (2012: 5) highlights that the Cornerstone module will comprise 12 credits and will be compulsory for all DUT first semester undergraduate learners. The cornerstone module will comprise writing, reading, communication, language, quantitative reasoning, technology applications (including online learning/eLearning), human and social sciences.

2.6.5 General Education Themes

DUT (2012: 5) reports that the themes playing significant role in General Education will include the following:

• Sustainability of the environment;
• History, politics, economics and philosophy;
• Beliefs and the general public;
• Work readiness;
• Entrepreneurship;
• Personal improvement; and
• Physical condition and wellness.
The above themes will form the basis for the entire undergraduate curriculum from the first to the final year and can be used as stand-alone modules or integrated in program or faculty modules, as well as providing elective modules of eight credits each. A learner must choose from the themes a total of three components for a 3-year programme and four components for a 4-year programme, for the General Education portion of 10 percent. The modules should be from outside the faculty where the course has been undertaken.

2.6.6 General Education Overview

Table 2.15 reflects a diagrammatic summary overview of the General Education requirements within the institutional modules, followed by the Faculty of Accounting and Informatics modules and finally by the Department of Management Accounting programme modules.

There are 108 credits attributed to General Education within the new programme structure.
### Table 2.15  General Education Overview of DUT

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Credits</th>
<th>NQF level</th>
<th>Year taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornerstone 101</td>
<td>Compulsory</td>
<td>12</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Personnel</td>
<td>Elective</td>
<td>8</td>
<td>5</td>
<td>1, 2, or 3</td>
</tr>
<tr>
<td>Social</td>
<td>Elective</td>
<td>8</td>
<td>5</td>
<td>1, 2, or 3</td>
</tr>
<tr>
<td>Global and Work</td>
<td>Elective</td>
<td>8</td>
<td>5</td>
<td>1, 2, or 3</td>
</tr>
<tr>
<td>Total credits</td>
<td></td>
<td></td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

#### Faculty modules

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Credits</th>
<th>NQF level</th>
<th>Year taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business fundamentals, M1</td>
<td>Compulsory</td>
<td>12</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Business fundamentals M2</td>
<td>Compulsory</td>
<td>12</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Entrepreneurial spirit</td>
<td>Compulsory</td>
<td>12</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Information communication technology</td>
<td>Elective (Not done by CMA)</td>
<td>12</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Total credits</td>
<td></td>
<td></td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

#### Departmental embedded modules

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Credits</th>
<th>NQF level</th>
<th>Year taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost &amp; Management Accounting 1, M1</td>
<td>Compulsory</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Cost &amp; Management Accounting 1, M2</td>
<td>Compulsory</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Cost &amp; Management Accounting 2, M1</td>
<td>Compulsory</td>
<td>4</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Cost &amp; Management Accounting 2, M2</td>
<td>Compulsory</td>
<td>4</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Microeconomics</td>
<td>Compulsory</td>
<td>2</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to Macroeconomics</td>
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Source: Self Adapted.
2.7 SELF-EFFICACY

This section discusses the idea of Self-efficacy, as extended to the academic programme for Accounting learners, particularly individuals who are experiencing problems academically. The emphasis will be on the dependent variable of Self-efficacy in learners. The concern is why some learners demonstrate higher degrees of self-confidence in their aptitudes, while others seem less confident of themselves. The answer to the difference between these two extremes could be attributable to the Self-efficacy of a student’s belief in his or her capacity to perform tasks. There is a growing body of research revealing an optimistic noteworthy connection between Self-efficacy beliefs and academic performance. The current chapter charts the focal enhancements, the most crucial and continuing features and claims of Self-efficacy in understanding and using the concept in a knowledgeable way.

Albert Bandura, a social psychologist, and Robert Zimmerman are without doubt the most internationally renowned authors on the subject of Self-efficacy, who have been continuously publishing for almost 50 years. Furthermore, many other writers took up their claims and put them into practice. The current chapter will address the role and sources of Self-efficacy and include a discussion on the impact and relationship between Self-efficacy and performance. There is much confusion between Self-efficacy and self-concept or self-esteem and therefore considered necessary to clear any confusion by presenting the difference between these two terms. In the literature, a single, principal concept has not been noticeable. The accompanying descriptions or interpretations demonstrate many of the concept's complexity and degree, which makes up a fair point of departure.

2.7.1 Self-Efficacy Definition

In defining the term Self-efficacy at its very elementary point, it refers to the confidence in one's aptitude to accomplish specific tasks. Albert Bandura takes it a step further and defines Self-efficacy as an individual’s belief about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives (Bandura 1994: 71). In other words, one's confidence in their ability to perform particular tasks leads to an awareness that one can navigate future situations. Bandura (1994: 71) further postulates that beliefs in
Self-efficacy decide by what means individuals feel, think, act and are motivated. Bandura points out that cognitive, motivational, affective, and selection processes are the various ways in which one can achieve and construct efficacy.

Cherry (2018), a psychology expert, defines Self-efficacy as one’s belief in one’s own abilities to deal with different circumstances. The researcher further explains that Self-efficacy may play an important role not only in how someone feels about oneself, but also in whether one achieves one's goals in life positively or not. The large number of articles available suggest that Self-efficacy went from just a great concept in the 1960s to being established and influential term, now followed by a significant body of scientific evidence.

2.7.2 Self-Efficacy and Self-Esteem

There is a great deal of misunderstanding regarding Self-efficacy and self-esteem beliefs. It is therefore necessary to clarify the difference between these two concepts. As with Self-efficacy and other forms of expectation, there is no clear definition of the theoretical difference between Self-efficacy and self-esteem to researchers or people. Several researchers have used the terminology synonymously whereas others describe self-esteem as nothing more than a conceptual type of Self-efficacy. Other researchers define educational self-esteem as self-perception talent.

Pajares (2002) believes that self-esteem is considered at a wide-ranging point of specificity, which involves the assessment of these abilities and the self-esteem associated with the behaviours in question. A typical self-esteem item: “How good are you in English?” fluctuates significantly from a question on Self-efficacy, which can start from “How certain are you that you can diagram this sentence?” (Zimmerman 2000: 84). Beck (2008) highlights that Self-efficacy varies from self-esteem even though it is a judgement of individual capacities instead of just a general sense of self-worth.

In addition, Ferla, Valcke and Cai (2009: 499) conclude that the academic self-esteem of learners strongly influences their academic Self-efficacy values, and that this is a reliable predictor and decision-maker of effective and efficient motivational factors; while academic
Self-efficacy is indeed a better indicator and facilitator of scholastic achievement. The vast number of available references shows that Self-efficacy progressed commencing a novel view in the 1960s to a common term now validated by a considerable body of literature. The next section focuses on the role of Self-efficacy.

2.7.3 Self-Efficacy Role

Nearly everybody can decide on objectives that they would like to achieve, aspects they would really like to improve upon and things they would really like to accomplish. Nevertheless, most people do know that it is not as easy as people think to initiate such schemes into effect. Bandura and several others investigated and found that the Self-efficacy of a person plays a critical role in the way to manage goals, tasks and challenges. Bandura and others have researched and found that an individual’s Self-efficacy plays a key role in how to manage goals, tasks and challenges.

Cherry (2018) highlights that those learners who have a robust awareness of Self-efficacy:
- Vision thought-provoking difficulties as responsibilities to be grasped;
- Mature a deep sense of attention in the actions in which they take part;
- Develop a deeper understanding of their desires and behaviours; and
- Make progress speedily from hindrances and displeasures.

Cherry (2018) also believes that those learners with a fragile common sense of Self-efficacy:
- Evade thought-provoking errands;
- Assume that problem activities and circumstances are beyond their ability;
- Concentrate on moral weaknesses and negative consequences; and
- Extremely quickly run the risk of losing trust in personal skills.

In addition, learners with elevated Self-efficacy tend to absorb and gain beyond persons with little Self-efficacy, even whilst the real skill rates are alike (Ormrod 2008: 137). The next section explains the sources of Self-efficacy.
2.7.4 Self-Efficacy Sources

In attempting to increase the Self-efficacy of learners, it is firstly important to identify and understand its sources. Cherry (2018) suggests that early childhood Self-efficacy continues to grow as youngsters cope with an extensive range of encounters, activities and circumstances. Nevertheless, Self-efficacy improvement did not necessarily conclude throughout early phases, but continues to expand throughout entire lives as people gain new talents, interactions and the ability to understand (Cherry 2018). The sources of Self-efficacy stem from the learner’s variety of experiences throughout their life.

The primary research focus of Bandura’s early work was on the tendency and ability of learners to understand and adjust their actions by vicarious interaction and social modelling, instead of by actual experience. Bandura (1994: 71-72) advocates that Self-efficacy beliefs are formed according to how people perceive the feedback they receive from four sources:

i. Past Performance (Bandura claims that one of the most powerful ways to build a clear sense of success would be through interactions of mastery);

ii. Modelled Behaviour;

iii. Social Persuasion or Feedback from others; and

iv. Physiological Responses.

2.7.4.1 Mastery Experiences

Zimmerman (2000: 88) highlights that mastery experiences are in actual fact the most influential sources of efficacy belief for the purpose that they are produced from the outcomes of personal experiences.

Mastery experience is a process whereby the learners actively engage in a task to obtain mastery over it (Bandura 1994: 71). If the level of task is too low or too high, then the efficacy levels can decrease (Bandura 1994: 71). Effectively and efficiently executing a task enhances a feeling of Self-efficacy for the learner. Failure to cope effectively with a mission or obstacle can thus compromise and severely damage the Self-efficacy of the learner (Bandura 1994: 71). This seems to have immediate consequences for education and training as regards the need to
provide learners chances to acquire hard skills, as well as to have chances to show and encounter it as one aspect of the 'mastery' to build their personal feeling of Self-efficacy.

2.7.4.2 Modelling/Vicarious Experiences

Learners gain a great deal of knowledge concerning their abilities from learning how everyone else works. As Bandura (1977: 197) points out, by examining others, learners acquire behaviours and then emulate or model what they have observed; develop the features of modelled behaviour; recognise the actions they wish to model; repeat those behaviours; and have the motivation/incentive to replicate such behaviours in the future. Classroom models such as teachers and peers are important sources of vicarious efficacy information.

By way of observation, someone else who executes a challenging task can significantly influence Self-efficacy focusing on the source as well as the effectiveness of the participant (Bandura 1994: 72). Highly skilled models communicate information in addition to providing observers’ valuable skills and techniques for meeting environmental challenges through all the actions and articulated ways of doing things (Bandura 1994: 72). On the other hand, perceived failures could very well undermine the sense of success of learners and may actually prevent the learner from focusing on the assignment. The ensuing personal encounters repeatedly show these vicarious effects to be fraudulent. Zimmerman (2000:88) argues that if a model is deemed talented, then observers will underestimate for themselves the importance of the success outcomes of the model.

McLeod (2014) performed a laboratory experiment similar to Bandura's 1961 experiment on bobo dolls, in which the independent variable occurred under three environments:

i. Belligerent model displayed to 24 children;
ii. Non-aggressive model exposed to 24 children; and
iii. No model presented (control condition) - 24 children.

The results support the theory of Social Learning developed by Bandura (1977) that through observing other people's behaviours, children learn social behaviours such as violence through observation learning (McLeod 2014.)
2.7.4.3 Social/Verbal Persuasion

Social or verbal encouragement boosts the confidence of learners that they already have what is required to succeed. Bandura highlights that by reducing the self-doubts of learners, their attention on personal deficiencies will be halted by verbal persuasion.

Learners may be encouraged to consider that they have both the skills and expertise to achieve. Persuasive changes in perceived Self-efficacy drives learners to strive further to achieve and encourages skills growth as well as a sense of self-effectiveness (Bandura 1994: 72). However, social persuasion has a minimal effect on students' Self-efficacy since outcomes are described, not independently verified, and thus rely on the integrity of the persuader (Zimmerman 2000:88). Therefore, there is a need for constructive strengthening of different skills along with learning, in addition to some motivation to perform the tasks. If learners are confident that they have the potential to succeed, then they should put in more resources than if they possess self-doubts as well as focus on personal failures when problems occur.

2.7.4.4 Psychological States

Emotions and feelings eventually affect learners and Bandura informs that learners will also depend on their responsive states to consider their competences.

The learner’s individual reactions and responsive feedbacks to circumstances also play a strategic role in Self-efficacy. According to Bandura (1994: 72), the moods of learners, emotional reactions, physical responses and levels of stress can all influence how a person thinks about his or her personal attributes in a particular circumstance. In these circumstances, a person who becomes very nervous before speaking publicly can cultivate a poor sense of Self-efficacy. Bandura (1994: 72) indicates, ‘It is not the sheer intensity of emotional and physical reactions that is important, but rather how they are perceived and interpreted’.
2.7.4.5 Analysis of Self-Efficacy Sources

In the current section, the study highlights the sources of Self-efficacy in terms of the application and relevance to the study of Management Accounting. The words ‘vicarious learning’, ‘social learning’ and ‘modelling’ seem to be practiced in an analogous manner to relate to learning which often takes place vicariously through experience or social interaction, beyond direct benefit or penalty. Studies on the theory of Social Learning have provided much evidence that it is a legitimate idea warranting increased attention. The influence of social modelling on inspiring behaviour, in particular the impact of media as well as social groups, is seldom contested today and thus mastery experiences are the most prominent and valuable for Management Accounting.

Along with General Education skills, an educator can assist learners by exposing them to appropriate challenges and thought-provoking problems, thereby getting learners to actively engage in such tasks and obtain mastery over the subject of Management Accounting. Successfully completing an assignment increases a sense of Self-efficacy in a learner. Generally, it works best if the challenge is just beyond the skill level of the learner. Based on Albert Bandura’s principles of modelling experiences, Management Accounting learners, through observing other learners who are similar to themselves succeeding through sustained efforts, can enhance their confidence that they somehow possess the potential of the master's similar activities in order to succeed throughout the Management Accounting subject.

According to the Social Persuasion Theory, obtaining verbal motivation from someone else it allows learners to combat self-doubt and concentrate on doing their utmost in the task. Learners can obtain higher Self-efficacy in Management Accounting through encouragement from lecturers and fellow learners. General Education skills could boost the confidence level of learners, which in turn can encourage their peers in improving learner performance.

Applying Albert Bandura’s Theory on Psychological States suggests that the feeling of anxiety surrounding Management Accounting performance will negatively influence performance in the subject. For this purpose, learners may enhance their sense of Self-efficacy and boost their success in Management Accounting by learning how to alleviate stress and increase their confidence when facing difficult problems or demanding tasks. One way to reduce stress and
anxiety is by improving learners’ confidence level through developing their General Education skills.

The ever-changing modern world, because of human innovation and technology, continues to become increasingly more complex. For that purpose, understanding that human beings are social creatures is crucial. This recognition, together with the beneficial aspects of the theory of Social Learning, remains the only predictor of evolutionary fitness, which leads to the continuation of a species (Davis 2012: 6). The origins of Self-efficacy beliefs refer to the value of an experience that makes one special, which is one’s aptitude to self-reflect, the method by which a person makes sense of his/her encounter. Understanding the life-long influence that Self-efficacy beliefs hold, teachers and parents can help learners cultivate strong self-reflection skills.

Coherent with the philosophy of Observational Learning, by modelling positive self-reflection on one's own performance and mentoring how a learner interprets the effects of his or her success is a phenomenal way apply such a philosophy. Academics should assess their own performance during class on a regular basis, explicitly evaluating what they have performed well and how they expect to build on their progress. Academics illustrate a method designed to encourage Self-efficacy by modelling self-assessment. Psychological processes can influence the output of learners.

2.7.5 Self-Efficacy Dimensions

With the discussion on the definition of Self-efficacy and the role of Self-efficacy and its sources now comprehensively probed, it becomes essential to take into account the pertinent scope of Self-efficacy judgments. Self-efficacy judgments vary on three individual but interconnected dimensions. The measurement of Self-efficacy relates to these interrelated dimensions. The dimensions referred to are magnitude, strength and generalizability. Subsequent to highlighting the three dimensions and the measurement of Self-efficacy, the section will focus on how these three-dimensional principles affect and relate to Management Accounting.
2.7.5.1 Magnitude

Firstly, the strength of one's expectations of effectiveness may explain the degree of task complexity that an individual believes is achievable (Bandura 1977: 194). Learners with an elevated degree of Self-efficacy will see themselves competent to accomplish difficult tasks whereas learners with a lower degree of Self-efficacy will see themselves as being merely capable of completing modest tasks.

2.7.5.2 Strength

Secondly, Self-efficacy expectancies fluctuate in their intensity (Bandura 1977: 194). Low expectancies are without difficulty extinguished by disconfirming information, while high expectations exist given such information (Brief and Aldag 1981: 80).

2.7.5.3 Generalisability

Thirdly, Self-efficacy anticipations vary in the level of their attainable generalisability (Bandura 1977: 194). Many learners may think they are qualified to carry out certain actions under a given set of conditions, whereas others may think they can carry out specific actions under any condition and take an action that is to some extent different. Albert Bandura’s three dimensions of Self-efficacy theory within the Accounting environment included below.

The study will now focus on the three-dimension pointed out above as applied and essential to the discipline of Management Accounting. The application and discussion of these dimensions in relation to Management Accounting Self-efficacy follows.

2.7.6 Self-Efficacy Dimension Theory of Management Accounting

Bandura’s documented principles on the three dimensions of Self-efficacy as indicated above could be appropriate and applied to Management Accounting. The current section explores the impact of these three dimensions of Self-efficacy on Management Accounting.
Management accounting Self-efficacy means assessing the ability to evaluate information correlations and then use historical patterns to forecast and direct business judgments. Management Accounting is concerned with historical data or information and utilising the information to make judgments of what must transpire in the future. Moreover, it is not about not only simply collecting information or data, but rather includes formulating conclusions; defining and managing risks; evaluating information and using it for business decisions; planning and budgeting (e.g. compiling written statements or reviewing financial information). The study will explore the dimensions of Management Accounting in the context of Self-efficacy in the section below.

2.7.6.1 Attainable

The Management Accounting Self-efficacy magnitude can point towards the level of capability expected to work under pressure, working to deadlines, working long hours and heavy responsibilities. Hence, mistakes in the Management Accounting sphere can be very costly to the organisation. Therefore, learners with a high magnitude of Self-efficacy in Management Accounting may tend to consider themselves as capable of performing more challenging management tasks compared to those with lower Self-efficacy judgments. Put another way, the magnitude of Self-efficacy in Management Accounting could be determined in terms of the levels of support needed to execute a task. Students with a higher degree of Self-efficacy in Management Accounting could consider themselves confident in functioning independently with less support and guidance than those who have less Self-efficacy judgments.

2.7.6.2 Generalisability

Self-efficacy generalizability reflects on the degree to which the judgment is limited to a particular domain of activity as indicated by Bandura. Within the Accounting context, these domains may well be considered to reflect analytical, advisory, decision-making and soft skills of trained management accountants.

As a result, learners with high degree of Management Accounting Self-efficacy generalisability will be able to use a wide range of skills competently. The range of skills are namely in
Identifying and Managing Risks; Analysing Information (using it to make business decisions); Planning and Budgeting. However, those with low Management Accounting Self-efficacy generalisability would perceive their capabilities as limited to particular aspects of Management Accounting.

2.7.6.3 Strength

The strength of Management Accounting Self-efficacy judgment relates to the level of trust about the decision, or the confidence that a learner has regarding their ability to perform the various tasks as discussed above. Thus, not only would learners by way of high Management Accounting Self-efficacy perceive themselves as able to accomplish more challenging tasks (high magnitude), but the learners would demonstrate better confidence about their ability to successfully perform each of the activities.

The listing and discussion of the four major psychological processes and their association with learner performance follows hereafter.

2.7.7 Self-Efficacy Psychological Processes and Learner Performance

Self-efficacy can affect the learner’s performance through four major psychological processes. According to Bandura (1994: 72-75), these four major processes are the cognitive, motivational, affective and selection processes.

2.7.7.1 Cognitive/Rational Process

The learner’s confidence in their ability effects the cognitive process by influencing the pro-active scenarios that humans construct and rehearse (Bandura 1994: 72). For instance, learners with elevated Self-efficacy beliefs are likely to anticipate success scenarios, while those with little Self-efficacy beliefs tend to dwell on things that can go wrong and anticipate failure. In short, Self-efficacy influences analytic thinking (Bandura 1994: 73). Occasionally, high Self-efficacy can however contribute to less effort being utilised into a specific task by learners.
The reason is that high Self-efficacy can often contribute to over-confidence in the intellectual ability of the learners, generating a false perception of potential. Redmond (2010 cited in Tinsley 2019) indicates that the result is due to the learner thinking they know more about the task than the learner really does and failing to apply the necessary effort. Bandura (1993: 120-128) argues that the factors affecting cognitive functioning are capacity generation, social comparative effects, feedback framing, perceived controllability and casual structure.

The discussion on the five factors influencing the cognitive functioning of a learner is as follows:

**Conception of Ability**

Learners who believe that ability is an acquirable skill that becomes more intense by acquiring knowledge and proficiencies will embrace a functional-learning aim (Bandura 1993: 120). These learners will search for obstacles that offer opportunities to develop their expertise and abilities, and see mistakes as a fundamental part of a development phase. Bandura (1993: 120) postulates that learners evaluate their skills more often in terms of individual development than in contrast with others' achievements. Those learners who view ability as an inherent capacity and for them performance is diagnostic of their inherent intellectual capacities (Bandura 1993: 120). Bandura (1993: 120) emphasises that poor performances poses high evaluative threats that learners lack basic intelligence and therefore, they will prefer tasks that minimize errors and reveal their proficiency at the expense of expanding their knowledge and competencies.

**Social Comparison Influences**

Most practices do not establish reasonable skills evaluation criteria. Bandura (1993: 121) suggests that, learners must thus measure their skills in comparison to those of others' achievements. The learners with whom they interact will affect how they evaluate their potential abilities. Bandura (1993: 123) highlights that finding oneself outdone by others often demotivates personal effectiveness, increases inconsistent critical thought and increasingly diminished achievements in results. Likewise, observing themselves gain progressive mastery enhanced personal efficacy, facilitated positive thought and improved performance achievements (Bandura 1993: 123).
Framing of Feedback

Bandura (1993: 123) mentions that learners aim for certain goals or levels of competence in their different activities and seek social input regarding their success from time to time. Sought-after accomplishments are realised progressively, instead of being immediately satisfied. The manner in which people's success is determined socially will greatly influence their evaluation of Self-efficacy and thereby alter the trajectory of their achievements. Feedback on success that focuses on improvement underlines personal strengths and feedback that focuses on shortfalls exposes personal shortcomings (Bandura 1993: 125).

Perceived Controllability

Bandura regarded independence as something of a fundamental issue in human action and hence also of Self-efficacy. According to Bandura (1993: 125), the other essential confidence system is the concerns of learner’s opinions about the magnitude to which their surroundings are manageable. The way a learner interprets control in his or her life can shape Self-efficacy. Control as a rule can be in general recognised as external, operating by chance or through external control, or internal, as a direct result of personal effort. A significantly higher degree of internal control appears to correlate with greater performance.

Exercising power has two dimensions. The first aspect involves the degree and magnitude of personal effectiveness in bringing about change by persevering effort and innovative use of skills and resources and the second element regards environmental modifiability (Bandura 1993: 125). Bandura (1993: 125) claims that people afflicted by self-doubt expect the uselessness of attempts to improve their condition in life, yet those who have a strong belief in their ability, through creativity and persistence, discover ways to take some power, often in situations with minimal resources and many restrictions.

Causal Structure

Bandura (1993: 128) claims that initially learners rely too heavily on their accomplishments in assessing their effectiveness and establishing their expectations. However, as the learners begin to develop a long-lasting and secure collection of memories about their effectiveness through
more experience, their success achievements become stronger and more intricately enhanced by their confidence in their personal effectiveness (Bandura 1993: 128).

Perceived Self-efficacy directly influences success and its powerful consequences on goal setting and analytical opinion. Perceived Self-efficacy in the initial phase increases the level of performance by focusing on goal setting and analytical strategies. The important structure of causal relationships in the subsequent process is replicated, with the exception that involvement of prior success is lower and perceived Self-efficacy assumes a greater minimal role in success, influencing it both directly and then through the setting of goals and analytical strategies of managers. Figure 2.8 indicates the path analysis of causal structure.
Figure 2.8  Path Analysis of Causal Structure

2.7.7.2 Motivation Process

In the motivation process, Self-efficacy now affects motivation by defining the goal level, determination and resistance to shortcomings (Bandura 1994: 73). Students with an elevated sense of Self-efficacy appear to set higher goal rates than those who have weak Self-efficacy, resulting in a propensity to exert greater effort. Similarly, learners with lower Self-efficacy usually point to a lack of expertise, whereas those with strong Self-efficacy tend to refer to a lack of commitment. As a result, those with little Self-efficacy have a tendency to give up in challenging circumstances (Bandura 1994: 73). On the other hand, those with high Self-efficacy persevere in difficult circumstances (Bandura 1994: 73).

Figure 2.9 indicates the alternative conceptions of cognitive motivation.

Figure 2.9 Cognitive Motivation

![Diagram of Cognitive Motivation]


The majority of a learner’s motivation is developed through a process of knowing and perceiving. Concepts are been built around three different forms of cognitive motivators that lead to the learners’ performance. As illustrated in Figure 2.9, cognitive motivators are formed by perceived goals, outcome expectancies and perceived causes of success or failure. The
related theories are the Theory of Attribution, Theory of Expectation-value and Theory of Targets.

### 2.7.7.3 Affective/Emotional Process

Self-efficacy, on a number of fronts, influences affective processes, which regulate emotional states and stimulate emotional or physiological reactions. Bandura (1994: 75) argues that a poor sense of effectiveness for exercising stressor regulation triggers autonomic reactions, catecholamine secretion and endogenous opioid release. Conversely, those with a stronger sense of self-regulatory effectiveness tend to be more successful in reducing health-impaired behaviours and integrating health-promoting habits into their lifestyles (Bandura 1994: 75).

### 2.7.7.4 Selection Process

Self-efficacy also influences selection processes, which suggests that Self-efficacy influences the kinds of tasks and conditions the students select. Figure 2.10 illustrates the interaction between the different reciprocal determinism.

**Figure 2.10 Triadic Reciprocal Determinism**

![Triadic Reciprocal Determinism](image)

Bandura (1994: 75) highlights that learners will evade situations that they believe are beyond their capabilities, but readily take on challenges that they perceive themselves to be capable of handling. Hence, learners will choose the environments in which they exist and influenced by those environments. Bandura (2004: 616) highlights that individual functionality seems to be the result of the dynamic interplay of psychological, behavioural, and environmental factors. Such relationships between the different fields of human experience is the basis for Bandura's conception of reciprocal determinism. The environment or the learner’s situational characteristics affect behaviour in a given situation and which in turn behaviour affects the environment or the learner’s situational characteristics. As a final point, cognitive and personal factors influence behaviour and in turn affect those same factors, (refer to Figure 2.10).

2.7.7.5 Analysis of Self-Efficacy Psychological Processes and Learner Performance

The current section discussed and addressed the four psychological processes of Self-efficacy affecting the learners’ performance. As demonstrated by Albert Bandura's theory of Self-efficacy, in term of the cognitive rational processes through which learners with strong Self-efficacy convictions tend to anticipate performance, learners with poor Self-efficacy convictions tend to concentrate on things that could go wrong and learners contemplate disappointment. However, through the means of General Education the confidence level of learners is improved which will in turn precede a greater Self-efficacy belief, resulting in better or higher success in learner performance in the subject of Management Accounting.

Albert Bandura also stressed that insufficient performance presents high interpretative challenges that learners struggle with basic intellect and that learners would therefore choose assignments that reduce errors and do not disclose their abilities at the cost of increasing their knowledge and expertise. By way of integrating the theory on conception of ability with Management Accounting, learners who regard General Education as a learning ability that becomes more intense by acquiring knowledge and aptitudes will assume a functional-learning goal for Management Accounting. The method of evaluating the learner's progress can intensely have an effect on their Self-efficacy assessment and in that way modify the sequence of their achievements.
By incorporating the theory of Self-efficacy on the motivational process within Management Accounting, learners with an elevated sense of Self-efficacy in Management Accounting will incline to set high goal levels than those with little Self-efficacy and as a result will incline to exert more effort succeeding in the subject. However, learners with low Self-efficacy in Management Accounting will tend to point failures to a lack of ability while those with high Self-efficacy tend to point failures to a lack of effort. Albert Bandura highlights that the factors influencing the learners perceiving functioning are conception of ability, social comparison influences, framing of feedback, perceived controllability and casual structure.

The theory of Self-efficacy and the selection process considers the learners’ views concerning the magnitude to which their circumstances are manageable. If learners believe that they have the necessary General Education skills, then they would be in control with the subject Management Accounting. Those learners who have a firm belief in their efficacy through ingenuity and perseverance will figure ways of taking some control even in environments containing limited opportunities and many constraints but those learners who are plagued by self-doubts anticipate the futility of efforts to change.

Albert Bandura’s theory of Self-efficacy on affective process indicates that affective processes regulates emotional states and stimulate emotional or physiological reactions. General Education skills can influence the affective processes of learners by regulating their emotional states and stimulating emotional or physiological reactions towards Management Accounting. The effect of learners being fond of particular behaviours can exert strong influence on their actions under some circumstances. If learners have a higher liking for Management Accounting, then the learner’s performance for the subject will be higher.

The discussion on the four psychological processes of Self-efficacy and its relationship with learner performance has been attended to at length. The next section will focus on the assessment processes involved in learner performance.
2.7.8 Self-Efficacy Assessment Processes and Relationship Model

The philosophy of Self-efficacy refers to the classification of four types of variables involved in the production of Self-efficacy: enactive mastery; vicarious experience, verbal persuasion; and physiological excitement. The three assessment methods used to measure Self-efficacy can assess the degree of Self-efficacy that actually affects the outcomes of learners' success.

2.7.8.1 Assessment Processes

The three Self-efficacy evaluation processes are activity criteria analysis, knowledge attribution analysis and personal and situational resource evaluation. The discussion regarding the three assessment processes together with its association with Self-efficacy follows.

Analysis of Task Requirements

The performance required at different levels will depend on a learner’s strength of mind. An analysis of task requirements produces judgements about what it will take to perform at various levels (Gist and Mitchell 1992: 189). The researchers highlight that when a learner is considering a responsibility of making a market prediction, he/she may acknowledge the degree with which mathematical skills like those of statistics are required to perform well, and the time required. Accordingly, the activity analysis should be well described whenever the work is unique or even just discovered. The tasks that were performed personally and frequently by individuals in the past, then those individuals are likely to rely more heavily on their understanding of the causes of earlier performance levels (Gist and Mitchell 1992: 189).

Attributional Analysis of Experience

Gist and Mitchell (1992: 189) point out that attributional analysis involves a learner’s judgement about why such an accomplishment level took place. Even though individual experiences may perhaps make available the robust data for attributional scrutiny, causal information from experiences such as persuasion or modelling can also be gathered (Gist and Mitchell 1992: 190). The researchers indicate that learners may determine the appropriate skills
and personality traits adopted by lecturers or peers in the performance of a task by calculating the extent for which certain skills are identical to their own and by inferring the magnitude of their own commitment versus the ability required to produce a comparable result.

**Assessment of Personal and Situational Resources**

Gist and Mitchell (1992: 190) emphasise that a person's evaluation of private and situational supplies relates to an individual's consideration of personal and situational factors. Personal factors may include such items as skill level, anxiety, motivation and energy available, while situational factors may consist of features, for instance conflicting requests and distractions (Gist and Mitchell 1992: 190).

**2.7.8.2 Self-Efficacy Relationship Model**

The four types of factors exercised in the improvement of Self-efficacy are enactive mastery (personal attainments), vicarious experience (modelling), verbal persuasion and physiological arousal (e.g. anxiety) provide specific information clues. It is significant that a learner attempts to identify and organise the distinctive information clues made available by the four types of experience.

Figure 2.11 illustrates a simplified overview of the four types of factors used in the growth of Self-efficacy and the three categories of assessment relationship procedures of Self-efficacy. The focus is on the judgments and information groups prior to the efficacy assessment and the consequences of efficacy beliefs, for example, the goals are not the principal interest of Figure 2.11. The three forms of evaluation methods give the impression that they are involved in forming Self-efficacy.

Gist and Mitchell (1992: 190) stress that even though the three evaluation processes are distinct, progression through them may occur repetitively, and the relative importance within each method may be influenced by the complexity of the assignment itself or through the magnitude of previous experience with those of the challenge. The assessment procedures will produce knowledge data that could be used in a summary level decision process that determines Self-
efficacy that is orchestration ability estimation (see Figure 2.11). Bandura (1988: 353) highlights that self-appraisal is a process in which various sources of information are evaluated and integrated to form self-efficacy, and that the comparative valuation of information may differ across domains of functioning and situational environments.

**Figure 2.11  Self - Efficacy Relationship Model**


**2.7.8.3 Analysis of Self-Efficacy Assessment Processes and Relationship Model**

The theory of Self-efficacy regarding the alignment amongst the four factors for advancing Self-efficacy and the three valuation procedures required to understand Self-efficacy will decide on the level of Self-efficacy that absolutely affects the learner’s performance results. In the first two valuation procedures, job prerequisites and attributional assessment of involvement provide the required standards to perform meticulously on a job in relation to aptitude and motivational factors. The third assessment considers the personal and situational
component. The assessment processes are a significant tool used in deciding the level of Self-efficacy.

The next segment will concentrate on the involvement of Self-efficacy in information processing and the effects thereof.

2.7.9 Self-Efficacy and Information Processing

Cognitive psychology views a person as an information processor in the same way as a machine that receives information and follows an output program (McLeod 2008). Cognitive psychology compares the human mind with that of a machine, which means that learners are indeed processors of knowledge, and that it is necessary and acceptable to research the internal emotional processes, which often reside behind learners' motivations and reactions.

2.7.9.1 Goal Setting

Schunk (1991: 213) suggests that learners who set goals, as well as through teachers or lecturers assigning a target, are prone to feeling an initial sense of Self-efficacy to achieve it. Often, learners who obtain goals are more likely to make a commitment to pursue the task and therefore goals need to affect performance. As learners move through the mission, they engage in activities that they think will contribute to achieving the goal. Schunk (1991: 213) believes the activities that learners engage in are attending to instruction; rehearsing material to remember; expending effort; and persistence. Learners will need to interpret the information before rehearsing the information in order to achieve the goals set by themselves or teachers/lecturers.

2.7.9.2 Academic Material

Research studies have shown that learners' Self-efficacy about their capabilities can influence motivation and learning to process academic material knowingly through the process of perception, memory, judgement and reasoning. Schunk (1989: 16) argues that learners who
consider that they will have significant difficulty in understanding information may have a lower perception of effectiveness in understanding it, whilst learners who feel they are capable of managing information processing requirements will feel more positive. A greater sense of efficacy encourages learners to carry out those tasks that they are confident in will result in becoming skilled. As a learner works on a task, he/she derives information about how well they understand. Schunk (1991: 215) believes that if the learner has the perception that he/she can interpret the academic material, it enhances their efficacy and incentive. Alternatively, if the impression is that minimal progression is been made, then it will suppress learners' effectiveness and motivation. However, if learners feel they can do well by modifying their commitment to the assignment, it may increase their effectiveness and encouragement.

Salomon (1984: 647) carried out a study on students’ efficacy on studying from television, composed text, and found that Self-efficacy has links to psychological determination. Participants had been approved permission on whether to watch a televised movie or read comparative text and thereafter participants were evaluated on the material. It measured the amount of human energy required to know. The findings showed that learners with increased mental commitment for text had shown higher text-related achievement ratings. Self-efficacy was effectively associated to intellectual effort and accomplishment in relation to the learning of text. As with television research, it correlated with intellectual effort in the negative. Students who viewed television felt that learning was more effective, but used minimal energy and accomplished at an even reduced level.

Meier, McCarthy and Schunk (1984: 107) highlight that mental processing measurement amongst university students is associated to the effectiveness of writing. Learners were at the beginning and at the end of a semester requested to write essays. Thereafter, their efficacy was assessed after accomplishing the course writing objectives. Efficacy accurately predicted performance in writing.

2.7.9.3 Analysis of Self-Efficacy and Information Processing

The analysis of General Education in Chapter Two in relation to the Rauding Theory refers to understanding or comprehending words and phrases in a segment. It is a combination of reading
and listening, reading by focusing towards typed texts to decide the interpretation and hearing enunciated phrases to decide the interpretation. A person is rauding when the individual is not reading, skimming, researching or memorizing, but focuses in sequential order on a hundred percent of the phrases in a text segment, at the same time acknowledging all the thoughts found in that passage. The research findings regarding the processing of academic material above have close links to the Rauding Theory.

The Management Accounting programme demands learners to be proficient in reading and interpreting the requirements of case studies. The rapid and scanning methods that learners usually use may be more suitable for reading newspaper articles. Therefore, learners who believe that they will experience considerable difficulty interpreting academic material are capable of holding a low sense of efficacy for learning Management Accounting. However, those learners who believe they have become capable of managing information-processing requirements should be more efficacious in Management Accounting. A study by Salomon (1984) observed that all those learners with increased mental commitment for writing also showed higher text-based success scores. The Self-efficacy of text learning was positively associated to intellectual effort and a sense of accomplishment. The Self-efficacy for television studying was negatively associated with mental effort. Learners who watched television thought they were more successful in learning and therefore used a smaller amount of energy and achieved at a reduced level.

The above sections described the Self-efficacy Theory and its strengths, as well as how the theory would apply to Management Accounting. It is therefore equally essential that the next segment focus on the assessment of the theory in terms of its limitations.

2.7.10 Critical Analysis of the Self-Efficacy Theory

Self-efficacy over the years have been a subject of debate and scrutiny. It is therefore imperative that the present study also analyses the pros and cons of Self-efficacy so that one can make a rational or objective decision. The support is long-term, exemplified for the concept of Self-efficacy through a widespread array of disciplines and applications. The discussion of Self-efficacy is structured and analysed according to the following main themes:
Causality

Self-efficacy predicts but does not cause behavioural change and its usefulness is limited.

Ethnocentricity

Self-efficacy is a largely Western and American concept and it is not universally suitable.

Incompleteness

Self-efficacy is one of a number of variables that can influence behavioural change, and while it has its usefulness, it does not offer a complete explanation of behavioural change.

Triviality

The triviality concept in social psychology is more common-sense rather than of serious academic and theoretical value.

Social Cognitive Perspective

Some reviewers and critics of the Social Cognitive Theory of personality argue that it is not a unified theory and does not explain development over time.

2.7.10.1 Causality

Hawkins (1995: 235) had concerns about whether causality of Self-efficacy were a predictor instead of a source of behaviour. Hawkins has experimented with different research on Self-efficacy use. Experiments examined pain control, over-eating, bulimia, avoidance of cigarettes, diabetes self-care, medical treatments control, protection and contraceptive usage, work-related results, meaningful career opportunity; and student psychological goal achievement (Hawkins 1995: 236-237). He acknowledged that a multitude of research supported a correlation regarding Self-efficacy as well as achievement with a number of clinical issues. Hawkins
suggests that perhaps the experiments simply underscored the argument that somehow the concept was successful in explaining and predicting attitudes. Bandura, nevertheless, replied immediately and over the years, both have participated with assertions and counter-arguments. Bandura claimed by providing empirical research of success on induced pain threshold through induced Self-efficacy rates. Participants received incorrect input on pain levels and consequently subjected to pain tolerance assignments.

Bandura (1995: 181) indicates that perceived Self-efficacy seemed to overcome past achievements and was the appropriate way of interpreting the degree of success. He seemed to have over-reacted, apparently far more than an enthusiastic effort to offer good an explanation for the power of positive thinking, as well as to garner support with like-minded researchers.

However, Hawkins does present some fair and reasonable arguments. Hawkins (1995: 235) suggests that perhaps the aim was to pose concerns, which could be utilised to improve instead of refuting the principle of Self-efficacy. Causality has traditionally been controversial in behavioural sciences and as pointed out by decades of argument about whether attitudes trigger actions or even whether actions cause attitudes (Hawkins 1995: 238). Olson and Zanna (1993: 122) agree with Hawkins that the affect-based and cognition-based attitudes generates seemingly divergent results concerning the effects of introspection on attitude and the behaviour consistency. The causality issue conveys valuable caution about a few assertions formulated regarding Self-efficacy, more particularly in relation to the perceived hypothesis as a methodology to resolving all teething troubles. Hawkins (1995: 238) points out that the main features regarding Self-efficacy seem to be that Self-efficacy can anticipate complicated human behaviour; that perhaps the Self-efficacy of the individual is driven by all the choices the individual makes; and that the guidance can be changed with humans. It indicates that it has a position to facilitate behavioural change. Hawkins (1995: 235 and 239) stresses that the construct is useful, influential and naturally appealing.

2.7.10.2 Ethnocentricity

Bandura was the child of a migrant from Poland. He was educated and was in employment in colleges across North America. It was foreseeable that his research, since it was almost entirely
of Western origin, that at some stage be questioned in terms of ethnocentric unfairness issue regarding Self-efficacy, but this trend has changed over the years. Throughout the course of time, there have been several studies in various medical and socio-economic backgrounds. The early studies present promising conditions for supplementary Self-efficacy assessments and deductions.

Klassen (2004: 206) suggests that while Self-efficacy has proven to be a good predictor of success with Western populations, it does not have sufficient understanding as to how Self-efficacy functions amongst non-Western persons and ethnic communities. Klassen proceeded to study research carried out over a span of 30 years, exploring Self-efficacy in particular cultural communities and comparing Self-efficacy between various geographical or ethnic communities. Klassen (2004: 209-217) selected a list of objective studies that centred on a vast number of conditions, including China, Hong Kong, India, Taiwan, Thailand, the former Yugoslavia, Hungary, Russia, Israel, France, Italy, Costa Rica, Canada and Australia, plus specific cultural classes, such as Asian, African and Hispanic Americans. The review in general appears to be comprehensive and rigorous, but did not seem to include African countries.

The recurrent indication in the results is that certain cultures or groups in their effectiveness are much more collectivist than others, as opposed to individualist. Multiple cross-cultural studies have categorized nations and ethnic communities as per their extent towards individualism versus collectivism, with the findings indicating that European Americans were substantially more individualistic than participants from Hong Kong, India, China, Japan, Korea, Poland, Singapore and Taiwan (Klassen 2004:208).

The finding arose in the measurement of individual Self-efficacy scores within a group, rather than a collection of scores. From the study review, it is apparent that effectiveness beliefs function in a different way in non-Western cultures in comparison to Western cultures. For participants from Western individualistic societies, Self-efficacy values were typically higher than for those from Asian, probably collectivist, settings (Klassen 2004: 225).

According to Bandura (1999:35), there are obviously collectivists in individualistic societies and vice versa, yet at both social and individual rates of evaluation, a strong perceived effectiveness promotes high community commitment and success achievements. Even though
the individual and collective debate continues, there has been some interesting research conducted over the years. Voronov and Singer (2002: 468) highlight that individual, collective variables are expected rather than assessed, and that deprivation is accountable for collectivist activities in several non-Western circumstances, instead of any researched parameter.

Bandura (2005: 27) highlights that nations were substitutes considered for psychosocial orientations, which then accredited to the nation and their members as all having the same thought and behaviour alike. He also points out that Japan's citizens are categorised as collectivists and those in the United States of America as individualists, but societies are complex and not rigid monoliths but internally diverse structures. Finally, there is a considerable diversity amongst societies placed in the same category.

Regardless of the influence of various cultural orientations, Self-efficacy scores such as modesty and self-criticism can be different for people from different cultures (Klassen 2004: 219). Once standardized, cross-cultural variations emerge in rates of efficacy beliefs but there is documentation whereby efficacy beliefs play an important role in empowering non-Western cultural groups. Klassen (2004: 225) explains that success across both western and non-western environments are regarded as largely predictive of Self-efficacy. The findings from the analysis indicates that efficacy beliefs are usually lower but equally or maybe even more indicative of success among collectivists, and that standardising their belief in efficacy as well as subsequent functionality can be more reliable than between individuals.

Klassen (2004: 228) suggests that there has been substantial support for the finding that while efficacy beliefs are valued differently, they become important elements throughout the motivational functioning of individualists and collectivists. Bandura has performed similar analyses of research that examined the framework and operational role of efficacy beliefs around a broad variety of age levels, class and diverse spheres of influence in various cultural situations. The results indicate that a good sense of efficacy has a common functional meaning, irrespective of cultural constraints (Bandura 2005: 28). Substantial support appears to be handed to both Klassen and Bandura’s assumptions that the idea of Self-efficacy has a widespread value across different cultural contexts, particularly the non-evaluation of separate values or scores across different settings.
2.7.10.3 Incompleteness

The Self-efficacy argument being an incomplete definition of behavioural improvement does not seem to challenge its credibility. There seems to be no common definition that can encompass all factors that control human behaviour or all variables that will lead to change in behaviour. An employed idea necessitates being logical and manageable. As Bandura (2005:25) points out, a limited number of defining concepts can compensate for a broad spectrum of occurrences.

Hawkins (1995: 238), although challenging the causality, admitted that Self-efficacy is valuable, powerful and naturally attractive. Ryan and Deci (2006: 1570) suggest that Self-efficacy is indeed a prerequisite towards encouragement. Yet the assumption that someone can effectively carry out an activity or influence an occurrence does not answer why one behaves, which would be a matter from the very essence of human engagement and dedication. For such a reason, the researchers conclude that perhaps the theory of Self-efficacy could not differentiate itself from individual acts or foresee the implications of that same distinction.

2.7.10.4 Triviality

A Norwegian psychologist named Smedslund published an essential article in 1978 that is mentioned even to this day. The article was entitled 'Bandura's theory of Self-efficacy: A set of theorems'. The definition of Self-efficacy used was an example of how the author perceived it somewhat of a trend in psychology to transform rational thinking findings about existence and action into an unfounded hypothesis. Smedslund argues that much of the empirical testing in psychology is pointless because it tests things, which are analytically associated, so that an association or correlation is predictable. Smedslund (1991: 331) claim that studies that show people who do not consider that they can do something do not try to do it are non-empirical.

Smedslund's claims have led numerous academics to consider the attentiveness of designing unfounded scientific studies about behavioural dimensions that are theoretically or rationally connected, although not so much of a threat on Self-efficacy. The researcher requested a well-defined feature in research concerning confirmation that is logical and verification that is
empirical and continues to be in favour of a new scientific discipline, which he termed ‘psychologic’ (Smedslund 1991: 325). Bandura (2004: 628) responds by suggesting that building theory is indeed a long-term project, not just the brief-winded one. Bandura further highlighted that the structured form of the theory that occurs in paper is the consequence of a long interaction between evidenced-based inductive behaviour and conceptually-based deductive action. Bandura also notes that ascertained impact evaluation is key to experimental investigation.

While criticism of methodological and empirical approaches to psychological study over the lack of common sense throughout the field continues to be deliberated even though it was one of the first practical examples of Smedslund, the discussion has shifted into and away from Self-efficacy. The vocabulary used also came under criticism as to how common findings and behavioural explanations were directed towards challenging words and phrases. Bandura (1990: 104) reacts to the accusation by suggesting that he has no dispute with people who attempt to portray scientific words in colloquial ways, unless the definitions of psychological structures and procedures are distorted. Bandura continues to point out that the simplification cycle sadly too frequently deprives constructs of substantial defining characteristics or replaces them with substitute definitions brought on by colloquialisms. Bandura further points out that advancement in the field is accomplished best through well-defined frameworks that completely represent the phenomena of significance and is grounded in a theory that defines their determinants, mechanisms of mediation and different consequences.

The controversy about Self-efficacy in the language used has proved clear, understandable to many people, subject to interpretation as well as less challenging than in many other areas of psychology and education.

2.7.10.5 Social/Cognitive Learning Theory

The approach to social learning takes into consideration thought processes and acknowledges the part they play in determining whether or not to mimic an action. Therefore, the theory of Social Learning provides a more systematic explanation for human learning by understanding the importance of mediation procedures. McLeod (2016) suggests that while it can clarify some
very complicated behaviour, it may not adequately describe how the whole spectrum of behaviour like thoughts and emotions are formed.

One has a degree of cognitive control over one's actions and just because someone has witnessed aggression does not really suggest that one would have to replicate such behaviour. Hence, Bandura revised his theory and named his Social Learning Theory to Social Cognitive Theory in 1986 as a clearer explanation of how someone learns from one's social interactions (McLeod 2016).

The discussion around criticisms of the Social/Cognitive Learning theory centres on the following key areas:

- That the theory of Social Cognition is not really a single theory and as such, the various aspects of the theory are not link up with one another to establish a coherent description of actions.
- It is not possible to study all social learning openly. The impact that social cognition would have on development can therefore be difficult to measure.
- The theory of Social Cognition continues to disregard changes in maturation and lifelong behaviour. It fails to explain how the inspiration or attitude changes over time.

Operational

The structure of Social Cognitive Theory is complex, making it often difficult to implement in total. Therefore, one notices that only the simplest elements of the principle are generally institutionalised in practice, such as Self-efficacy (Flamand n.d).

Environmental

Since Social Cognitive Theory suggests a complex relationship between the world and the person, it presumes that one is largely controlled by one's circumstances, and that changes in a situation will thus change the behaviour. However, it has been claimed that behaviour is much more consistent for many individuals, regardless of the situation and that minor changes in the environment do not always contribute to behavioural changes (Flamand n.d).
It has been debated that Social Cognitive Theory lacks biological or hormonal determinants and imposes much focus on cognitive abilities as modelling and establishing perceptions (Flamand n.d). Flamand (n.d) argues that some psychologists contend that biological or hormonal mechanisms can essentially influence people's way of thinking and making decisions, irrespective of previous experiences or cognitions.

(Flamand n.d) argued that social cognitive theory does not consider underlying hereditary variations and disparities in intellectual ability. For instance, it assumes that some people can of course be better at learning supplementary skills than others. Moreover, people with cognitive impairments may not be as effective at recognizing and modelling behaviour. Social Cognitive Theory was therefore criticised for disregarding those differences.

**The Bobo Doll Study**

Bandura, Ross and Ross (1961) formulated an experiment in which participants would witness an adult acting in a brutal way toward a Bobo doll toy. The experiment occurred at Stanford University, where Bandura served as a professor in a teaching position. The volunteers were children that attended the Stanford University nursery. Again, Bandura performed a second experiment in 1963, replicating certain aspects of the preceding research. However, the participants watched a video of a Bobo doll being hit as an alternative to witnessing the aggressive actions of an adult first-hand.

Bandura, Ross and Ross (1961: 581) found that children who encountered an abusive character model displayed a lot of spoken and bodily hostility that bore a resemblance to the model's scripted practice. Bandura states in his 1963 research that children mimic filmed violence in the same way as lived violent role models (Bandura, Ross and Ross 1963: 9). Bandura also concludes that it is not comforting to watch filmed violence (Bandura, Ross and Ross 1961: 581). The children were showing more violence as an alternative to becoming less aggressive after watching offensive films or cartoons.
Admittedly, the ‘Bobo Doll Study’ falls short as it fails to identify many problems. Hart and Kritsonis (2006: 4) stressed that challenges were selection bias, history, maturation and uncertain temporal sequence. The children were chose from Stanford University's nursery, hence their parents appeared to be white, upper-middle-class and highly educated, given the study era (Hart and Kritsonis 2006: 4). The researchers’ further highlight that racial and ethnic composition of the children was never identified, yet Bandura and others have (over)generalized these findings to explain aggression and violence among minorities and lower socioeconomic communities.

Hart and Kritsonis (2006: 4) claim that because the time-span under no circumstances been stated and information for subjects in real-life abuse and control group situations came from Bandura's 1961 study, it plays a major role in disputes to the internal credibility of history, as well as children's growth and development. The researchers therefore emphasise that incidents that happen concurrently with the research, in addition to those that occur naturally as a part of their growing cycle, may well have been inconsistent with observations/outcomes from those in the 1963 analysis. Therefore, one should acknowledge the danger of an unknown time sequence because the shortage of clarity as to which variables first occurred creates uncertainty as to the true cause(s) and effect(s) (Hart and Kritsonis 2006: 4).

Other Shortcomings

One of Social Cognitive Theory's main concerns is that it is not an integrated concept (Flamand n.d). Which means that there may be no relation between the various features of the philosophy. For example, scholars at present cannot find a link in the social cognitive perspective regarding observer learning and Self-efficacy (Flamand n.d). Since the philosophy is growing, it is not possible to completely explain and incorporate all sections of its dimensions in one description.

2.7.10.6 Ratification of Theory

Bandura (2004: 628) maintains that a well-founded theory presents human problems with solutions. Bandura's own evaluation of a theory's legitimacy is that it should meet three requirements. The first criterion is that it must have the control of explanation; analytical
power; and the third criterion is that it must show operational ability to change the human condition.

The overall analyses of literature strongly indicate that the idea of Self-efficacy includes features of classification and prediction. The implementation of the concept of Self-efficacy requires a combination of adjustable contributing factors and a deep understanding of community and structural variables, which at least give it some operational influence. The Self-efficacy theory represents the humanistic, even positive, viewpoint of ideal behaviour taken by Bandura. The level of reasoning perceived to have been in place in the process of behavioural transformation may be extreme and subject to further inquiry. Nevertheless, Bandura’s research brings new insight to the application of motivational studies, education and change of behaviour. The basic question of Self-efficacy is not associated to the definition itself, but to the word that being commonly and broadly used. It also has a superficial understanding of the nature of the problem and its function and meaning in particular.

There is currently more scientific research supporting Bandura's argument that Self-efficacy beliefs affects nearly each dimension of an individual's personality. Self-efficacy relates to how persons think constructively, pessimistically or optimistically; how much they affect oneself and achieves success in the midst of challenges in life; how vulnerable people are to stress and depression; and how they make everyday decisions. Self-efficacy is indeed a vital contributor to personality-regulation (Navak 2008: 153).

Hart and Kritsonis (2006: 4) suggest that by using three study groups and a control group for 96 adolescents, Bandura was able to wisely monitor possible variables like those of gender (for both models and members of the media) and participants' behavioural arrangements personal character. The two researchers also comment positively about Bandura and associates for defining explicitly at the beginning those attitudes that would be considered predominantly violent in essence as well as imitative and non-imitative reactions. Bandura and colleagues identified and evaluated the different aspects aggression can take, including physical, verbal, etc., as well as the degree of tolerance of aggression of respondents before clinical exposure. Hart and Kritsonis (2006: 4) indicate that with the variables under scrutiny, the study brilliantly elucidated various factors and major principles at work in the Social Learning Theory.
2.7.10.7 Summation of Analysis of the Self-Efficacy Theory

The present research considers both the limitations and de-limitations of the Self-efficacy Theory so that the study gives a better understanding and highlights the relevance of the theory itself. The Self-efficacy Theory was critically analysed according to five main themes, namely Causality, Ethnocentricity, Incompleteness, Triviality and Social Cognitive Perspective.

Some researchers believe that Self-efficacy predicts but does not cause behavioural change and that its usefulness is limited. Hawkins was one such researcher who had concerns about whether causality of Self-efficacy was a predictor rather than a cause of behaviour, but the researcher did concede that a variety of literature confirmed an association between Self-efficacy and an achievement with a range of clinical problems. Hawkins further states that the studies emphasized the concept as successful in explaining and predicting attitudes.

With regard to ethnocentricity, some researchers believed that Self-efficacy fundamentally a Western and American concept, but it is not generally suitable. Klassen highlighted that although Self-efficacy has shown to be a convincing forecaster of performance within Western populations, not much understanding exists about how Self-efficacy operates with non-Western people and cultural groups. However, there seems to be significant support for both Klassen and Bandura’s findings that the Self-efficacy construct has a universal significance across various ethnic backgrounds, more especially the non-evaluation when separate values or scores exist across various surroundings.

Concerning incompleteness, there were a few researchers who believed that Self-efficacy is one of a number of variables that can influence behavioural change and that while it has its usefulness; it does not offer a complete explanation of behavioural change. Ryan and Deci were researchers who believed that the Self-efficacy theory is unable to distinguish from independent actions or predict the consequences that follow from the distinction. However, the suggestion of Self-efficacy being an incomplete conception of behavioural change does not really appear to threaten its validity.

The triviality concept in social psychology is more common sense rather than of serious academic and theoretical value. Smedslund highlighted that much of the empirical testing in
psychology is pointless because it tests things, which are analytically associated so that an
association or correlation is predictable. Even the terminology employed happened to come
under the microscope and questions arose on how basic behavioural interpretations and
definitions were translated into complex and difficult words and phrases. The discussion on
Self-efficacy regarding the vocabulary used has been clear, understandable to many people,
subject to interpretation and much less troublesome than in most other fields of psychology
and education.

The opponents of personality's Social Cognitive Theory contend that it is not a unified theory
and that it does not clarify growth over time. The current study centred on the discussion of
social/cognitive learning theory critiques in the following key areas:

- That perhaps the philosophy of social cognition is not a single theory and that various
elements of the philosophy are not tied together to establish a cohesive understanding
of behaviour;
- It is not possible to study all-social learning directly. Therefore, quantifying the impact
that social cognition has on development can be challenging; and
- The Social-cognitive theory tends to ignore development and lifespan behavioural
changes and does not clarify why encouragement or personal character shifts over time.

The focus areas of the present study were Operational, Environmental, Biological, Innate, the
Bobo Doll study and other shortcomings. The operational structure of Social Cognitive Theory
is complex and often difficult to implement in totality. As a result, Flamand indicated that only
the easily implemented aspects such as Self-efficacy is entrenched. The environmental aspect
of the Social Cognitive Theory suggests a dynamic interaction between the environment and
an individual and presumes that a person is controlled by one's circumstances. In addition,
changes in that situation will thus change behaviour. For many people, Flamand emphasized
that behaviour is far more stable regardless of the situation and that small environmental
changes do not always contribute to behavioural changes. Researchers noted that the biological
dimension of Social Cognitive Theory places much focus on cognitive abilities such as
modelling and shaping beliefs; ignores biological or hormonal determinants; and ignores
inherent genetic differences and learning differences.
In the field of the ‘Bobo Doll’ study, Hart and Kritsonis highlighted that the issues were selection bias, history, maturation and ambiguous temporal sequence. They also suggest that the children were chosen from Stanford University's nursery, hence their parents appeared to be white, upper-middle-class and very knowledgeable given the study age. The researchers also emphasize that the children's racial and ethnic makeup was never established and that Bandura and others have (over)generalized these results to justify marginal hostility and brutality and lower socio-economic populations.

The findings connected with Social Cognitive Theory are still, for the most part, introductory. It does not provide a full description or overview of how social cognition, behaviour, environment and personality are associated, although there are several explanations. A further downside is that social learning may not always be directly studied. For this reason, the impact of social cognition on development can be difficult to determine. Similarly, other personality characteristics are subjective and can be equally difficult to assess and accurately measure. The Social Cognitive Theory, as a last point, appears to neglect growth and development in life. For this reason, the understanding about how a child understands by observation and how an adult can learn in the very same way is not distinguished and growth variables are not considered.

Bandura’s Social Cognitive Theory provides a framework in which to use the natural learning environment presented by social interaction to develop knowledge that can be adapted for personal learning. Bandura deliberately engages learners in the educational process by way of Self-efficacy and self-regulation. While an instructional theory based on social cognitive theory may not be obvious, the implications of modelling, cognitive processes and self-awareness all postulate relevant instruments in developing a learning-friendly environment.

In summary, although Bandura’s research did come under scrutiny and criticism similarly researchers have acknowledged, commended and supported his work.
2.8 CONCLUSION

The first section of chapter three focused on the independent variable proposed in Chapter One of the research, which was General Education. The present chapter commenced by defining the term ‘General Education’, with a view to obtaining and providing a better understanding of the concept to the reader. The chapter then focused on the overall factors affecting the General Education of learners. The aspects that were examined regarding General Education relate to the level of education in rural schools, educational infrastructure, time-management, functional vs dysfunctional schools, teaching and learning methods. The section thereafter addressed General Education at school level, highlighting the Mathematics/Maths Literacy level, the language proficiency of teachers and learners and finally the socio-economic status of learners.

Thereafter, the section focused on the international skills requirements of accountants by IFAC and other professional Accounting bodies, stressing the impact of skills requirements on the labour market. The chapter highlighted the Accounting skill shortages; addressed important issues regarding the future growth prospects by employers; availability of Accounting positions; creation of new financial positions; availability of replacement positions; projected Accounting occupation figures within the country; and provided an analysis on the supply side for Accounting talent. Statistical data regarding the labour market were obtained from SAICA, since they are one of the recognised professional Accounting bodies for accountants within the country. There was other study of this magnitude was undertaken by other Accounting bodies.

The present chapter concludes by outlining the policy and procedures regarding General Education at DUT. The background information on DUT’s vision regarding its General Education policy and procedures are essential, since the present study stemmed from the institution’s vision and the author’s earlier findings on the poor General Education skills of Accounting learners. DUT’s Vice-Chancellor in an email communication on 05 December 2014, highlighted that General Education will take place from 2015 at the institution. From the DUT’s Vice Chancellor statement, it would seem that the inclusion of General Education is a new concept within the institution and that no other universities in South Africa have undertaken such a project. The section also highlighted the DUTs guidelines, objectives, components and themes of its General Education policy.
The second section of chapter three focused on the dependent variable proposed in Chapter One of the research, which was Self-efficacy. As in the form of Self-efficacy and other beliefs, the psychological disparity between Self-efficacy and self-concept has not always been independent from humans. The study highlighted that some individuals and scholars use the words synonymously, while others define self-esteem as a generalized form of Self-efficacy. Other researchers describe an academic self-concept as self-perceptions of ability. For that reason, the present chapter began by defining the term Self-efficacy to put forward a better understanding of its meaning and needs. The chapter also addressed the meaning of self-concept or self-esteem and Self-efficacy to avoid any confusion that these two terms may create.

Bandura was the founder of Self-efficacy theory together with others who have pointed out that a learner’s Self-efficacy plays a pivotal role in approaching goals, tasks and challenges. Researchers have suggested that Self-efficacy beliefs actually grow from early childhood as children interact with a wide range of interactions, tasks and circumstances and that Self-efficacy growth does not end in the initial stages but continues to develop through most of their lives as children gain new skills, interactions and the ability to understand. It was therefore essential to address the role, relevant sources and dimensions of Self-efficacy judgments. The study further highlighted just how the application of sources and dimensions of Self-efficacy pertained Management Accounting discipline.

The research study could not address Self-efficacy in isolation without discussing its impact on learner performance in order to obtain the true value of Self-efficacy. It was therefore essential for the inclusion and discussion on the four psychological processes of Self-efficacy and their relationship with learner performance. Those psychological processes were cognitive, motivation, emotional and selection processes. Researchers found that cognitive psychology views a learner as a processor of information in much the same way as that of a computer taking in information and following a program to produce an output. Research studies also show that learners' Self-efficacy about their capabilities to process academic material cognitively can influence motivation and learning. It was therefore essential that the information-processing component to Self-efficacy be included within the chapter.
Bandura’s Theory of Self-efficacy highlights the appropriateness of the theory’s importance to the unique role that individuals play in changing their own behaviour. The study outlined the Self-efficacy Theory at length and critically analysed the provisions of the theory’s usefulness and shortcomings. The limitations, as well as other studies using the Self-efficacy theory, have assisted in identifying factors to consider in order achieving the utmost from the theory itself.

In view of the fact that both the independent and dependent variable regarding General Education and Self-efficacy been sufficiently addressed the following chapter will now focus on theoretical and conceptual framework underpinning the study.
CHAPTER THREE

3 THEORETICAL FRAMEWORK

3.1 INTRODUCTION

The previous chapter addressed the independent variable on the subject of General Education. The current chapter will focus on the theoretical framework underpinning the current study and report on the dependent variable regarding the subject of Self-efficacy. The section begins with the theoretical framework underpinning the current study.

3.2 THEORETICAL FRAMEWORK ON THE INSTITUTIONAL STRATEGY

Chapter One provided an orientation to the research study. This study focuses on the relationship between six key components of General Education; namely Written Communication; Oral Communication; Critical Thinking; Quantitative Analysis; Science; Information and Computer Literacy; and the impact thereof on the Self-efficacy of learners or beliefs in Accounting studies. In accordance with the diverse needs of South African schools, those key components are necessary for learners studying Accounting. Because of the problem statement listed in Chapter One, the overall objective of this study is to establish a framework for evaluating the impact of Self-efficacy on the capacity of Accounting students to communicate effectively from year 1 to year 3. It is essential to examine the existing knowledge as a background to the current study. In this way, the researcher makes every effort to generate new knowledge, which could make a positive improvement in the academic excellence of Accounting. Consequently, the current chapter aims to outline the theme of the research design in the current study and to substantiate the choices made in the analysis.

The research design is implemented in such a way that appropriate research methods are used to ensure that the goals and objectives set out in Chapter One are achieved. Hence, the rationale for a discussion of the research design. Firstly, the research design provides the study blueprint.
Secondly, it allows the researcher to predict the appropriate research design to ensure that the findings are accurate. However, it is important that different views are analysed and it is important to consider a theoretical framework for the research design.

### 3.2.1 Theoretical Framework Underpinning the Study

One of the challenges faced by any researcher the difficulty of how to explain and understand the theory's function and meaning in science. The definition of theory hence requires a certain interpretation. Verma and Malick (1999: 6) as well as Blumberg, Cooper and Schindler (2011: 36) indicate that the theory's main function is to help direct the researcher. Throughout the social sciences, this typically includes a series of statements that describe and clarify the association amongst human actions and the factors that influence or clarify it. Best and Khan (2006: 10) describe a theory as an attempt to give any phenomenon a general explanation. In general, according to these scholars, a theory describes non-observable frameworks resulting from observable facts and events, which are believed to have an effect on the subject being examined. Furthermore, the relationship between key parameters is described by a theory to explain a present state or to make predictions on actions.

As a result, a theory is mainly concerned about offering an interpretation. However, as a result, it focuses on establishing the associations between cause and effect. Accordingly, a theoretical structure therefore helps the scholar to summarize preceding knowledge and guide future courses of action. At the same time, it refers to the development of a concept that suggests incomplete views or relations with additional information required to know why things are connected and to build sets of assumptions (Henning, Van Rensburg and Smit 2004: 14).

Thus, a theory is an important research tool to accelerate scientific development (Inglis and Maclean 2005: 17; Kawulich 2009: 37). A theory should direct the process of study that will provide a framework for training and the ability to understand. The point of view of scholars and researchers will also provide the basis and help the opinion and reasoning for a discussion of the study design. The researcher often needs an understanding and awareness of the relevant research theories in addition to understanding the framework of a theory, which underpins the various research concepts. In the present analysis, the research methodology underpinning the
A study of researchers' literature in this area leads to a deep acknowledgement of the significance of a research paradigm. For instance, in a book titled, 'The Structure of Scientific Revolutions' first published in 1962 by American philosopher Thomas Kuhn, the term ‘paradigm’ was first used to define a scientific approach of thinking.

Very often, a paradigm is better characterised as a whole process of thought (Neuman, 2011: 94). In this context, a model refers to a specific discipline's established study practices (Mouton, 1996: 203), or a methodological structure, as emphasised by Collis and Hussey (2009: 55). Alternatively, a framework should include the known theories, processes, procedures, patterns, frame of reference, body of study and methodologies and could be interpreted as a model or structure for observation and interpretation (Creswell 2007: 19; Babbie 2010: 33; Rubin and Babbie 2010: 15; Babbie 2011: 32). Therefore, a paradigm is a fundamental set of assumptions which direct action. Paradigms therefore play a very important role throughout the Social Sciences. Post-positivism is characterised through two sub-paradigms, namely: interpretativism/constructivism and critical/transformative, whereas realism is seen as a compromise between positivism and post-positivism (Blumberg et al. 2011: 18).

### 3.2.2.1 The Positivist/Positivism Paradigm

Babbie (2011: 35) points out that the origins of Positivism can be traced to Auguste Comte, who saw members of society as more of a scientific empirical phenomenon. Positivism can also be seen as a social research method aimed at applying the natural science paradigm of study as the course of action for research into social phenomena and social environment explanations (Denscombe 2008: 14, 2010b: 120). Natural sciences have always been utilised for understanding the social world and therefore many scholars believe that the positivist approach is empirical.
Firstly, positivism gives rise to a conviction built on the postulation that trends, generalizations, processes, techniques, questions of cause and effect often extend to the social sciences (Glicken 2003: 20); (Denscombe 2010a: 324) and (Lincoln, Lynham and Guba 2011: 107-108, 122). This view of positivism maintains that objects of the social sciences, that is people, are appropriate for the implementation of scientific methods.

Secondly, positivism gives rise to a belief that true knowledge is produced by the senses alone based on direct observation. This will include the capacity to quantify and record what is interpreted as knowledge. Observation in that context means accepting simply empirical evidence as legitimate proof. In the same way, it would be clear that items that are not known should not be recognised as facts and knowledge: for example, the thoughts and attitudes of people.

Thirdly, several positivist sources claim that scientific understanding is gained by the accumulation of documented information. Such facts flow through to the theoretical structure relating to a specific information domain. Therefore, theory represents and presents scientific work. The findings of such results are often referred as regulations that apply to a specific field, that is, empirically proven regularities (Bryman 2005: 15).

Fourthly, De Vos, Strydom, Schulze and Patel (2011a: 6) suggest that positivists interpret scientific theories as providing hypotheses which will then be subjected to empirical testing. It means that science is rational, since it attempts to derive specific ideas from general real-life sources. It will naturally entail developing a complex theory to justify the rules and regulations in a particular field. Therefore, a hypothesis is extracted to allow the research scientist to present the hypothesis for a comprehensive empirical review before the hypothesis is rejected, revised or accepted.

As a final point, positivism also gives rise to a specific standpoint relative to beliefs. As a result, the researcher would have to get rid of ideologies because they could impede objectivity and thus compromise knowledge validity. The position of positivism on values is to draw a strong distinction between problems, claims and expectations (Flick 2007: 12). Whilst positivists accept that they can examine the consequences of a specific normative situation, they cannot check or disprove the position itself.
According to Babbie (2010: 44; 2011: 44), choosing the correct paradigm among those proposed in this chapter is somewhat difficult. On the other hand, because this study does not focus on the natural sciences, it cannot be associated entirely with the positivist paradigm, as can be seen in the subsequent sections of this chapter. Nevertheless, it is imperative to give close attention to Babbie (2011: 44) who indirectly advises against the complete exclusion of the positivist paradigm, since each paradigm balances the other by promoting complementary viewpoints. The assortment of paradigms ought to appear as different indicators and made use of as the situation demands.

The essential sources of positivism are the solitude, study and comprehension of the fundamentals of human actions. Another source of positivism is intellectual honesty. Gratton and Jones (2010:25) postulate that for the positivist, the emphasis should be on methods to facilitate consistency and the quantitative findings of statistical analysis. In this study, the researcher is impartial of the whole analysis, which neither influences nor compromises the topic of the research. Welman Kruger and Mitchell (2009: 6) argue that the positivist approach underlies the natural scientific method in human behavioural research and maintain that research should be limited to what is without bias observed and measured. It implies that the generation of data should be independent of human opinions and judgment in relation to the present study. Throughout the current analysis, the researcher circulated questionnaires to the students of the chosen Universities of Technology and took on the role of phenomenon observer in a natural environment.

For the positivist perspective, Wisker (2008: 65); Welman *et al.* (2009: 9); and Gratton and Jones (2010: 25) advocated the practice of quantitative methods for the use of control groups. Muijs (2011:3) also acknowledges the practice of experimental and survey methods to gather data, as does Thomas, Nelson and Silverman (2011:19, 21), but suggests that the practice of such methodologies would not automatically produce comprehension, descriptions and understandings.

In line with Gratton and Jones (2010: 25), there are certainly benefits in a positivist method, especially with regard to accuracy, monitoring and impartiality. These ideas should come from statistical research that eliminates the need for a highly individualistic or intuitive explanation.
A positivist approach is usually more upfront when it comes to planning because the data are accumulated in one go and all the data are evaluated simultaneously.

The main shortcoming of positivist research is the singular emphasis on measurable constructs, which tends to ignore vital cultural and contextual factors that might shape human actions. As a result, positivist research is unsuitable for this study because it may not sufficiently capture the complexities of the constructs under investigation. In addition, its emphasis on objectivity, independent of cognition may result in an incomplete understanding of socially constructed reality as perceived by people in organisations.

3.2.2.2 The Interpretivist/Constructivist Paradigm

According to De Vos et al. (2011b: 8) and Neuman (2011: 101), Cultural interpretative science can indeed be tracked back to Max Weber (1864-1920) and Wilhelm Dilthey (1833-1911). Dilthey highlights that there have been two separate forms of science, namely the natural and human sciences. The first is built on Erklärung, or theoretical description, and the latter is rooted in an interpretation, or Verstehen, of the lived experiences of humans (De Vos et al. 2011b: 8 and Neuman 2011: 101). Weber suggests that human beings are always seeking to make sense of their environments. People are thus actively interpreting, making, giving meaning, describing, justifying and rationalizing everyday actions (Babbie and Mouton 2008: 28).

As a result, interpretivism centres on investigating the nature of social phenomena, with a confidence in the attainment of intellectual capacity. The purpose of interpretive research is to know and interpret daily activities, interactions and social constructs and perhaps even the values that people add to those activities (Collis and Hussey 2009: 56-57; Rubin and Babbie 2010: 37). Fouché and Schurink (2011: 309) claim that perhaps the concepts of research taken from natural sciences should not be implemented in social sciences. Interpretivists assume that the object of the social sciences is about the same as the natural sciences. Therefore, a very specific approach is required to arrive at such an interpretive understanding, as well as an interpretation, which would allow the social researcher to appreciate the subjective significance for social behaviour.
The three basic principles of interpretativism according to Wisker (2008: 69) and Blumberg et al. (2011: 17) are:

i. That people are building up the social world and subjectively giving it meaning. Individuals are objects of consciousness or indeed a mind, while human action is affected through social world knowledge which often emerges mostly in relation to human beings;

ii. That the scholar is part of what is witnessed; and

iii. That the study is interests-driven.

In addition, Walsham (1993: 4) posits that the aim of interpretive research is as follows: “Interpretive research is aimed at producing an understanding of the context of the information system, and the process whereby the information system influences and is influenced by the context”. Interpretivists believe that somehow the nature of social phenomena could not be clarified by clear basic rules (Blumberg et al. 2011: 17). Interpreters claim that sometimes an objective assessment of the social environment is not possible, since it only has meaning for humans and is formed by intentional conduct and acts. Knowledge is formed while theory is generated through both the creation of ideas from social constructions experienced and viewed. The scholar fundamentally pursues to giving common sense to what is taking place. It can even produce results that go further than the standard scientific expertise (Rubin and Babbie 2010: 37; Blumberg et al. 2011: 17). As a result, interpreters endeavour to understand contextual experiences and propose interpretations that are applicable to the research participants.

Therefore, gathering and evaluating data will not show the nature of social phenomena. Instead, it would have been important to investigate whether various learners and subject practitioners have diverse experiences, as well as to be acquainted as to how these variation constructions and meanings are provided to the social world by individual people. In this way, the author may have a grasp of how various learners as well as others view the social environment. The scholar therefore is expected to investigate subjective perception methods, considering the participants' motives, desires, goals, convictions, beliefs and motives, meaningfulness and perception of oneself (Henning et al. 2004: 20; Blumberg et al. 2011: 18).

De Vos et al. (2011b: 8) suggest the use of participant assessment, including field study methods where there are several hours as well as days spent in direct communication with those
of the participants. Transcripts and interviews including video recordings are closely scrutinised in order to obtain a sense of implicit non-verbal contact or to understand teamwork in its actual context (Neuman 2011: 101). The researcher takes part in constructive cooperation with the participants to discuss real-life issues in a precise setting, which was intended to provide and apply realistic answers regarding the problem (Blumberg et al. 2011: 17).

The interpretive method had existed for years as an alternative to positivism (Neuman 2006: 94). Even though some positivist social scholars support the interpretive approach as being worthwhile in investigative study, it is considered entirely scientific by a few positivists. Interpretivist research agrees with the notion that information and meaning are interpretative outcomes. There is no rational awareness that is autonomous of human thought and reasoning. Most essential to any and all interpreters is the obsession concerning subjectivity, which in a perspective aims to show how fluctuations in human meanings and sense-making cause and reflect discrepancies in objective realities, i.e. when someone is detached and loses track of the connections or affiliation to something produced by researchers (Neuman 2006: 97).

The interpretive approach is the underpinning of social research methods that are delicate to situations in which others see the world and are more concerned with gaining unambiguous interpretation than with evaluating human behavioural hypotheses legalistically. Finally, it can be determined that quantitative data generation methods are additionally suitable for the positivist paradigm, whereas qualitative methods are further applicable for the interpretive paradigm. The next section addresses the critical transformative paradigm, which is deemed by some researchers to be a variant of the interpretive paradigm.

3.2.2.3 The Critical/Transformative Paradigm

The ontological position of a critical paradigm is historic realism. Guba and Lincon (1994: 110) highlight that historic realism is an understanding that reality is through social, political, cultural, economic, ethnic and gender values, influenced by reality that at one time considered plastic but now turns out to be crystallized. Realities are socially formed objects that are subjected to continuous internal monitoring. Communication does not actively categorize things, but forms and moulds reality purposefully (Frowe 2001: 185). Reality takes shape from
communication contact and the attributes of an autonomous environment. The essential theory, on the other hand, takes the view that language contains the power relations to undermine or strengthen.

A crucial epistemology would be that of subjectivism, which often reflects real world-events and as a result aligned with the philosophy of society. Cohen, Manion and Morrison (2007: 27) indicate that ‘what counts as knowledge is determined by the social and positional power of the advocates of that knowledge’. The critical approach emphasises that rationality is the uppermost of human ability, and that the existence of the current institutions can be questioned and challenged by reasoning (Blaikie 2007: 135). As a result, the Critical Theory acknowledges that unfairness exists in all human proceedings and hopes that the results reflect that unfairness (Glicken 2003:23). It is the scholar's duty to aim as far as possible to be objective, and to perform the study carefully in a manner where prejudice does not always determine the outcome.

Patton (2002: 130-131) argues that the Critical Theory is singularly the most powerful structure of orientation. The Critical Theory is not just about learning and understanding culture, but also about questioning and changing society. Guided by Marxism, the Critical Theory make available a structure for both theory and process to view analysis and assessment as essentially and expressly political, as well as transforming ways of interaction (Cohen et al., 2007: 26-27; De Vos, Strydom, Schulze and Patel 2011b: 9).

In a long and continuous cycle, critical theoretical viewpoints see the present society as more of a comprehensive step (Henning et al., 2004: 23; Lincoln et al., 2011: 98, 100; Neuman 2011: 109). Supporters of the critical approach interpret evidence that is all the time shaped by social, political and cultural factors. Babbie and Mouton (2008: 36) highlight Critical Theory as the discovery or emancipation of social phenomena from being ancient, systemic and value-based. Participants should feel comfortable and will be able to have their own perspective on their situation and the world in which they live. Therefore, the focus of the critical structure is on an understanding and practical change for liberation and the strengthening of social circumstances. Therefore, one has to focus on Jürgen Habermas' early work, who founded the paradigm of critical theory and was the first to also point out the transformative and emancipatory motive in Critical Theory (Babbie and Mouton 2008: 34).
The objective of critical theorists is not just simply to comprehend the situation and phenomena, but more accurately to bring about transformation in the awareness of situations and phenomena by being actively involved. The reason for the research would be to liberate people through some kind of critique of ideologies that highlight injustice, while their approach to research shows a really well-defined activist approach. Followers of the Critical Model like Skinner and Edwards (2005: 404-405) tend to encourage action research, but not all types. It seems that to critical paradigm proponents, all work starts with a particular point of view and denying that perhaps a scholar does indeed have a standpoint is in itself a point of view (Neuman 2006: 101 and 2011: 114). The critical research paradigm is not practical in this study as it is not suitable for attaining the study objective.

The section that follows addresses and deliberates the pragmatic paradigm.

3.2.2.4 The Pragmatic Paradigm

The pragmatic paradigm emerged because it was not feasible to accomplish the 'truth' about the natural world by just a single experimental method, as indicated by the positivist paradigm; nor could it be possible to evaluate social reality as established under the paradigm of perception (Blumberg et al. 2011: 17).

The mono-paradigmatic alignment of research did not have an adequate amount of worthiness. Philosophers argued that what was required was a paradigm that would make available research methods that were considered best suited to research the phenomena at issue. Thus, these philosophers reviewed research approaches which might be more practical, as well as pluralistic methodologies which could shed light on the actions and behaviour of the individuals involved; the beliefs behind all those behaviours; as well as the effects that are likely to occur from different personalities (Kivunja and Kuyini 2017: 35). It led directly to a theory that encourages the use of multiple methodology as a pragmatic means of understanding human behaviour, thus the Pragmatic theory.

Kivunja and Kuyini (2017: 35) highlight that the pragmatic model encourages a hierarchical epistemology (i.e. research associations are better decided according to what the scholar
considers relevant to the specific research). It also promotes a semi-singular ontology of truth (that there really is no single fact and all persons have their own distinct definitions of truth); a mixed methodology (a synthesis of quantitative and qualitative techniques of fieldwork); and a quality-laden axiology (research that actually helps people) (Kivunja and Kuyini 2017:35). Kivunja and Kuyini 2017: 35) suggest that the pragmatic paradigm emerges in such an attempt to bring an ending to both the two diametrically opposing positivist and post-positivist views on the one side and the interpreters on the opposite.

Kivunja and Kuyini 2017: 36) posit that the pragmatic paradigm demonstrates the following characteristics:

- An elimination of the positivist assumption that the study of social discipline should demonstrate the 'reality' of the actual sphere;
- An importance of ‘feasibility’ in exploration;
- Using 'whatever functions' in order to enable the researcher to answer the questions under examination without stressing about both the exclusively quantitative or qualitative nature of the questions;
- Implementation of an ideology that enables the construction of research including methodologies ideally suited to that of the study purpose;
- Employing ideally adapted directions of movement to test the phenomena considered;
- Refusal to place the research in either a positivist (post-positivist) framework or a constructivist / interpretative framework;
- Always trying appropriate ways to obtain information using any technique, which really enables one to uncover information;
- Selection of research approaches focused on just the study criteria; and
- A pursuit for appropriate connection themes inside the research scheme to help everyone understand the situation.

The current study gives rise to the use of empirical data produced from questionnaires individual interviews used to produce semi-empirical data that do not fall under positivism. In this way, features of both the positivist and post-positivist opinions come into existence. It is likewise imperative to affirm and not to disregard the Critical Theory as its purpose is to build better and fairer situations and an equal opportunity culture in which individuals and combined freedoms are obligatory. For the most part, the disparity in the conceptual frameworks pose the
issue of whether a particular form of analysis or more than one approach is utilised to answer the study.

The research issue is complicated in essence, together with the survey questions and the associated research goals. For this study, qualitative as well as quantitative methods were thus favoured. The synthesis of research methods has resulted in this work adopting a realistic stance (Creswell and Plano Clarke 2011: 26; 40-44; 78). The reason for supporting a pragmatic research paradigm is that this particular position is considered ‘as the philosophical partner of mixed method research’, provides a sustainable solution to complicated research challenges and affords a pragmatic, primary point of alignment in regard to post-positivism as well as interpretivism (Johnson 2004: 17,18).

3.3 CONCEPTUAL FRAMEWORK

Figure 3.1 illustrates the proposed conceptual framework underpinning the present study.
Figure 3.1 Proposed Conceptual Framework

THEORIES
Rauding Theory
Bloom’s Taxonomy
Krathwohl’s Taxonomy
Facione Critical Thinking Skills

LEARNER NEEDS
Remember Rauding
Understand Researching
Apply Planning
Analyse Inference
Evaluate Self-Regulation
Create

SELF-EFFICACY SOURCES
Mastery experiences
Modelled Behaviour
Social Persuasion
Physiological Responses

SELF-EFFICACY DIMENSIONS (TASK SETTINGS)
Magnitude
Strength
Generalizability

SELF-EFFICACY AND LEARNER PERFORMANCE (OUTCOME)
Cognitive
Motivational
Affective
Selection

SELF-EFFICACY ASSESSMENT PROCESSES (MEASUREMENT)
Analysis of Task Requirements,
Attributional Analysis of Experience, and
Assessment of Personal and Situational Resources

Source: Self-generated.
The models and theories under discussion in the present section are essential regarding the independent variable of the study in relation to the General Education aspect of learners within tertiary institutions. As indicated in earlier sections of the research, the type of education learners are receiving in the school environment is compared to the quality that is expected of the learners.

Accounting in particular is primarily quantitative by nature. However, Management Accounting, even though a sub-division of this large information, is qualitative in essence. The Chartered Institute of Management Accountants (CIMA) further supports the qualitative aspect of Management Accounting. CIMA defines Management Accounting as “the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of information (both financial and operating) used by management to plan, evaluate and control within an entity and to assure appropriate use of and accountability for its resources” (CIMA 2010: 1).

Data analysis, reporting and decision-making are fundamental aspects to the subject of Management Accounting. The Management Accounting programme requires competencies like problem-solving, analysis and decision-making. Therefore, learners should have good communication skills and be proficient in reading, interpreting and analysing questions.

The superficial approach presently used by many learners for studying may not be adequate in studying the programme of Management Accounting. Learners can be successful and achieve good results in Management Accounting through quality learning. Moreover, learners can achieve sound communication expertise and a deep approach to learning through quality learning (Pickworth 2001: 140). Quality learning incorporates factors such as critical thinking skills, decision-making abilities, Rauding Theory and Bloom’s Taxonomy. The Rauding Theory and Bloom’s Taxonomy indicate the skills essential for quality of learning for learners to be successful in their studies. It is therefore pertinent that the following section addresses these skills. The next section begins by discussing critical thinking skills, followed by decision-making abilities, Rauding Theory and Bloom’s Taxonomy respectively.
3.3.1 Critical Thinking Skills

Critical thinking consists of a logically well-organized system that involves the application of an amalgamation of aptitudes. Kurland (2000) highlights that the abilities may include the use of the following essential skills:

3.3.1.1 Rationality

Rational thinking involves thinking with reason, consistency and logic and providing reasons or logic behind every thought or idea. It provides an objective way of thinking and an analytical approach to problem-solving and decision-making.

3.3.1.2 Self-Awareness

Self-awareness skill involves and requires the learner to think consciously and attentively. It also requires the learner to be alert and mindful. Self-awareness is about weighing the influences of motives and bias and recognising one’s own assumptions or point of view.

3.3.1.3 Discipline

The process involves applying self-control and restraint. It is a meticulous, precise and comprehensive means of thinking. Discipline avoids impulsive judgement and provides resistance to manipulation.

3.3.1.4 Judgment

Judgement requires the learner to use opinion, reasoning and assessment in thinking. Judgement also involves recognising the significance of alternative assumptions and perspectives.
As Kurland (2000) indicates, above the abilities needed for critical thinking were further supported by a panel of forty-six experts that included both men and women from throughout the United States and Canada (Facione 2015: 8). These experts as Facione (2015) indicate who participated in a research project that lasted for two years represents many different scholarly disciplines in the humanities, social sciences, sciences and education. These experts undertook the research project on behalf of the American Philosophical Association.

Detailed in Table 3.1 is the consensus of the experts on the requirements of critical thinking expertise.
Table 3.1  **Critical Thinking Skills**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Core critical thinking skills</th>
<th>Subskill</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interpretation</strong></td>
<td>Understanding and communication of a wide range of experiences, situations, data, events, judgments, conventions, beliefs, rules, procedures, or criteria.</td>
<td>Categorize, decode and clarify meaning.</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td>Identifying the proposed inferential relationships between statements, questions, concepts, descriptions, or other forms of representation to express belief, judgment, experiences, reasons, information, or opinions.</td>
<td>Examine concepts; identify arguments, reasons and claims.</td>
</tr>
<tr>
<td><strong>Inference</strong></td>
<td>Identifying and obtaining elements to draw reasonable conclusions.</td>
<td>Probe evidence, find alternatives and logically draw conclusions.</td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td>Evaluating the credibility of statements and assessing the logical strength of the actual or intended inferential relationships between statements, descriptions, questions, or other forms of representation.</td>
<td>Assess credibility of claims and assess quality of arguments.</td>
</tr>
<tr>
<td><strong>Explanation</strong></td>
<td>Indicating and justifying the reasoning in terms of the evidential, conceptual, methodological, and contextual considerations upon which one’s results based and to presenting reasoning in the form of cogent arguments.</td>
<td>State results, justify procedure and present arguments.</td>
</tr>
<tr>
<td><strong>Self-Regulation</strong></td>
<td>Self-consciously to monitor cognitive activities, the elements used in those activities, and the results by applying skills in analysis, and evaluating one’s own inferential judgments.</td>
<td>Self-monitor and self-correct.</td>
</tr>
</tbody>
</table>

Inference includes inference in making judgements and taking sound decisions centred on circumstantial information and previous judgements, instead of empirical observation (Princeton University 2018). The core curriculum of the Management Accounting subject usually involves inference learning, given the sheer volume of solving problems as well as decision-making. Facione (2015: 19) suggests that successful professionals with leadership roles are those in business who use all their critical thinking skills in problem-solving and making sound decisions. Therefore, all newly appointed graduates will require inference learning to be successful and to work independently in industry. Tonge and Willett (2009: 209) emphasise the importance of inferential learning by developing a project for final-year Management Accounting learners to encourage the utilisation of critical thinking by analysis, evaluation and consideration. The other objective of the assignment was to enhance their written communication skills. The development of inference learning occurs through the process of the critical thinking skills attained.

Academic conversation or discourse becomes difficult for learners who do not understand the functions and the relationships between statements. This lack of understanding and shortfalls have to be determined before they can be addressed by constructive education through meeting learners at entry-level for the critical thinking skills necessary for any meaningful academic activity (Jordaan 1995: 60). Slabbert and Gouws (2006: 346) indicate that the emphasis should be on the learner who learns by constructing meaning and not simply taught the theory and then simply applying the prescribed procedures. Many learners can communicate in English but lack the ability to express themselves or transfer their thoughts in written format. Learners may read a book about four times but still lack an understanding of what they have read (Jiya 1993: 82). It requires about two years to exposure of English-speaking peers for international learners in a host country to achieve a relatively high level of English communicative skills, and between five and seven years to meet grade levels of English verbal academic abilities (Cummins 1984: 133).

3.3.2 Decision-Making and Problem-Solving Skills

The Knowledge Creation Model as illustrated in Figure 3.2 best explains the process of decision-making. Problem-solving abilities are also part of critical thinking skills and are
essential aspects for studying Management Accounting owing to the structure of the programme’s curriculum. Problem-solving often involves decision-making and decision-making is part of the Management Accounting curriculum. Problem-solving and decision-making are linked with each, requiring vision in identifying and developing options.

Figure 3.2 illustrates that language and communication are essential and play an extremely important part in the development of information, which in itself is a source of decision taking that generates an intervention to affect reality. Thinking memory decodes the information obtained via associations, meaning, language and perceptions acquired through experience, mind-sets and beliefs. Subsequent to interpretation and understanding of the data, a judgement is formulated, which influences knowledge. It is through language and communication that decision-making takes place, and action taken.

All learners studying Management Accounting have a goal of one day to become a Management Accountant and ultimately an associate of the Chartered Institute of Management Accountants. The profession of Management Accounting and the programme Cost and Management Accounting require skills such as communication, General Education (incorporating decision-making and problem-solving abilities) as indicated in the earlier section “Professional Skill Requirements”.

The Knowledge Creation Model and the quality of decision-making best illustrate the various stages and techniques involved in decision-making as shown by Figure 3.2
Figure 3.2  Knowledge Formation Model

3.3.3 The Rauding Theory

The purpose of trying to read will be to grasp the substance of whatever the instructor or the problem demands, as well as to implement that information to eliminate the problem. Learners can engage various reading strategies when studying. The Rauding Theory best illustrates these reading approaches. Reading could be categorised as Scanning; Skimming; Rauding; Learning and Memorizing, according to the Rauding Principle (Carver 1978: 118).

Rauding necessitates knowing or understanding a text, terms or sentences (Carver Learning Systems 2019). It is a mixture of reading and listening; reading by viewing written words to ascertain the context; and listening to spoken words to establish the meaning (Carver Learning Systems 2019). A human being is Rauding when the he/she is not scanning, skimming, learning or memorizing, but looks in sequential order at 100 percent of all the words in a text segment, as well as simultaneously understanding all the thoughts found in that passage.

Especially in the science disciplines, learners will have to be able to read aggressively in order to answer essential questions, which can be accomplished through the means of the Rauding Theory. The Rauding Theory is also an appropriate method when studying the subject of Management Accounting. The common rapid and scanning methods used by learners may be more useful for reading newspaper articles (Carver 1978: 117). The Management Accounting programme requires learners to be proficient in reading in order to understand what is required from the question. Moreover, to be proficient, it is essential for them to acquaint themselves with the necessary skills. As evidenced by the Rauding Theory, learners should be able to perform the following:

3.3.3.1 Rauding

Learners should be able to perform an analytical, detailed and searching type reading style to comprehend essential and crucial information from the text, which is the combination of reading and listening.
3.3.3.2 Researching

Learners should be able to examine essential statements and be able to look for relevant information from case studies.

3.3.3.3 Planning

When completing researching, the learner must be able to utilise information by preparing, formulating and presenting the data in an organised way that gives meaning and sense.

3.3.4 Bloom’s and Krathwohl’s Taxonomies

The taxonomies in Figure 3.3 and Figure 3.4 best illustrate the essential skills required for quality learning. As demonstrated in Figure 3.3 and Figure 3.4, Bloom’s and Krathwohl’s Taxonomies classifies the essential skills according to six levels.

3.3.4.1 Remember

Learners should have the ability to recollect information when needed, such as ideas, definitions, formulas, concepts, principles etc.

3.3.4.2 Understand

Learners must therefore know the significance of the information and express it in their own words.

3.3.4.3 Apply

It is essential for learners to use the information and knowledge acquired to solve problems and answer questions.
3.3.4.4 Analyse

Learners should be able to study, examine, investigate and analyse knowledge or information.

3.3.4.5 Evaluate

It is vital for learners to be able to assess the significance of the information and procedure for a given purpose.

3.3.4.6 Create

Finally, learners should be able to build or improve on their knowledge according to the situation and formulate new ideas depending on the circumstance.

Figure 3.3 Bloom’s Taxonomy (Revised)

![Bloom's Taxonomy Diagram]

The revised taxonomy is based on two aspects: firstly, to promote the retention of information and secondly, to transfer knowledge (Mayer 2002:226). According to Mayer and Wittrock (1996 cited in Mayer 2002: 226), retention is the ability to maintain knowledge at a future point, whereas transition is the ability to perform that which has been acquired to solve complex problems in completely different contexts. Remembering (level one) is connected with that of the retention of knowledge from the six stages defined in the revised taxonomy shown in Figure 3.3, while subsequent stages of comprehension, implementation, review, assessment and development are associated with information transfer (Mayer 2002: 228). Black and Ellis (2010 cited in Thomas 2011:28) emphasise that the need for learners to always be able to function at all taxonomy levels.

Figure 3.4  Bloom’s Taxonomy (Original)


3.3.5  Analysis of Models and Theories on Quality of Learning

Even though Bloom’s Taxonomy (Figure 3.4) came into being in 1956, it has been included in the current study due to its relevance and importance. Moreover, it is still commonly practised
today. Krathwohl has made some minor but pertinent amendments, as illustrated in Figure 3.3 in the revised taxonomy. Both Bloom’s and Krathwohl Taxonomies, including the Rauding Theory, indicate vital qualities necessary for learners and young graduates to possess and/or develop to be successful academically and in the field of Management Accounting.

IFAC, IEC 3, SAICA and other professional bodies have also stressed the significance of Bloom’s, Krathwohl’s taxonomies and General Education skills and soft skills necessary for Accountants and newly qualified graduates for success in the field of Accounting. After significant discussion on the subject of quality learning, it now becomes imperative to focus on the initiatives available to provide additional support for the development of teaching and learning for pupils. Initiative programmes are essential tools that provide an additional alternative approach to the traditional classroom method of learning, which may strengthen and address any absence of academic skills in Accounting learners.

In view of the fact that both on theoretical and conceptual framework underpinning the study been sufficiently addressed the following chapter will now focus on the research methodology employed to validate the present study. The type of study design, sample techniques, sample selection and sample size will be outlined in Chapter Four. The next chapter also comprises the measuring instruments used to collect and analyse the data, including methods formulated to maintain the reliability and validity of the instrument used.

3.4 CONCLUSION

The present chapter presented the theoretical framework underpinning the current study and the research paradigms. The chapter also focused on models and theories concerning quality of learning, which authors believe are important aspects to the General Education of learners. The models of particular interest this to study were Bloom’s and Krathwohl’s Taxonomies and the decision-making theory by Slabbert and Gouws. The Rauding Theory was also included due to its significance to reading. The study found that there is a significant relationship between reading and understanding the contents in problem-solving. The Rauding Theory outlines the essential reading strategies that learners can adopt when studying. Bloom’s and Krathwohl’s taxonomies outline the essential skills that are suitable for quality learning.
In view of the fact that both the independent and dependent variable regarding General Education and Self-efficacy being sufficiently addressed the following chapter will now focus on the research methodology employed to validate the present study. The type of study design, sample techniques, sample selection, sample size will be outlined in the following chapter. The next chapter also comprises the measuring instruments used to collect and analyse the data, including methods formulated to maintain reliability and validity of the instrument used.
CHAPTER FOUR

4 RESEARCH METHODOLOGY

4.1 INTRODUCTION

The purpose of the present chapter is to outline the research procedure used in accomplishing the current study. The chapter begins with the research design, which outlines the rationale for the research paradigm. A discussion on the sampling techniques, sample selection, sample size, questionnaire design and administration, data analysis, reliability and validity follow the research design.

4.2 RESEARCH DESIGN

A research design includes the methods and techniques used to carry out scientific research. Human sciences distinguish two basic research methods or methodologies for the collection of data, namely qualitative and quantitative methodology or methodological models. Both methods make use of explicit techniques to collect data and these include literature reviews, interviews, questionnaires and direct observation (Zikmund et al. 2013: 134).

4.2.1 Qualitative and Quantitative Research Approaches

The following section describes the above two approaches in research.

4.2.1.1 Qualitative Research Approach

Leedy and Ormrod (2010: 135 & 189) describe qualitative research as a research approach that deal with the attitudes, behaviour and incidents through ways and means such as interviews and focus groups. Qualitative research endeavours to get a comprehensive opinion and an all-inclusive understanding of the occurrence from the views and observations of participants.
(Bryman and Bell 2014: 31). There are many different methodologies used in qualitative analysis and fewer people are involved in the research since it involves people's attitudes, behaviour and experiences. A qualitative research interview is perhaps the most prominent method of obtaining data, but types of collected data may also include group discussions, field notes on observation and reflection, various documents, pictures, and other materials (White and McBurney 2013: 192).

In the current study, the qualitative feature of the research involved interviewing the Management Accounting lecturers through a semi-structured interview schedule to ascertain any similarities or differences from the information obtained through the questionnaires.

4.2.1.2 Quantitative Research Approach

Chawla and Sondhi (2013: 111) describe quantitative research a research approach that involve analysing a concept by stipulating constricted hypotheses and gathering primary data to either support or refute the hypotheses. Quantitative research is by nature descriptive and produces statistics with large-scale survey research, using ways and means such as primary data collection instruments (Bryman and Bell 2014: 32). Descriptive research examines the situation as it is in its current situational context.

The two research approaches mentioned above are of significance to all scientific investigation. Quantitative analysis plays a vital role in establishing relationships and adding value to any conclusions emanating from the research effort. The quantitative data was gathered using questionnaires to gain an understanding on the influence of General Education on CMA learners’ beliefs about their competences in producing assigned levels of educational performance that carry out encouragement over events that shape their line of business.

The current study made use of a mixed research method approach, since qualitative and quantitative approaches complement each other.
4.2.2 Survey Research

A census survey measures or collects information about every person in the population and a sample survey involves data collection from a small number of individuals who fit a particular category of people. A census is a 100 percent as compared to a sample survey (Daponte 2008: 141). A survey is an efficient technique for collecting data from individuals for the purposes of building quantitative descriptors of the characteristics of the greater population of which the individuals are associates. Survey methodology strives to pinpoint values about the design, data collection, data processing and analysis of the surveys that are associated to the budget and worth of the survey valuations. This means that the discipline concentrates on increasing quality within the cost constrictions (Groves et al. 2009: 30). According to Dhingra and Dhingra (2012: 178), scientific research focuses on surveys that are piloted to advance scientific knowledge.

4.2.2.1 Characteristics of Survey Research

Dhingra and Dhingra (2012: 178-179) highlight that the characteristics of a survey research is indicated below:

- The rationale of survey is to construct quantitative explanations of some features of the research population;
- The core way of accumulating information is by requesting people answer well-thought-out and predefined questions; and
- The information that is collected is about only a fraction of the study population, therefore a survey collected is to generalize the results.

A census survey consists of collecting quantifiable information concerning participants in a population and in most cases; it results in an adequate amount of primary information to have a high degree of statistical confidence.

The present study considered a census survey to be more appropriate and pertinent to the research at hand and was therefore implemented.
4.2.3 Classification of Research Study

The two main types of research studies are longitudinal and cross-sectional research designs. The following section concentrates on the various research strategies and the type of research strategy the current study pursues.

4.2.3.1 Cross-Sectional Research Study

Bryman and Bell (2014: 106) define cross-sectional design as data gathering on more than one circumstance and at a particular point in time. The authors further emphasize that it is usually done to bring together a body of quantitative or quantifiable information in conjunction with two or more variables. Cross-sectional designs can require the collection of qualitative data. Then, the variables are studied to become aware of forms of relationship. The mode of data collection that can be used for this is a postal questionnaire, telephonic questionnaire, delivery and collection questionnaire or in person questionnaires.

4.2.3.2 Longitudinal Research Study

According to Zikmund et al. (2013: 196), a longitudinal strategy is a survey of respondents taking place at multiple points in time and thus allowing for continuity of analysis of response and changes over time. The purpose is to examine reaction continuity and detect variations that may occur over a time span. Longitudinal studies collect data at two or more points in time on the dependent variable (Sekaran and Bougie 2013: 107).

The current research study collected data at two points in time: prior to the implementation of the General Education Modules with first year learners registered for the Cost and Management Accounting programme and after the implementation of the General Education Modules with the same cohort of learners. The aim was to measure any noticeable change between the non-implementation and implementation phase, if any, in the learners’ Self-efficacy over the period. In view of the fact that the aim of the current research study is to determine the apparent gains in learners’ Self-efficacy over a period, after the implementation of the General
Education Modules, therefore the researcher felt it was more appropriate to use the longitudinal study type method.

4.2.3.3 Quasi-Experimental Design

A quasi-experimental design is an experimental strategy that necessitates the researcher to manipulate the independent variable and analyse whatever consequence it has on the dependent variable (Leedy and Ormrod 2014: 240). The objective regarding an experimental design is to establish the effect of a behaviour or involvement on the research participants (Reichardt 2009: 46). The nature of the quasi-experimental approach that was used in the current study is the non-equivalent pre-test and post-test control group design. In the current research study, the researcher sought to determine whether the intervention, i.e. the integration of general education into the CMA programme influences the self-efficacy of CMA learners.

The experimental design chosen by the researcher was not a pure experimental design, but rather a quasi-experimental design, since participants were not randomly assigned to either the control or experimental group, but were purposefully chosen (Reichardt 2009: 54; Leedy and Ormrod 2014: 242). The decision of the researcher was supported by empirical evidence presented by the Behar-Horenstein and Niu study, which examined 42 empirical teaching studies. These authors recommended that researchers should use a quasi-experimental design since the studies that used a true experimental design failed to find a statistically significant change in the post-test data (Behar-Horenstein and Niu 2011: 25 & 34).

The design of the non-equivalent control group is a research plan with both an experimental and a control group in which subjects are not allocated randomly to groups and involve a pre-test and post-test (White and McBurney 2013: 320). In current study design, there are two groups, an experimental group and a control group, which are not equivalent. The experimental group involves CMA learners from DUT and the control group involves CMA learners from MUT. Participants were purposely allocated either to the control group or to the experimental group as randomization would prove impractical. The current study is targeting a particular group of learners. Figure 4.1 indicates the research design of the study.
Figure 4.1 Flow Chart of Research Design

Source: Self-generated.
4.3 SAMPLING PROCEDURE

The current section addresses the target population and sample of the study. The section also includes the sampling techniques and sample size.

4.3.1 Population

The selection of appropriate participants is an essential component of a research study since it can affect both the study's internal and external validity (Graziano and Raulin 2013: 201). Quinlan (2011: 207) suggests that population refers to objects, topics, phenomena, events, cases or activities that the researcher wishes to study for the purposes of sampling in order to establish new knowledge. Examples of populations:

- Human beings, such as university learners;
- Organisations or institutions, such as banks, government departments or tertiary institutions;
- Social activities or events;
- Cultural objects, such as television programmes;
- The daily work of an employee (Brynard and Hanekom 2006: 55).

The populations that frequently concern human behavioural scientists are so enormous that, from a real-world point of view, it is purely difficult to perform research on all the elements of the population. Scholars must therefore get a hold of data from only one sample of this population and before drawing a population sample for analysis, researchers should obtain clarity regarding the population or units of analysis to which their research hypotheses apply (Quinlan 2011: 143).

Therefore, the target population considered for the current study were all first-year learners registered for Cost and Management Accounting at MUT and DUT. All lecturers, a total number of 12 from the Department of Management Accounting from both DUT and MUT was considered.
4.3.2 Sample

White and McBurney (2013: 231) describe sampling as a technique engaged in selecting a small group with a view to evaluating a large group's characteristics. Hence, the sample will display the same characteristics or properties as the population if selected appropriately. The sample was, in principle, used to simplify research by studying the small group rather than the whole population.

The benefit of choosing a sample is that it saves time and costs, as it can be time-consuming and costly to research the complete population, while the data needed could be derived from a sample. The eventual test for a sample design and size is how sound it exemplifies the complete population being studied (Quinlan 2011: 209). Validity of a sample hinge on the correctness and to the degree of impartiality being absent from the sample.

4.3.3 Sampling Techniques

At hand are two main kinds of sampling techniques, probability sampling and non-probability sampling. The discussion of the two sampling types follows.

4.3.3.1 Probability Sampling

White and McBurney (2013: 230) describe probability sampling as when individuals or elements have an equal probability of being selected. According to Quinlan (2011: 210), these sampling techniques include the following:

- **Simple Random Sampling**

A simple random sampling is a group that is selected from an entire population so that each member of the population has an equal and independent prospect being a number in a single sample (White and McBurney 2013: 232).
Stratified Sampling

As far as stratified sampling is concerned, it is a random sample where two or more sub-samples are denoted by some fixed percentage, commonly in the same proportion as in the population (White and McBurney 2013: 234).

Systematic Sampling

Systematic sampling requires picking items from the sampling frame at regular or periodic intervals (Quinlan 2011: 210).

Cluster Sampling

Cluster sampling requires splitting of the population of the study into discreet groups constructed on any individual feature (Quinlan 2011: 210).

Census Survey

Quinlan (2011: 46) indicates that census of the population is a survey where every single member of the population is incorporated in the study. A census survey measures or collects information about each person in the population. A sample survey involves collecting data from a small number of people who fit a specific category of people. Compared with a sample survey, a census is 100 percent (Daponte 2008: 141).

A census survey is an effective method of collecting information from individuals to create quantitative descriptors of the characteristics of the bigger population of which the individuals are members. Survey methodology pursues to define concepts relevant to the design, selection, processing and analysis of surveys correlated with the cost and quality of survey results, which means that the field concentrates on quality improvement surrounded by the cost constraint (Groves, Fowler, Couper, Lepkowski, Singer and Tourangeau 2009: 30).
4.3.3.2 **Non-Probability**

Bryman and Bell (2011: 176) describe the non-probability sampling, as a sample not selected using the method of random selection. It implies that some of the units in the population are more likely be selected. According to Quinlan, (2011: 214) non-probability sampling techniques include the following:

- **Quota Sampling**

Quota sampling is a method that ensures representation of the different sub-groups of a population on specific features to the precise amount anticipated by the researcher (Zikmund *et al.*, 2013: 394).

- **Snowball Sampling**

Snowball sampling requires a technique in which the original respondents are nominated using probability ways and means and supplementary respondents are collected from the initial respondents’ information (Zikmund *et al.* 2013: 395).

- **Convenience Sampling**

Convenience sampling technique involves the researcher targeting certain participants who are more readily included in the study (Quinlan 2011: 214).

- **Judgemental Sampling**

A judgemental sampling technique is acknowledged as a purposive sampling procedure. In a judgemental sampling technique, an experienced individual selects the sample based on personal judgment about some suitable feature of the sample member (Zikmund *et al.* 2013: 393).

Probability sampling consists of individuals or elements having an equal probability of being selected. A survey consists of accumulating quantitative information about participants in a
population, and it every so often results in enough respondents to have an above average degree of statistical confidence.

In view of that, it was therefore decided that a census survey is considered a more appropriate method and relevant to the present study.

4.3.4 Sample Size

Quinlan (2011: 212) highlights that on the subject of sample size, it can be handled in one of two ways. These are:

i. Where one makes population predictions and uses random sampling statistical equations. The researcher will make assumptions about the reasonable degree of confidence and the degree of variance in the population; and

ii. Rule of the thumb. Researchers used it because they rarely have information by the statistical method. Rules of the thumb are not arbitrary but based on experience.

As a result, the sample size that was deemed appropriate for the study in progress are as follows:

- The control group: The first-year learners registered for Cost and Management Accounting at MUT.

- The experimental group: The first-year learners registered for Cost and Management Accounting at the DUT.

- Lecturers

It was essential that all Management Accounting lecturers from both the Durban University of Technology and Mangosuthu University of Technology was encouraged in answering qualitative questions by means of interviews.
4.4 DATA COLLECTION METHOD

It is essential that in research, a researcher indicate the process used or method followed regarding data collection. For that reason, the present section describes and addresses the various techniques available and the method used to collect the data for the study.

4.4.1 Primary Data

Quinlan (2011: 242-244) defines primary data as a written or oral account of an incident or audiotape, videotape or photographic documentation of a direct witness or participant. It will also show proof of what happened first-hand. Smith, Thorpe and Jackson (2008: 220) outline the different ways in which data is collected. These are:

- Online questionnaire is located on a webpage and each respondent is forwarded the web address in order to have right of use;
- Postal questionnaire where the survey is mailed to the respondent;
- Delivery and collection questionnaire where the scholar send the questionnaire to the respondents and retrieves it after the candidates have responded;
- Structured interviews is where the interviewer needs to be in attendance at the same time as each respondent answers are recorded; and
- Telephone interviews, which are necessary if respondents are located in different areas.

Since the target population was within the same geographical location, there was no need for email or postal questionnaires.

For the purposes of this study, the questionnaires (quantitative method) were issued to Cost and Management Accounting learners to ascertain the level of Self-efficacy. The administration of the questionnaires took place at two stages. The first stage was at the time of the learner’s enrolment and then a follow up took place towards the completion of the learners second year of study. The researcher carried out the dissemination and collection of the questionnaires of all the respondents.
Interviews (qualitative method) with lecturers from the Department of Cost and Management Accounting at DUT and MUT were conducted. The semi-structured interviews with the lecturers was undertaken ‘face-to-face? The interview took place in DC1201A in the Accounting Seminar room. A written request together with a copy of the proposal was forwarded to the Director of Research and Postgraduate Support requesting permission to conduct the interviews. The recorded was noted on paper. A follow up interview took place to clarify any issues. The purpose was to tap into the views of lecturers on the aspect of General Education and obtain any impact on learners’ Self-efficacy. The perspectives of both the lecturers and learners were taken into account to compare and contrast their responses.

4.4.2 Secondary Data

Quinlan (2011: 242-244) defines secondary data as second-hand information about events. Such a source has not observed the events himself or herself, but has received the knowledge either from someone else who experienced the event or from a person who actually encountered it first-hand.

The secondary data that was reported in chapters two and three was obtained from the following databases:

- Ebsco Host;
- Emerald;
- Sabinet;
- Internet;
- Journals; and
- Textbooks.

4.4.3 Measuring Instruments

The two types of instruments used in the current study were the questionnaire and interview schedule in obtaining the necessary data. The discussion on the two types of instruments follows.
4.4.3.1 Questionnaire

The structured questionnaires can be used to replace interviews and it is necessary to equip respondents with a regulated set of instructions on how to complete the questionnaire and describe what is anticipated of them (White and McBurney 2013: 219). The primary data was collected by means of a questionnaire and planned by the researcher to extrapolate the impact of General Education in the academic programme to enhance the Self-efficacy of Accounting learners.

The questionnaire was used, so that the respondents have time to think about the answers to the questions in the questionnaire and a larger number of respondents, distributed over a large geographical area, could be reached (Quinlan 2011: 325).

Designing of the Instrument

The researcher felt that the questionnaire ought to be prepared in a way to acquire pertinent information in assessing the impact of General Education in the academic programme to enhance the Self-efficacy of Accounting learners. The questionnaire was aimed to be brief and to the point, so that the questions could be easily understood and errors can be avoided.

The questionnaire (Annexure A) was prepared by using closed-ended or structured questions that originated from the information outlined in chapters two and three. Secondary information was gathered from books, journals and internet articles before the questionnaire was put together to determine the type of questions that need to be presented. The questionnaire comprised of three sections. These three sections were:

i. Personal information;
ii. Self-efficacy (belief in one’s ability); and
iii. Student opinion on General Education and Self-efficacy.

The researcher requested the participants to select from possible choices of responses. The approach used to elicit a response is primarily the 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The Likert scale entails using a series of statements that convey various levels of agreement with an item stem (White and McBurney 2013: 222).
The draft questionnaire was similarly pre-coded as to prevent inconsistencies when decoding and analysing. The draft questionnaire was then administered in a pilot study to gather the information in order to establish if the content and sequencing of questions were correct. All amendments were finalised prior to the administration of the main questionnaire.

**Pre-Notification Letter**

The essence of the pre-notification letter (Annexure C) was to enlighten the respondents about the type and purpose of the research. The aim of the pre-notification letter was also to reduce the possibility that the potential respondents may disregard the questionnaire when they receive it and to establish the validity of the survey.

It is constantly a problem and challenge in obtaining permission to conduct research at any institution. The use of the DUT’s letterhead through a cover letter enabled the researcher to have access to the institution’s learners. Furthermore, the covering letter included the purpose and relevance of the study. The respondents were enlightened on issues such as discretion and safekeeping of information, value of the research paper to learners, and the level of quality and professionalism of the research.

### 4.4.3.2 Interview Schedule

The questionnaire (Annexure B) was prepared by using open-ended questions. The researcher felt that the questionnaire should be specifically designed to obtain pertinent information in assessing the impact of General Education in the academic programme to enhance the Self-efficacy of Accounting learners from the academic staff’s perspective. The interview schedule consisted of eleven questions that allowed for probing.

Interviews (Qualitative Method) commenced with the academic staff in the Department of Cost and Management Accounting at MUT and DUT. The purpose was to tap into the lecturers’ points of view on General Education and if it influences the learners Self-efficacy. The researcher conducted the interviews they were approximately 60 minutes each. The interview took place in DC1201A in the Accounting Seminar room and permission was sort from the
lecturers prior to the interview being conducted. A written request together with a copy of the proposal was forwarded to the Director of Research and Postgraduate Support requesting permission to conduct the interviews.

4.4.3.3 Pilot Study

It was necessary to carry out pilot testing of the questionnaire prior to its finalisation before using it for substantive research. The rationale of the pilot study was to facilitate the evaluation of the basic readability of the subject matter of the questionnaire, and to analyse its reliability regarding its provisions of its internal consistency. The respondents were guided meticulously on what was required of them in the pre-test, and the research topic was well explained to them in order to ensure that they could answer all questions. The respondents were given explanation on the purpose, contents and importance on answering the questionnaire in good conscience.

The value of the preliminary investigation lies in the comments and criticisms received from the pilot group and plays an important role of safeguarding that the research instrument as a whole function well (Bryman and Bell 2011: 262-263). For the purposes of this study, ten participants were randomly selected to participate in the study in examining the questionnaire so that the findings of the preliminary investigation can also indicate:

- Possible problems that could emerge during the main investigation;
- The suitability of the data collection methods, the sequence of questions, missing questions and the length of the questionnaire;
- The different responses to a particular question, which can impact on the number of codes assigned to the question;
- If the selected procedure was indeed appropriate to the investigation or not;
- If the sample selected was feasible in practice or not; and
- Any potential percentages of non-responses that could occur in the main investigation (Brynard and Hanekom 2006: 51).
4.4.3.4 Results of Pilot Study

The two statisticians and two reviewers found that the content validity of the questionnaire to be of a good quality. The respondents of the pilot study were pleased with the content. Minor suggestions were made on some of the questions that were ambiguous to the readers and proposed some changes. There was no significant issue raised during the pilot test to report, since the questionnaire underwent various stages of scrutiny with professionals during its formulation.

The results obtained in the pilot study formed the basis for review and completion of the final questionnaire. The final instrument was then administered to the sample population.

4.5 DATA ANALYSIS METHODS AND TECHNIQUES

Data analysis involves the use of descriptive and inferential statistics. The statistics that are used in quantitative data analysis are for two purposes. According to Quinlan (2011: 399), the first purpose is description, using descriptive statistics and the second is prediction, using inferential statistics.

4.5.1 Descriptive Statistics

Descriptive statistics is utilised to describe and summarise data collected. According to Quinlan (2011: 402), descriptive statistics are used to classify data variables such as gender, employment, income, age, etc. as percentages, ratios, ranges, averages, and standard deviations. White and McBurney (2013: 351) suggest that one should not jump right into the inferential statistics after collecting the data and doing any level of data reduction, but one should first take a quick look at the data. Frequencies, ranges, types, modes, median, and standard deviations are the most widely used descriptive statistics. The discussion on the various descriptive statistics follows.
4.5.1.1 Frequencies

Frequency distribution, a function in statistics, is utilised to reveal the different outcomes of a certain frequency in the form of a table, and/or graph illustrating how many times a specific value has appeared in a group or an interval. Quinlan (2011: 401) indicates that frequency distribution condenses information into a simple format that will allow a reader to visualise the way in which the variable is distributed.

4.5.1.2 Ranges

White and McBurney (2013: 353) indicate that a range is a difference between the highest and lowest scores in a distribution. The range is the difference between maximum and minimum values in a range of data. A range provides an indication of statistical distribution around the central tendency. There is a number of methods to indicate a range, but very often it is reported as a single number.

4.5.1.3 Means

The mean is a constraint that measures the vital position of the distribution of a random variable and is a significant statistic that is extensively reported in scientific literature. According to Quinlan (2011: 400), a mean is an arithmetic average. In order to calculate the mean, it is essential that all values need to be totalled and divided by the total amount of values. Even though the arithmetic mean is the most frequently used statistic in expressing the central position of the sample data, other variations of it, such as the abbreviated mean, the interquartile mean, and the geometric mean, may be better suited in a given circumstance.

4.5.1.4 Modes

According to Zikmund et al. (2013: 415), the mode is the easiest measure of the central tendency to define and it is the most common score in a frequency distribution. Mode is generally the most frequently appearing value in a dataset. Alongside with the mean and
median, mode is a statistical measure of crucial tendency in a dataset. Distinct from other measures of central tendency that are unique to a particular dataset, there may be several modes in a dataset.

4.5.1.5 Medians

Zikmund et al. (2013: 415) describes a median as a measure of fundamental tendency, which is the medium, the value below which half the values in a distribution fall. The median is the number that separates the higher half of a sample from the lower half. In order to find the median, the list will have to be arranged from lowest value to highest value and select the middle one.

4.5.1.6 Standard Deviations

White and McBurney (2013: 351) indicate that a standard deviation measures the spread of data about the mean. A low standard deviation suggests that the values tend to be close to the mean of the set, while a high standard deviation suggests that the values are spread out over a broader range.

In the current study, the descriptive statistics that was used were frequencies, means, ranges, medians and standard deviations in order to establish the average tendencies of reactions with respect to a test. Descriptive statistics were exercised in this study to afford an indication of what the typical score is, the extent to which the scores differ from each other and make available if there were any errors in the data.

4.5.2 Inferential Statistics

White and McBurney (2013: 351) describe inferential statistics as statistics that help one to draw conclusions about populations. Inferential statistics were utilised to extract conclusions centred on the study of a sample of a population, what the entire population might think, or do.
The most commonly used inferential statistics are T-tests, Correlation tests, Simple linear regression and multiple linear regressions. The discussion on the various inferential statistics follows.

4.5.2.1 T-tests

A t-test is a type of inferential statistic that is used to establish if there is a substantial difference between the means of two groups, which may be associated with certain features. Zikmund et al. (2013: 517) indicate that a t-test is used to resolve if the means, which is the arithmetic averages of two groups are statistically dissimilar from each other. For example, the means of a control and experimental group.

4.5.2.2 Correlation Tests

According to Quinlan (2011: 401), a correlation is a distinct figure that expresses the degree of association between two variables. The extent to which an independent variable predicts a dependent variable is calculated by the correlation test. Tests for correlation are often used in statistics. For an example, if one is interested to know whether there is a relationship between the heights of fathers and sons, a correlation coefficient can be used to calculate an answer to the question.

4.5.2.3 Simple Linear Regression Analysis

Simple linear regression is like correlation in that it too defines the extent to which an independent variable predicts a dependent variable. Simple linear regression also conveys how well the line fits the data (Quinlan 2011: 401). The smaller the distance between the data and the regression line, the better the fit.
4.5.2.4 *Multiple Linear Regressions Analysis*

Multiple regressions analysis is an expansion of simple regression testing. Multiple linear regressions are a correlation study in which the outcomes of two or more independent variables on a single, interval-scaled dependent variable are explored at the same time (Zikmund *et al.* 2013: 586). Quinlan (2011: 401) highlights that multiple linear regression measures how well multiple independent variables predict the value of a dependent variable.

4.5.2.5 *Analysis of Variance (ANOVA)*

There are connections among the t-test and ANOVA. The T-test and ANOVA are utilised to test hypotheses about the variances in the means in groups. Quinlan (2011: 401) indicates that a t-test is used to test two means and ANOVA can be used to test the variances between the means of numerous groups at once. White and McBurney (2013: 399) highlight that ANOVA tests the significance of a difference among a number of conditions in an experiment by making two different estimates of the variability that one would expect to find in the data given that the null hypothesis is true. Quinlan (2011: 401) indicate that one-way ANOVA is to test whether the means of various clusters are common or dissimilar and two-way ANOVA is utilised when the groups tested have two different defining characteristics, rather than one.

For the effect size testing, the study used ANOVA. An effect size is utilised when the dependent variable is numerical and the independent variable is categorical and is measured using a partial eta squared score. The study also analysed other variables that could affect the Self-efficacy of learners. The variables that was considered was sex, race, home district, school (urban / rural) and language proficiency.

In the present study, the inferential statistics that was used included Cronbach Alpha, Correlation Analysis, Bar charts, Cross-tabulations, T-tests. The quantitative data was captured using the computer software package known as Statistical Package for Social Sciences (SPSS) under the guidance of a statistician. The quantitative data analysis was performed using Predictive Analytic Software (PASW) Statistics and Pearson Chi-Square Tests
4.5.3 Qualitative Statistics

The qualitative data was analysed according to recurring themes. The following data techniques were used to achieve the qualitative research findings:

4.5.3.1 Word Clouds

Word Clouds demonstrate the most frequently used words. If the font is larger, then it implies that the word appeared more times. This helps to identify key areas/themes. Word clouds work best as summaries or discussion pieces. If one needs to get across what’s occurring out of one’s research rapidly, showing the word list of one’s data in word clouds can be a starting point.

4.5.3.2 Cluster Analysis

The bubble diagram was used in cluster analysis. The diagrams illustrate the data, which are the key words in the form of ‘bubbles’. The larger bubble indicates the higher frequency of words/references. Furthermore, the colours of the bubbles disclose that those words form a relationship. The closeness of the bubbles shows that there was a relationship between those words.

4.5.3.3 Tree Maps

Tree maps display the data, which are the most frequently used words in terms of the size of the blocks. Hence, the larger blocks reflect those words mainly used. The entire map gives a holistic view of how data are set down in terms of size of reference.

4.5.3.4 Word Trees

Word Trees are utilised to depict key words and the words/sentences connected to that word. It allows one to see how these words connect to other words and sentences/views. Word trees are useful in exploratory analysis when an evaluator examines the various ways that pre-
determined word(s) are used in text. After conducting early analysis, patterns emerge, word trees may also be utilised to visually demonstrate those patterns in the reporting stage.

4.5.3.5 Hierarchy Charts

Hierarchy charts reflect the size of the nodes. Larger sizes imply that there is more volume/concentration of responses in that area. Hierarchy charts are most useful when one need an overview of data that shows multiple levels of hierarchy at once.

4.6 RELIABILITY AND VALIDITY

In the social sciences, a number of intervening factors can subject the quality of scientific enquiry, which weakens the strength of the outcomes and of the analysis. Such features consist of, but are not limited to, endogenous and exogenous influences, time factors, social factors leading to outcome subjectivity, instrument reliability, and data gathering inaccuracies. The reliability of a study or any research lies in the quality of the dimensions. The reliability and validity of data measuring instruments are crucial to scientific research and for that reason, questionnaires need to be constructed and pretested for reliability, face validity and content validity (Zikmund et al. 2013: 303-304).

According to Bryman and Bell (2014: 44), the four criteria for trustworthiness of the qualitative research involves establishing credibility, transferability, dependability and confirmability. Trustworthiness occurred through a triangulation method for validation and verification. This technique ensured that the study was rich, robust, comprehensive and well developed. It involved triangulation of sources from the learners and lecturers.

4.6.1 Reliability

Hernon and Schwartz (2009: 73) suggest that reliability seeks to identify to what degree data or measurement is consistent with quantitative research. Furthermore, consistency signifies the point to which the same conclusions from different samples of the same population are
acquired, or the point to which an instrument calculates the same way each time it is used with similar themes under similar circumstances.

4.6.1.1 Estimating Reliability

The two different kinds of reliability processes are test-retest and internal consistency.

Test-Retest Reliability

Zikmund et al. (2013: 302) highlight that the test-retest technique of establishing reliability comprise of managing the same scale or to measure the same respondents at two distinct times in order to test for stability. If the variable is constant over time, similar results should be obtained in the study, which is controlled under the same conditions every time (Zikmund et al. 2013: 302).

Internal Consistency

A high internal consistency suggests a high degree of generalisability amidst the elements contained by the measurement/test and Cronbach’s (1951) coefficient alpha is a measure of the internal consistency of a measurement/test (Welman, Kruger and Mitchell 2005:147). For instance, if in such a measurement / test someone performs well on a few items, the chances are high that he or she will do the same on the remaining items in the measurement / test.

The index displays the degree to which all items measure the same attribute in a measurement/test. The Cronbach Alpha specifies the mean estimates of the reliability coefficient for all possible ways to divide a range of things in half. The nearer the alpha is to one, the bigger the internal consistency. The internal consistency reliability was established using Cronbach Co-Efficient Alpha.
4.6.2 Validity

Bryman and Bell (2014: 44) indicate that validity signifies whether or not an indicator or a set of indicators that was established to estimate a concept really does so. The various ways of determining validity are face validity, content validity and construct validity.

4.6.2.1 Face Validity

Face validity is the assessment of the measuring instrument based on a multitude of the observations and it is a compilation of cultural judgements from individuals directly impacted by an assessed research conclusion (Gaber and Gaber 2010: 144). The key rationale of face validity is to verify whether the survey objects or questions seem to calculate what they were intended to measure just by scrutinising the content of the items. Face validity was carried out by a panel of experts during the research discussion phase at the Durban University of Technology (DUT). The discussion consisted of academics with an interest in the CMA learners, as well as other researchers at DUT and two statisticians. The questionnaire seemed to measure the desired conceptual domains after evaluation.

4.6.2.2 Content Validity

The validity of the content indicates whether the survey includes items specific to the field of interest calculation (Etchegaray and Fischer 2010: 134) and, when used quantitatively, can determine the objective meaning of the manifest material in texts (Quinlan 2011: 163). It is also advisable to test the correctness, lucidity and relevance of the questions in a preliminary investigation (Brynard and Hanekom 2006: 48). It was therefore necessary to include actual respondents in the pilot study to assess whether the questionnaire measured all the relevant and important elements of the complex conceptual domains.

The pilot study also helped to eliminate duplication of questions and the results of the preliminary investigation helped to determine whether the questions included were relevant to the research problem. A survey was employed so that the sample would be large enough to obtain a good representative of content validity being measured.
4.6.2.3 Construct Validity

Construct validity denotes the point to which the underlying theoretical construct is evaluated by a test or other calculation rather than by irrelevant constructs or measuring errors (Bryman and Bell 2014:39). Welman, Kruger and Mitchell (2005:142) indicate that when one measures something by means of an instrument, the instrument one uses to assess the variable must assess that which it intended to assess. Bryman and Bell (2011: 160) highlight that the scholar is urged to determine hypotheses from a theory that is pertinent to the concept. The validity factor analysis was utilised to establish construct validity.

4.7 RESEARCH ETHICS

White and McBurney (2013: 56) believe that the aim of the research investigation be communicated to the informant as carefully as possible and the anticipated consequences of the research should be communicated as comprehensively as possible to the individuals and groups likely to be affected thereby. The information was communicated through a pre-notification letter (Annexure C), which also included the ethics of the research to the intended participants.

The ethics in any study consists of moral rules and professional rules of behaviour in the collection, analysis, reporting and publication of information about research themes (Zikmund et al. 2013: 101). Scott (2014: 645) points out that, up until lately, sociologists and social scientists in general have frequently shown arrogance in their behaviour towards research subjects by defending their conducts in pursuit of reality. According to Leedy and Ormrod (2014: 106-108) ethical issues fall into 4 categories, i.e., protecting research participants from harm; voluntary and informed participation; participants’ right to privacy; and honesty with professionalism. Each of these categories will be discussed further.

Protection from harm

In the current study, participants were not exposed to any physical or psychological harm. In terms of the letter of information provided, the research participants were required to complete
the pre-test and post-test questionnaire. There was no risk involved in this activity, since, as students, they had been exposed to completion of questionnaire in their schooling career. The questionnaire was only ten minutes long. Therefore, students were not subjected to undue stress culminating from a long testing process.

**Voluntary and informed consent**

The letter of informed consent accompanied the letter of information. In the letter of informed consent, the research participants were provided with a choice to participate in the research study and were given the opportunity to withdraw from the research study at any point in time. The researcher did not pressurize the participants in any way and their participation in the research study was strictly voluntary. This is evident from the high attrition rate reported in chapter 5.

**Participants’ right to privacy**

Student registration numbers was only used to track learners from the pre-test to the end post-test. This was to ensure that the same cohort of learners completed the questionnaire. To ensure the anonymity of all the research participants, the researcher did not publish any student registration numbers in the findings. This ensured that the anonymity of the research participants was maintained. Statistical summaries, covered in chapter 5, pertained to the groups as a whole, and not individual participants. The researcher also advised the participants that the information made available will be strictly private and that there would be anonymity with regards to their identity. They were also informed the information provided will be stored for a period of 5 years in a secure location, after which it will be shredded.

**Honesty with professionalism**

There was no deception of any kind that was used in the current study and the researcher reported on the findings of the research study in a truthful way, without misinterpretation or fabrication of information (Graziano and Raulin 2013: 92; Leedy and Ormrod 2014: 110). These research findings will be discussed in chapter 5. Data was only collected once written ethical clearance was received from both DUT and MUT (Annexures D and E). The researcher
complied with all the requirements laid down by the Institutional Research Ethics Committee (IREC) at the DUT. The current research did not focus on any ethnic or community group and met with all the university’s ethical policies and guiding principles.

4.8 CONCLUSION

The aim of the study is to investigate the impact of General Education on enhancing the Self-efficacy of Accounting learners.

In the present chapter, the research procedure chosen for the current study and justification for the choice were highlighted. The use of the questionnaires and interviews has made it possible to gather quality data that meaningfully contributed to finding responses to the central questions raised in the study. The chapter also addressed that use of data triangulation method. The data triangulation helps to eliminate biases that could arise from a single methodology and ensures reliable research findings. As a final point, the chapter describes how the data collected was analysed and presented. The present chapter has illustrated the research phases and the different aspects of the research process to accomplish the study purpose.

The following chapter focuses on the findings of the research. Chapter Five, in assessing the impact of General Education to enhance the Self-efficacy of Accounting learners, will use descriptive statistics. In addition, inferential statistics in assisting with drawing up conclusions will also take place. Chapter Five will begin with the interpretation of the qualitative data that was gathered from both DUT and MUT.
CHAPTER FIVE

5 PRESENTATION OF RESULTS

5.1 INTRODUCTION

The previous chapter addressed and outlined the methodology used to accomplish the current study’s objectives. The chapter also focused on the different data collection methods and techniques of gathering information to support the study, along with techniques of analysing and interpreting the information. The current chapter will focus on the presentation and interpretation of the results of the study based on the information gained via the questionnaire and interviews. The chapter comprises two sections; firstly, the qualitative presentation of the data results in a methodological approach and the second section focuses on the quantitative presentation of the data results of the study.

5.2 FINDINGS (LECTURERS)

The next section highlights the findings from the interviews conducted with the lecturers from DUT as well as MUT from the Department of Management Accounting on aspects of the following three key themes:

- Self-efficacy,
- General Education Skills and
- Challenges.

5.2.1 Self-Efficacy Theme

The Self-efficacy theme was a primary theme and informed by the following four sub-themes:

i. Current Self-efficacy Ability,
ii. Effectiveness of Communication Skills,
iii. Self-efficacy vs Academic Performance and
iv. Other Methods to Improve Self-efficacy.

The discussion on each sub-theme is unpacked below. Figure 5.1 reflects the cluster analysis regarding the Self-efficacy theme.

**Figure 5.1  Self-Efficacy Cluster Analysis**

5.2.1.1 Current Self-Efficacy Ability

The findings of the data obtained from both the DUT and MUT lecturers regarding the status of Self-efficacy of learners’ ability revealed the following results.
Lack of Self-Efficacy

The majority of lecturers believed that learners lacked Self-efficacy, as was determined from following factors:

1. **Rural Areas**: The majority of learners came from rural areas with little to no exposure or Self-efficacy abilities.
2. **Needs to Be Developed over Time**: Self-efficacy needed to be developed over time, and could only be done at tertiary level.
3. **Dependant on Lecturers**: Learners were too dependent on lecturers and lacked their own abilities to learn on their own.
4. **Communication Skills**: Learners did not have proper/effective communication skills, which posed a barrier to Self-efficacy abilities
5. **English Vocabulary**: Learners were deficient in simple English vocabulary.

Presence of Self Efficacy

No more than 20% of the respondents believed that there was some degree of Self-efficacy, which was determined from the following:

1. **Senior Learners**: It was only evident in final year and/or postgraduate learners;
2. **Innate Ability**: Some learners had innate abilities to achieve their goals; and
3. **Curriculum Coverage**: The curriculum did cover Self-efficacy to some degree.

5.2.1.2 Effectiveness of Communication Skills

The results of the current research findings regarding the effectiveness of communication skills, majority of lecturers reported that learners lacked effective communication skills in the following ways:

Written Skills

Written communication skills appeared to be poor among learners.
One lecturer mentioned that especially in the Accounting discipline, written communication is a problem due to it being a numbers-based qualification, which poses a struggle for learners to apply written interpretation. As highlighted by respondent:

L12: “Written communication is a big problem in the Accounting discipline. Because this is a primarily numbers-based qualification learner really struggle with the interpretation and analysis questions”.

Senior Learners

The findings reveal that primarily the senior learners, such as 3rd and 4th year as compared to those at lower levels learners have more effective communication skills.

Report Writing

Two lecturers asserted that report-writing skills are very poor and one lecturer described it as “pathetic”, as highlighted by respondents below:

L1: “No they don’t. With regards to assessments, their report writing is very poor”.
L12: “Students cannot put an argument down in writing and their reporting skills are pathetic”.

Quantifying

Learners are not good at communication, but are able to quantify what they wish to communicate.

Language

The majority of the learners within the institutions are second-language English speakers. This poses a challenge to effective communication skills and their ability to grasp what is being mentioned. This makes lecturers continuously repeat themselves. As highlighted by respondent L5:

“CMA students are not able to communicate”.

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“The majority of our students are English second language students”.

- **Interpretation Skills**

Two lecturers asserted that the interpretation and analysis skills of learners are very poor, especially when it comes to numbers.

- **Expressive Verbal Skills**

The majority of the learners cannot express themselves verbally, except those that went to the more advantaged (Model C) schools.

As highlighted by respondent:

L12: “Very difficult for students to express themselves verbally. Students who went to Model C schools find it easier to communicate verbally in class”.

- **Calculations**

The current research findings of the study regarding calculations, lecturers report that learners cannot write or express calculations.

5.2.1.3 *Self-Efficacy Vs Academic Performance*

The current study findings with regards to self-efficacy versus academic performance was highlighted in the following ways:

- **Work Independently**

Learners will be able to work independently and know the academic expectations of them in their coursework.
Produce High Impact Learners

It can lead to the throughput of high impact learners in their field of study.

Positive Link Between General Education Skills, Self-Efficacy and Performance

Self-efficacy can improve academic performance, as General Education skills would enhance the efficiency and skill levels of learners to be able to manage their academic programme. Many respondents were confident that Self-efficacy would enhance academic performance.

Enhance Understanding

Self-efficacy will enhance the understanding capabilities of learner when it comes to their work and it can improve academic performance.

Cope with Demands of Higher Education

Learners will have the skills to cope with the demands of higher education, which will in turn positively influence their academic performance.

Confidence

Self-efficacy will contribute to building the confidence levels of learners, which will play a role in improving academic performance.

As pointed out by respondents:

L2: “Firstly if they have confidence in their lecturers and should always apply the concept in real life situations and curiosity about cost accounting”.
L3: “Students lack the confidence to cope with the intellectual demands of the programme”.
L10: “If the learners don’t have confidence to pass, then it is possible that they would drop out. They have to believe in themselves to be able to accomplish their dreams”.

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5.2.1.4 Other Methods to Improve Self-Efficacy

The various methods mentioned by respondents to improve the Self-efficacy of learners could be categorised in one of the four sources of Bandura’s Theory on advancing the Self-efficacy of learners. Lecturers highlighted the followings ways for improving Self-efficacy:

**Workshops and Programmes**

1. **Workshops**: Specialised workshops such as communication workshops and work-preparedness workshops could assist in enhancing Self-efficacy in learners; and

2. **Mentorship Programme**: One institution did have a mentorship programme to assist learners with Self-efficacy.

**Teaching, Learning and Research**

The methods of improving Self-efficacy when it came to Teaching, Learning and Research included the following:

1. **Practical Internship-Experience/WIL**: Learners ought to be exposed to practical experience or work integrated learning (WIL), which will enable learners to see how their knowledge and skills fit in to a real-world setting.
   
   As pointed out by respondents:
   
   L3: “Perhaps hand-on skills and internships/practical/scenario-oriented learning”.
   
   L6: “To ensure the knowledge gained is actualized”.
   
   L12: “Students can be exposed to Work integrated learning”.

2. **Platforms for Research**: There should readily available platforms for research, such as open access labs where learners can practice their research.

3. **Innovation and Creativity in Teaching**: There has to be a shift in how teaching and learning occurs. Therefore, the institution should look at innovative teaching methods that are creative and engaging/interactive for learners. Innovation and Creativity in Teaching can be achieved by the following:

   3.1 **Collaborative Learning**: In relation to the above, collaborative learning can improve Self-efficacy.
As indicated by a respondent:
L3: “Pedagogies such as collaborative learning and inquiry-based activities can also improve Self-efficacy”.

3.2 Change of Assessment Style: Independent learning must be encouraged and facilitated through changing the style of how lecturers assess learners.

Strengthen Modules

The findings indicate that the modules have to be strengthened by incorporating General Education skills into them and these being reinforced.

Skills and Abilities

Lecturers indicate that the Skills and abilities needed to be developed in the following areas:

1. Critical Thinking: Learners needed to be developed in critical thinking skills that can support their Self-efficacy.
2. Computer Literacy: Computer literacy skills have to be emphasised and developed.
3. Promote More Reading: Learners should be encouraged to read more to gain knowledge, other than that in the classroom.
   As outlined by respondent:
   L2: “Encouraging the culture of reading. More successful people read a lot and are aware of what is happening currently in the economy and the world around”.

Motivational Speakers

Using motivational speakers can be of significant value to encouraging learners to build Self-efficacy skills. As indicated by respondent:
L12: “Bringing in experts from second language backgrounds who have now become speakers and writers (people who have overcome the barriers sharing their success stories)”.
Monitoring and Evaluation

Monitoring and evaluation can be very important in improving Self-efficacy. It is therefore essential to carry out the following:

1. **Monitoring of Progress-General Education Skills:** After the implementation of General Education skills, learners’ progress needs to be monitored and tracked. This can determine if it is working and contributing to Self-efficacy.

2. **Evaluation of Outcomes:** In relation to the above, the evaluation of outcomes for general education skills to determine if it is contributing and this will allow room for improvement.

Awareness of Self-efficacy

Lecturers report that learners needed to be educated of the importance of Self-efficacy.

Advisory Boards

One lecturer asserted that advisory boards be created and maintained with industry.

As highlighted by respondent:

L9: “Maintain an advisory board with Industry and higher professional bodies”.

5.2.2 General Education Skills Theme

General Education skills became another prominent theme of the study. The theme was informed by the following sub-themes:

i. Equipped with the necessary General Education skills;

ii. General Education skills vs academic performance;

iii. General Education skills vs Self-efficacy; and

iv. Improvement of General Education skills vs learner performance.

Figure 5.2 reflects the word cloud analysis for General Education.
5.2.2.1 Equipped with the Necessary General Education Skills

It was important to investigate if learners were currently equipped with General Education skills. The findings of the current study on the aspect of whether learners are currently equipped with General Education skills revealed the following:

Equipped

Only 20% of respondents believed that learners were equipped. This was attributed to the following:

1. **Language Centre:** One institution (MUT) had a language centre that learners attended 3 times a week.
2. **Computer Lab:** One respondent asserted that the institution had a computer lab. It can be interpreted that a computer lab did enhance computer skills.
3. **Community Projects:** One respondent indicated that their institution ran community projects such as ENACTUS, which entailed community empowerment activities,
requiring learners to have skills needed to run the project. These skills included the following:

3.1 Research: Doing research of ideas before implementation.

3.2 Proposals and Funding: Writing and presenting proposals for funding.

3.3 Compete Nationally: Learners compete in ENACTUS projects nationally.

Hence, they must have skills for this.

However, a majority of respondents believed that learners were not equipped with General Education skills, due to the following reasons:

1. Teaching Approach and Methods: Developing General Education skills is dependent on the teaching, learning and assessment strategies of teachers/lecturers. If they are not effective in such, then this will hinder General Education Skills in learners.

2. Poor Pass Rate: Poor pass rates indicate a lack of General Education skills.

3. Interpretation: Learners have difficulties in interpreting questions, which implies a lack of General Education skills.

4. Fearful of Self-Learning: One of the lecturers reported that learners are fearful of learning due to them lacking a majority of the General Education skills. One assumes that learners are aware of such skills due to living in the digital age, but they are not.

5. Expressive Writing Skills: Learners lack the ability to express themselves via written skills.

6. Disadvantaged Backgrounds: Learners who come from disadvantaged backgrounds are the most affected by the lack of General Education skills, which is evident in them.

7. Difficulties in English: Learners generally struggle with the English language due to it not being their first/home language. Hence, even whilst General Education is available in the curriculum to some degree, learners still battle to learn about it due to their poor proficiency in English.

8. Curriculum Intervention Needed: More curriculum intervention is crucial to harness and develop General Education skills in learners.

As highlighted by respondent L5:
“No, they are not adequately prepared with the necessary general education skills”. “The curriculum needs to address these skills, as they are not merely developed by maturation. They are developed with practice”.

9. **Computer Literacy**: Many learners are not computer literate when they enter campus, which hinders their progress.

### 5.2.2.2 General Education Skills Vs Academic Performance

The above sub-theme examines the impact of General Education skills on academic performance. The following was uncovered regarding the impact of General Education skills on academic performance:

#### Application of Theoretical Knowledge To The Real World

The above was a major factor whereby General Education skills would enable learners to think and apply their theoretical skills to the real-world environment. This becomes a constituent of academic performance combined with practical work ability.

As expressed by respondents:

L3: “*Quite germane to their accounting role as numbers have to be transformed to consumables for the end users*”.

L5: “*The General Education skills have a positive influence on academic performance. It helps with the application of theoretical knowledge of the modules*”.

L10: “*The skills go hand in hand with the qualification because when the learners get into the workplace they will also need to have these skills*”.

#### Holistic Success

The General Education skills are important for holistic success, which includes the academic environment, business world and life in general.
**Enhance Quality of Programme**

General Education skills can also enhance the Management Accounting programme in terms of quality.

**Enhance Academic Success**

The success of academic modules can get better as learners will ascertain how to cope with modules and the course as a whole.

As pointed out by respondents:

L11: “They are very important aspects which a learner would need in order to be successful in their modules and in the course as a whole. Lacking one of the skills listed above may impact negatively on a student’s academic success”.

L13: “Teaching learners these skills is important as it helps them cope with their courses better”.

**Build Confidence and Capacity**

General Education skills not only have the potential to enhance academic performance, but also contribute towards building confidence in learners. This can promote entrepreneurial capacity in KwaZulu-Natal, especially seeing that they are CMA learners.

**Beneficial and Positive**

Two respondents asserted that General Education skills were beneficial and positive for academia.

**Skills for Digitalised Environment**

Skills such as report writing, analysis and information evaluation are important, especially in the current digitalised environment.

As highlighted by respondent:
L7: “They are very importance as we need such skills in writing up reports, analysing, quantifying and evaluating information which is presented in a digitalised environment”.

Average Performance

One respondent mentioned that currently, learners are average performers when it comes to General Education skills.

Improving with Teaching and Learning Support Unit

Another respondent asserted that currently, General Education skills were not good but due to the teaching and learning support unit at the campus, it was improving.

5.2.2.3 General Education Skills Vs Self-Efficacy

The above sub-theme examines the impact of General Education skills on Self-efficacy and the following was highlighted:

Writing Skills

Writing skills would improve through General Education.

Work Harder and Smarter

Learners would acquire skills that would allow them to work both harder and smarter.

Think More Independently

General Education skills would enable learners to think more critically and independently.
Accounting Skills Dependent on General Education Skills

One respondent asserted that the delivery of Accounting skills was dependent on General Education skills.

Research

Research skills and abilities can be improved though General Education skills.

1. **Research Skills:** There would be an improvement of research skills in general.
2. **Research Builds Knowledge:** Knowledge levels of learners would increase, as research will allow learners to determine recent data about their fields of study.

More Competitive

General Education skills will stimulate critical thinking, which also allows learners to become more competitive.

Enhance Teaching and Learning Processes

One of the lecturers reported that General Education skills would benefit both the teaching and learning process. The learner would be able to understand teaching content better, which would make the teaching process smoother.

Enable Understanding

General Education enables learners to understand their courses and the questions presented to them.

Empowerment

Learners will be empowered in all of the skills that make up General Education.
Confidence and Creativity

General Education will promote more confidence and creativity in learners, which could improve their employability options.

Completion of Tasks

Learners will be able to complete their tasks more effectively though General Education.

Communicate Effectively

Communication skills would get better and it would make learners communicate more effectively.

Application of Knowledge

General Education skills will enhance Self-efficacy when it comes to learners applying knowledge gained at a practical level and in general. As indicated by respondent:

L6: “Yes. I think it will enhance the learners’ efficacy. Knowledge and its right application are the needed ingredients to enhance the learner’s Self-efficacy as it re-orientates the learners on having a paradigm shift from the norms”.

5.2.2.4 Improvement of General Education Skills vs Learner Performance

The above sub-theme examined how General Education skills can be improved to enhance learners’ performance. The respondents highlighted the following:

Incorporate General Education Skills into Core Curriculum Modules

The majority of respondents indicated the need for integration of General Education skills into the core curriculum. The integration of General Education skills is supported by the following responses from respondents:
“Incorporating general education skills into the core curriculum”.

“Incorporate general education skills into the curriculum”.

“They should introduce general education in terms of assessment, and it should be incorporated in the modules not as a standalone. Integrate it within the module”.

“Incorporate General Educations skills in the modules/subjects”.

“Introduce such skills into the CMA program”.

Programmes, Courses and Classes

The building on curriculum integration emanated other suggestion of more programmes, courses and classes. The suggestions are separated into the following:

1. **Short Courses – Elective**: Provide short courses. These should be an elective for those learners that may require it and it should be free. This will improve the uptake of the course.

2. **Re-curriculated Programmes**: General Education skills will be a part of the re-curriculated programmes and it will serve to address the lack of current skills.

3. **More Workshops**: There will be more General Education skills-based workshops hosted.

4. **Language Skills Class**: Classes addressing language skills be hosted and learners should attend these at least twice a week.

5. **Extra-Curricular Activities**: General Education skills can come into being through extra-curricular activities. Respondent L14 made a good point about being more creative in improving General Education skills through creative extra-curricular activities such as games and talent shows.

Support for Writing and Communication

One institution was providing added support for writing and communication skills.

Learners’ Responsibility In Education

One respondent asserted that learners also needed to take responsibility for their education in order to improve themselves, their families and address societal ills.
As corroborated by the following reactions from respondent L9:

“Learners need to take pride in their academic life”.
“Strive to better themselves and their families”.
“This improves the country’s education skills”
“Eradicate unemployment, crime”.

**Learners to Maximise Resources**

Learners needed to maximise the use of the resources provided to them by the institution.

**Continuous Assessment**

General Education skills require continuous assessment in order for it to be instilled at the institution.

**Content Analysis of Curriculum**

The curriculum needs to be evaluated and analysed in terms of General Education content, as asserted by two respondents. This will enable an improvement of the curriculum. As validated by respondent L3:

“I should think a solution to this should be based on the content analysis of DUT’s curriculum in this area”.

“Until you review DUT’s curriculum contents as suggested in Q5 above as to whether or not it’s adequate, then the way forward in terms of improvement can be clearer. In any case, there will always be room for improvements, whether good or bad”.

**Application of Theory and Practice**

As part of General Education, learners need to be exposed to industry so they can see how their theoretical knowledge will fit into the practical working world.

As indicated by respondents:

L2: “Yes I believe if we take our learners to these manufacturing industries they will have a better understanding of what we teach them. For instance, process costing, job costing systems”.
L12: “The GE skills will help with the application of theory and the analysis thereof”.

Teaching Learning Development Committee Support Unit (TLDC)

One institution had a TLDC support unit to support learners and staff on General Education skills. This unit was important when it came to:

1. **Prepare Learners for the Workplace:** It equipped and prepared learners for the workplace.

2. **Build Learners’ Confidence:** TLDC built learners’ confidence and allowed them to express themselves.

5.2.3 Challenges Theme

Figure 5.3 illustrates a word cloud analysis of challenges to learners’ success in Cost and Management Accounting.

**Figure 5.3 Word Cloud Analysis of Challenges**

![Word Cloud Analysis of Challenges](image-url)
Unfortunately, as with many initiatives and innovations, challenges do exits. The theme is therefore, informed by following the sub-themes: (i) Barriers to learners’ success and (ii) Difficulties in the interpretation of questions.

### 5.2.3.1 Barriers to Learners’ Success

The barriers to learners’ success in Cost and Management Accounting included the following:

#### Teacher and Learning-Centred Barriers

It was important to note that ‘teacher and teaching’ related barriers to learners’ success surfaced from the results. These were:

1. **Time for Teaching and Learning:** Module time of 4 hours/week can be insufficient for deep learning and the application of theory to practice.
   
   As validated by respondent:
   
   L12: “Allocation of time/periods for learning and teaching and assessment. Most modules have 4 hours per week, but personally I feel that more time should be allocated in order for deep learning and the application of theory to take place”.

2. **Teaching Approach and Methods:** The current teacher-based approach and methods of teaching need to be improved. There needs to be more constructive and creative approaches. Furthermore, interactive e-learnings approaches are required and the current Blackboard e-Learning system are ineffective.

   As indicated by the respondents:
   
   L5: “The emphasis is on a teacher centred approach as opposed to a constructivist approach school level.”
   
   L12: “Lecture based teaching. Blackboard is purely a repository for content”.
   
   L12: “The notional hours and contact hours are not explicit for the learners”.
   
   L12: “A variety of teaching methods and learning styles should be taken into account”.
   
   L13: “Some lecturers do not explain concepts clearly enough”. 

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3. **Teacher Confidence Levels**: Lecturers are also not confident in teaching due to their own levels of education, which makes it difficult for learners to understand their courses.

4. **Lack of Competent Teachers/Lecturers**: In light of the low level of teacher education, this adds to inexperienced lecturers who cannot teach well.

5. **Silo Teaching**: There seems to be a silo effect of teaching within the department.

6. **Lack of Assessments towards Creativity**: Learners needed to be stimulated to think and learn creatively, however currently, there is a lack of assessments from lecturers that require learners to think critically and creatively.

7. **Lack of Application**: Lack of application to concepts and formulae taught could also be stemming from teachers’ lack of ability to show such application.

8. **Integration - Foundation vs Higher Level**: One respondent made a key point that there was a lack of integration of content between foundation and higher-level subjects. It means that more integration is required so learners can see the trajectory of how their foundation skills play a role as they transit to higher levels of study.

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**Social-Environmental-Attitudinal Factors**

The findings regarding the social-environmental-attitudinal factors are highlighted below:

1. **Attitude towards Learning**: Attitude towards learning is low amongst learners.

2. **Career Choice**: Some student was in the wrong career and therefore experiencing challenges.

3. **Environmental Factors**: The university environment and university infrastructure seem to be posing challenges to learners.

4. **Thinking at a Higher Level**: Learners do not seem to be exposed to critical thinking and higher levels of thinking, considering that they are in higher education.

5. **Maturity**: (no real explanation given, but perhaps this can be related to low levels of maturity amongst learners).

6. **Disparity in S.A Education System**: Learners’ under-preparedness was associated primarily to the disparity in the South African education system. This relates to learners from poverty and disadvantaged backgrounds who went to disadvantaged schools.
As highlighted by respondents:

L5: “The disparity in the SA education system is a major barrier as the majority of our learners come from a disadvantaged educational background. Consequently, the majority of our learners are inadequately prepared for higher education”.

L5: “Disparity related to quintile ranking”.

L14: “School background”.

L14: “Poverty”.

7. **Transition- High School to Tertiary:** Learners did not seem to have mentality transitioned from the schooling level to the higher education level.

8. **Time Management:** There was no real explanation given, but perhaps this can be associated to the poor time management skills of learners.

9. **Language** - This was the main barriers as most learners were not first language English speakers.

**Skills and Literacy**

Lecturers highlighted that learners were lacking or under-developed in the skills and literacy areas, which became barriers to success, as evidenced by the findings below:

1. **Communication Skills - Oral and Written**: A number of respondents ranked oral and written communication skills as severely lacking, especially for students at a higher education level. As highlighted by respondents:

   L5: “Under preparedness for higher education in respect of graduate attributes such as communication skills in oral and written persuasion”.

   L6: “Lacking communication skills (Reading, writing and understanding)”.

   L11: “Lack communication skills”.

   L12: “Written and oral communication skills”.

2. **Reading and Writing Skills**: Learners lacked academic reading and writing skills.

3. **Numerical Skills**: There was a deficiency in numerical skills amongst learners.

4. **Mathematical Literacy**: A deficiency in Mathematical Literacy was noted.
5. **Computer Skills**: Learners lacked proficiency in computers due to minimal to no exposure.  
   As highlighted by respondent:  
   L10: “Student are not proficient in computers. They are not exposed to any form of P.C. yet are required to know all aspects of a P.C”.

**Resources**

Lecturers also highlighted there was a lack of or barriers in terms of resources that hinder learner success, which include:

1. **Lecture Rooms**: lecture rooms are crowded.
2. **Finance**: (no real explanation given, but perhaps this can be related to learners’ financial situation).
3. **Educational Resources**: There seems to be a lack of educational resources for learners.  
   The following were noted:  
   3.1 **Textbooks and Stationery**: There seems to be a lack of textbooks and stationery. When it came to textbooks, there was the lack of textbooks that were CIMA orientated.  
      As highlighted by respondents:  
      L3: “Insufficient textbooks that explain CIMA principles”.  
      L4: “Insufficient questions (from CIMA textbooks) by lecturers for use as class practice questions”.  
   3.2 **Quality of Study Materials**: The overall quality of study material was poor which posed a barrier to learners’ success.
4. **Access to Computers and Facilities**: Students have limited access to computers and printing facilities.

**Responsibility**

Learners seem to lack a sense of responsibility when it came to their studies.
Rote-Learning

The current study found that rote-learning is proving to be a barrier.

Lack of Understanding and Interpretation

Learners lack the ability to understand what is required from them at a higher education level, as well as the complex concepts of their modules.

Lack of Preparedness

The current findings indicate that learners are not equipped for the academic demands of higher education.

Industrial Non-Familiarity

The current findings indicate that learners are not familiar with the industry environment related to the applicability of their studies.

5.2.3.2 Difficulties- Interpretation of Questions

Similar to barriers, it was important to establish the factors that cause difficulties when it came to learners interpreting questions posed in class. These factors included:

Language

As previously emphasised, language remains a primary difficulty. It relates to the following:

1. **English Not First Language:** Students struggle with interpreting and analysing questions due to English not being their first/home language.

2. **Technical Language:** Learners do not understand technical subject language as well, which hinders their progress.
Under-Preparedness

As mentioned before, learners seem to be under-prepared from school level. The finding is consistent with the rote-learning that is being promoted at schooling level. The rote learning approach leads to learners being more dependent on the lecturer.

Lack of Understanding

Learners do not understand the questions posed during tests and exams and therefore end up leaving them out. The lack of understanding negatively influences learners’ academic performance.

Communication Skills

As emphasised, learners lack communication skills, especially at first-year/entry level. Furthermore, it is perceived that the communication module at first-year level is too generic and basic and does not address the problems with written and oral communication skills.

Rote-Learning

Learners stick to memorizing and/or by rote-learning due to a lack of understanding of questions. Rote-learning at tertiary level is not recommended, especially for practical subjects.

Differentiating Skills

Learners lack the skill of differentiating key points from the questions asked.

Interpretation and Analytical Skills

Learners lack the ability to interpret questions. Furthermore, compounding the issue is the fact that the learners are not familiar with the basics of the English language. Learners do not understand terms and synonyms used in examples. As highlighted by the respondents:
L12: “The terms in the questions may be synonyms of the terms used in class, but because of communication barriers, they are lost. They then feel that it is concepts that were not taught”.

L14: “Students lack analytical skills when reading and interpreting the questions”.

5.2.4 Summary of Findings (Lecturers)

In summary, the results show that the biggest challenges include social, environmental and attitudinal factors in which language takes the primary place as the main challenge to learners. In addition, the lack of skills and literacy in current learners becomes a skills barrier, especially in oral and written communication. Furthermore, teacher-centred barriers that include teacher competency, silo teaching and a lack of application-based challenges do exist. When it came to the interpretation of questions, language barriers posed the main challenge for the learners. Results imply that there is currently a severe lack of General Education skills in the current learners, which needs attention. The results further imply that General Education skills can have a positive impact on academic performance, as per the factors listed. It can also have a positive impact on Self-efficacy (as per factors shown). There is room for improvement for general education skills that can enhance learner performance. Hence, the main strategy would be to incorporate General Education skills into the curriculum.

Similar to General Education skills, when it came to Self-efficacy, there is also a lack of such in current learners. Communication skills seem to be very poor amongst current learners, which needed addressing because respondents believe that Self-efficacy can have a positive effect on the academic performance of learners. The methods in improving Self-efficacy reveal that the main strategies should revolve around innovative teaching, learning and research methods; increasing skills development such as critical thinking and computer skills; and promoting more Self-efficacy-based workshops and programmes, amongst the other factors shown.

Figure 5.4 illustrates the hierarchy chart analysis of the overall theme.
The next section will concentrate on the interpretation of the quantitative data analysis of the learners.

5.3 FINDINGS (LEARNERS)

In view of the findings obtained from the interviews conducted with the lecturers from both the DUT and MUT and presentation of the results of the study being complete, the current section will now focus on the findings obtained from the students of the two universities of technology. The findings form an integral part of the current study since it involves the learners.
themselves and it was vital in obtaining information from the affected respondents themselves in order to establish whether the problem statement as outlined in Chapter One is a bona fide one.

The following section will focus on the interpretation of data gathered with the main instrument. The dependent variable of the learners’ Self-efficacy status regarding their studying abilities will form the focal area of the next section.

5.3.1 Questionnaire

5.3.1.1 Introduction

The current section presents the results and interprets the findings obtained from the questionnaires in the current study. The questionnaire was the primary tool utilised to collect data from DUT and MUT learners.

The Sample

In total, 442 questionnaires were distributed and 360 questionnaires were completed and returned, which gave an 81.5% response rate. The failures and dropouts were omitted in the final analysis as paired test would have required two sets of values. The number of responses was sufficient to generate reliable statistics.

The Research Instrument

The research instrument consisted of 74 items, with a level of measurement at a nomimal or an ordinal level. The questionnaire was split-up into nine sections that measured various themes as illustrated below:

1. Biographical data
2. Problem-Solving and Logical Reasoning Skills
3 Critical Thinking Skills
4 Quantitative Analysis
5 Researching Skills
6 Understanding
7 Test Preparation
8 Reading Skills
9 Written Communication Skills

Reliability Statistics

The two most important aspects of precision are reliability and validity. Reliability is determined by taking several measurements on the same subjects. A reliability coefficient of 0.60 or higher is considered as ‘acceptable’ for a newly developed construct.

Table 5.1 illustrates the Cronbach’s Alpha score for all the items that constituted the questionnaire.

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of Items</th>
<th>Cronbach's Alpha Pre</th>
<th>Cronbach's Alpha Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Problem Solving and Logical Reasoning</td>
<td>3</td>
<td>0.542</td>
<td>0.577</td>
</tr>
<tr>
<td>B Critical Thinking Skills</td>
<td>4</td>
<td>0.644</td>
<td>0.624</td>
</tr>
<tr>
<td>C Quantitative Analysis</td>
<td>5</td>
<td>0.595</td>
<td>0.585</td>
</tr>
<tr>
<td>D Researching Skills</td>
<td>4</td>
<td>0.568</td>
<td>0.580</td>
</tr>
<tr>
<td>E Understanding</td>
<td>4</td>
<td>0.580</td>
<td>0.598</td>
</tr>
<tr>
<td>F Test Preparation</td>
<td>4</td>
<td>0.609</td>
<td>0.619</td>
</tr>
<tr>
<td>G Reading Skills</td>
<td>3</td>
<td>0.535</td>
<td>0.439</td>
</tr>
<tr>
<td>H Written Communication Skills</td>
<td>3</td>
<td>0.628</td>
<td>0.529</td>
</tr>
</tbody>
</table>

The reliability scores for most sections approximate the recommended Cronbach’s Alpha value. This indicates a degree of acceptable, consistent scoring for these sections of the
research. Reliability scores were similar across all sections, but a decrease in the values was observed for the last two sections.

The main causes for this are the varying nature of the responses between the two sets of respondents. In addition, these sections have a small number of items that constitute them. However, the average inter-item correlations are all above the acceptable cut-off value of 0.200, which indicates acceptable reliability.

**Factor Analysis**

The matrix tables are preceded by a summarised table that reflects the results of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) and Bartlett's Test of Sphericity.

The requirement is that KMO should be greater than 0.50 and Bartlett's Test of Sphericity less than 0.05. In all instances, the conditions are satisfied, which allows for the factor analysis procedure. Table 5.2 reflects the KMO and Bartlett's Test regarding the pre-test of the study.

**Table 5.2 KMO and Bartlett's Test (Pre-test)**

<table>
<thead>
<tr>
<th>Pre-test of study</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</td>
<td>0.841</td>
</tr>
<tr>
<td>Bartlett's Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>2575.439</td>
</tr>
<tr>
<td>df</td>
<td>435</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
</tr>
</tbody>
</table>

All of the conditions are satisfied for factor analysis, which means that Kaiser-Meyer-Olkin Measure of Sampling Adequacy value should be greater than 0.500 and the Bartlett's Test of Sphericity sig. value should be less than 0.05.

Table 5.3 reflect the KMO and Bartlett's Test regarding post-test of the study.

**Table 5.3 KMO and Bartlett's Test (Post-test)**
### Post-test of Study

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</strong></td>
<td>0.868</td>
</tr>
<tr>
<td><strong>Bartlett's Test of Sphericity</strong></td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>2249.146</td>
</tr>
<tr>
<td>df</td>
<td>435</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Factor analysis is only for the Likert scale items performed. Certain components divided into finer components, which is in the rotated component matrix explained below.
Table 5.4 Rotated Component Matrix

<table>
<thead>
<tr>
<th>Component - Pre</th>
<th>Component - Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2.1a</td>
<td>0.110</td>
</tr>
<tr>
<td>2.2a</td>
<td>0.223</td>
</tr>
<tr>
<td>2.3a</td>
<td>-0.174</td>
</tr>
<tr>
<td>2.4b</td>
<td>-0.145</td>
</tr>
<tr>
<td>2.5b</td>
<td>0.081</td>
</tr>
<tr>
<td>2.6b</td>
<td>0.374</td>
</tr>
<tr>
<td>2.7b</td>
<td>0.392</td>
</tr>
<tr>
<td>2.8c</td>
<td>0.110</td>
</tr>
<tr>
<td>2.9c</td>
<td>0.216</td>
</tr>
<tr>
<td>2.10c</td>
<td>0.023</td>
</tr>
<tr>
<td>2.11c</td>
<td>0.045</td>
</tr>
<tr>
<td>2.12c</td>
<td>0.218</td>
</tr>
<tr>
<td>2.13d</td>
<td>0.127</td>
</tr>
<tr>
<td>2.14d</td>
<td>0.090</td>
</tr>
<tr>
<td>2.15d</td>
<td>0.680</td>
</tr>
<tr>
<td>2.16d</td>
<td>0.691</td>
</tr>
<tr>
<td>2.17e</td>
<td>0.268</td>
</tr>
<tr>
<td>2.18e</td>
<td>0.070</td>
</tr>
<tr>
<td>2.19e</td>
<td>0.145</td>
</tr>
<tr>
<td>2.20e</td>
<td>0.500</td>
</tr>
<tr>
<td>2.21f</td>
<td>-0.078</td>
</tr>
<tr>
<td>2.22f</td>
<td>0.300</td>
</tr>
<tr>
<td>2.23f</td>
<td>0.186</td>
</tr>
<tr>
<td>2.24f</td>
<td>-0.022</td>
</tr>
<tr>
<td>2.25g</td>
<td>0.156</td>
</tr>
<tr>
<td>2.26g</td>
<td>0.568</td>
</tr>
<tr>
<td>2.27g</td>
<td>0.280</td>
</tr>
<tr>
<td>2.28h</td>
<td>0.393</td>
</tr>
<tr>
<td>2.29h</td>
<td>0.200</td>
</tr>
<tr>
<td>2.30h</td>
<td>0.384</td>
</tr>
</tbody>
</table>

Factor analysis is a statistical technique whose main goal is data reduction. A typical use of factor analysis is in survey research, where a researcher wishes to represent a number of questions with a small number of hypothetical factors.

With reference to Table 5.4:
- The principle component analysis was utilised as the extraction method in the current study, and the rotation method that was used is Varimax with Kaiser Normalization.

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Varimax with Kaiser Normalization is an orthogonal rotation method that minimizes the number of variables that have high loadings on each factor. It simplifies the interpretation of the factors.

- Factor analysis/loading shows inter-correlations between variables.
- Items of questions that loaded similarly imply measurement along a similar factor. An examination of the content of items loading at or above 0.5 (and using the higher or highest loading in instances where items cross-loaded at greater than this value) effectively measured along the various components.

The statements that constituted sections 2.1 - 2.3 loaded perfectly along a single component for both the pre-test and post-test. Sections 2.13 - 2.16 also loaded perfectly for the post-test. This implies that the statements that constituted the sections perfectly measured what they set out to measure.

It was noted that the variables that constituted the remaining sections loaded along multiple components (sub-themes), which meant that respondents identified different trends within the section. Within the section, the splits are colour coded. Respondents identified overlapping trends amongst the sections. The following sections relate to the analysis of the main instrument of the study and begin with the biological data of the Cost and Management Accounting learners of DUT and MUT.

### 5.3.1.2 Biographical Data

The current section summarises the biographical characteristics of the Cost and Management Accounting learners.

Figure 5.5 illustrates the overall gender distribution of the respondents from DUT and MUT. Learners’ statistical data for DUT comprises 67% females and 33% males, while the MUT learner population is 69% females and 31% males.
The overall ratio of males to female respondents is approximately 1:2 (32.0%: 68.0%). There were significantly more females than males (p < 0.001), but the composition by institution is not different (p = 0.735).

Figure 5.5  Overall Gender Distribution

Figure 5.6 illustrates the racial composition of the respondents of both DUT and MUT.

Figure 5.6  Racial Composition of Respondents
The respondents’ statistical data for DUT comprises of 93.8% African, 2.8% Coloured and 3.4% Indian; while MUT’s learner population is 99.5% African, 0.5% Coloured and 0.0% Indian.

There are significantly more African respondents in each institution (p < 0.001). The composition by institution is also significantly different (p = 0.003), with there being more African respondents at MUT, whilst DUT had more Coloured and Indian respondents compared to MUT. Figure 5.7 indicates the nature of the respondents’ home district.

![Figure 5.7 Home District of Respondents](image)

The DUT respondents’ home district comprised 37.5% urban and 62.5% rural; while MUT respondents’ home district is 41.4% urban and 58.6% rural.

Within each institution, there were significantly more respondents from rural areas (p < 0.05), but the ratio of respondents between the institutions was similar (p = 0.257).

Figure 5.8 illustrates the respondents’ location of the high/secondary school district of both DUT and MUT. The DUT respondents’ high/secondary school district comprised 44.9% urban and 55.1% rural; while MUT respondents’ high/secondary school district is 47.3% urban and 52.7% rural. According to each institution, there were similar numbers of respondents who attended urban schools, as there were who attended rural schools (p > 0.05).
The finding of the present study regarding the high/secondary school of respondents are supported to the most extent by the data provided in chapter Two, section 2.3.1 in relation to rural schools. For example, in 2007 Limpopo had 2 348 rural schools with 929 188 learners and in KwaZulu-Natal, there were 2 956 such schools with 1 097 499 learners (Gardiner 2008: 8). Figure 15.9 illustrates the English proficiency of the respondents.
The DUT respondents’ English proficiency comprised 32.0% 1st Language and 68.0% 2nd Language; while MUT respondents’ English proficiency comprised 22.2% 1st Language and 77.8% 2nd Language. The ratio of first to second language respondents was 1:2 at DUT and approximately 1:4 at MUT (p < 0.05). The difference was significant between the institutions (p = 0.042). The current finding is also supported by the statistical data provide in Chapter Two, section 2.4.2.

5.3.2 Learners’ Self-Efficacy Status

The study made use of the Wilcoxon Test to determine whether the scoring patterns per institution were significantly different between the pre-test and post-test scores. The third and fourth columns from the end of the table illustrate a significant difference. The second-last column from the end of the table compares the overall pre-test versus post-test scores, irrespective of the institution. The p-values were determined using the Mann Whitney Test. The gap scores were determined by finding the difference between the post-test and pre-test scores. After determining the difference between the post-test and pre-test scores, the Mann Whitney Test was utilised to determine if there was a significant difference regarding the gap scores. If the highlighted sig. values (p-values) are less than 0.05 (the level of significance), it implies that there was a difference in the central measures.

5.3.2.1 Problem-Solving and Logical Reasoning

Table 5.5 and Figure 5.10 illustrates the respondents’ problem-solving and logical reasoning ability. Pertaining to the learners’ problem-solving and logical reasoning ability, the study found that the mean values were all above three, indicating that the levels are closer to agreement with the problem-solving and logical reasoning statements in the questionnaire. A similar status quo was found to be also true for the pre-test and post-test for both institutions, as well as the overall scores where the mean values were all above three. The gaps, which refer to the difference between the pre-test and post-test, were all positive, indicating that the post-test scores were higher than the pre-test scores. The gaps for DUT were higher than MUT.
There were significant differences observed for DUT between pre and post-test for the problem solving and logical reasoning statements as all of the p-values were 0.000 (p < 0.001). The pre-test vs post-test scores for MUT were similar as all of the p-values are greater than 0.05, implying that there are no significant differences. There was a significant difference in the overall scores owing to the DUT contribution. As indicated in the figure, the gap scores for DUT are significantly higher than MUT (p < 0.001). Although the pre-test scores for MUT are slightly higher than DUT, the post-test scores of DUT were higher than the MUT post-test scores.

In all instances (pre-test, post-test and overall analysis) with both institutions, the learners’ problem confrontation and finding solutions (statement 2.2) scored the lowest. Although there was an improvement in the post-test score with DUT respondents, it was still an issue. Problem confrontation and finding solutions involves critical thinking skills, which the majority of learners seem to lack.

**Figure 5.10  Problem Solving and Logical Reasoning**
Table 5.5  Problem Solving and Logical Reasoning

<table>
<thead>
<tr>
<th></th>
<th>DUT</th>
<th>MUT</th>
<th>Overall</th>
<th>DUT (Pre vs Post)</th>
<th>MUT (Pre vs Post)</th>
<th>Overall (Pre vs Post)</th>
<th>DUT vs MUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Gap</td>
<td>Pre</td>
<td>Post</td>
<td>Gap</td>
<td>Pre</td>
</tr>
<tr>
<td>I always manage to solve difficult problems if I try hard enough</td>
<td>2.1</td>
<td>3.53</td>
<td>4.05</td>
<td>0.52</td>
<td>3.66</td>
<td>3.71</td>
<td>0.05</td>
</tr>
<tr>
<td>When I am confronted with a problem, I can usually find several solutions</td>
<td>2.2</td>
<td>3.26</td>
<td>3.72</td>
<td>0.45</td>
<td>3.34</td>
<td>3.34</td>
<td>0.00</td>
</tr>
<tr>
<td>If I am in trouble, I can usually think of a solution</td>
<td>2.3</td>
<td>3.61</td>
<td>3.97</td>
<td>0.36</td>
<td>3.63</td>
<td>3.66</td>
<td>0.03</td>
</tr>
</tbody>
</table>

5.3.2.2  Critical Thinking Skills

Table 5.6 and Figure 5.11 illustrate both DUT and MUT respondents of critical thinking skills. There was a significant difference between the pre-test and post-test scores for DUT regarding all of the statements on critical thinking skills (p < 0.05). The scoring patterns for MUT were similar between the pre-test and post-test for all statements (p > 0.05). There were larger gap scores for DUT than there were for MUT. There were significant differences in all the gap scores for DUT.

Table 5.6  Critical Thinking Skills

<table>
<thead>
<tr>
<th></th>
<th>DUT</th>
<th>MUT</th>
<th>Overall</th>
<th>DUT (Pre vs Post)</th>
<th>MUT (Pre vs Post)</th>
<th>Overall (Pre vs Post)</th>
<th>DUT vs MUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Gap</td>
<td>Pre</td>
<td>Post</td>
<td>Gap</td>
<td>Pre</td>
</tr>
<tr>
<td>I am certain I can understand the most difficult material presented in texts</td>
<td>2.4</td>
<td>2.93</td>
<td>3.27</td>
<td>0.34</td>
<td>3.08</td>
<td>3.13</td>
<td>0.05</td>
</tr>
<tr>
<td>I am confident I can understand the most complex material presented by the lecturer</td>
<td>2.5</td>
<td>3.09</td>
<td>3.43</td>
<td>0.34</td>
<td>3.19</td>
<td>3.22</td>
<td>0.03</td>
</tr>
<tr>
<td>I am sure I can do an excellent job on the problems and tasks assigned for this class</td>
<td>2.6</td>
<td>3.57</td>
<td>3.91</td>
<td>0.35</td>
<td>3.60</td>
<td>3.65</td>
<td>0.05</td>
</tr>
<tr>
<td>Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class</td>
<td>2.7</td>
<td>3.60</td>
<td>4.12</td>
<td>0.52</td>
<td>3.70</td>
<td>3.73</td>
<td>0.03</td>
</tr>
</tbody>
</table>
Figure 5.11 Critical Thinking Skills

It is noted that all of the gap scores for DUT were positive, implying that the post-test scores were higher than the pre-test scores. The scoring patterns for 2.6 and 2.7 were higher than for the remaining statements. The average scores approximating 3 (the neutral score) indicated higher levels of neutral scoring (as verified by the frequency tables).

5.3.2.3 Quantitative Analysis

Table 5.7 and Figure 5.12 illustrates respondents’ quantitative analysis skills of both DUT and MUT institutions. There was a significant difference in the pre-test vs post-test scores ($p < 0.05$) for both DUT and MUT, except statement Q2.10 for DUT and statement Q2.9 for MUT. The post-test scores are larger than the pre-test scores (as all of the gaps are positive). The gap scores are similar for statement Q2.10 ($p = 0.672$). The statements for Q2.9, Q2.11 and Q2.12 have large post-test means for both institutions. The DUT post-test scores (and hence the gap scores) were higher than MUT.
Table 5.7 Quantitative Analysis

<table>
<thead>
<tr>
<th></th>
<th>DUT</th>
<th>MUT</th>
<th>Overall</th>
<th>DUT (Pre vs Post)</th>
<th>MUT (Pre vs Post)</th>
<th>Overall (Pre vs Post)</th>
<th>DUT vs MUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pr</td>
<td>Po</td>
<td>Gap</td>
<td>Pr</td>
<td>Po</td>
<td>Gap</td>
<td>Pr</td>
</tr>
<tr>
<td>Thanks to my resourcefulness, I know how to handle unforeseen situations</td>
<td>2.8</td>
<td>3.0</td>
<td>0.4</td>
<td>3.09</td>
<td>3.1</td>
<td>0.0</td>
<td>3.0</td>
</tr>
<tr>
<td>I am interested in classes/training</td>
<td>2.9</td>
<td>3.9</td>
<td>0.4</td>
<td>3.98</td>
<td>3.9</td>
<td>0.0</td>
<td>3.9</td>
</tr>
<tr>
<td>I have family responsibilities</td>
<td>2.10</td>
<td>3.2</td>
<td>1.1</td>
<td>3.14</td>
<td>3.2</td>
<td>0.0</td>
<td>3.1</td>
</tr>
<tr>
<td>I have the necessary motivation</td>
<td>2.11</td>
<td>3.6</td>
<td>0.3</td>
<td>3.55</td>
<td>3.6</td>
<td>0.1</td>
<td>3.5</td>
</tr>
<tr>
<td>I am talented enough</td>
<td>2.12</td>
<td>3.1</td>
<td>0.6</td>
<td>3.33</td>
<td>3.4</td>
<td>0.0</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Figure 5.12 Quantitative Analysis

5.3.2.4 Researching Skills

Table 5.8 and Figure 5.13 illustrate the respondents’ researching abilities at both DUT and MUT.
Regarding the section on researching abilities, there was a significant difference in all of the p-values (p < 0.05), with the exception being for the pre-test vs post-test comparison for statement Q2.16. The mean pre-test and post-test scores for DUT are all above 3, with similar patterns.
observed for MUT, except for statement Q2.14, which are less than 3. An inspection of the
frequency tables indicates that for statement Q2.14, there was a 32.1% disagreement for the
pre-test and 28.3% disagreement for post-test for MUT. The levels of disagreement were higher
for MUT as compared to DUT.

5.3.2.5 Understanding

Table 5.9 and Figure 5.14 illustrates the respondents’ understanding abilities at both DUT and
MUT. On the subject of the learners’ studying abilities, the study found that the mean values
were all above three, indicating that the levels are closer to agreement with the self-learning
(studying) statements in the questionnaire. There was a significant difference in most of the
values, except for statement Q2.18 and statement Q2.20 for MUT. The DUT post-test scores
(and hence the gap scores) were higher and positive as compared to MUT.

In all cases with both institutions on the subject of recognizing a new topic and associating new
concepts with old ones, the lowest score was reasonably well to recall them (statement 2.17).

Table 5.9 Understanding

<table>
<thead>
<tr>
<th>DUT</th>
<th>MUT</th>
<th>Overall</th>
<th>DUT (Pre vs Post)</th>
<th>MUT (Pre vs Post)</th>
<th>Overall 1 (Pre vs Post)</th>
<th>DUT vs MUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pr</td>
<td>Post</td>
<td>Gap</td>
<td>Pr</td>
<td>Post</td>
<td>Gap</td>
<td>Pr</td>
</tr>
<tr>
<td>2.17</td>
<td>3.33</td>
<td>0.61</td>
<td>3.52</td>
<td>3.58</td>
<td>0.07</td>
<td>3.43</td>
</tr>
<tr>
<td>2.18</td>
<td>3.65</td>
<td>0.39</td>
<td>3.71</td>
<td>3.76</td>
<td>0.05</td>
<td>3.68</td>
</tr>
<tr>
<td>2.19</td>
<td>3.76</td>
<td>0.48</td>
<td>3.62</td>
<td>3.70</td>
<td>0.08</td>
<td>3.69</td>
</tr>
<tr>
<td>2.20</td>
<td>3.83</td>
<td>0.51</td>
<td>3.78</td>
<td>3.83</td>
<td>0.05</td>
<td>3.81</td>
</tr>
</tbody>
</table>
5.3.2.6 Test Preparation

Table 5.10 and Figure 5.15 illustrate the respondents’ test preparation abilities of both DUT and MUT institutions.

Table 5.10 Test Preparation

<table>
<thead>
<tr>
<th></th>
<th>DUT (Pre Post)</th>
<th>MUT (Pre Post)</th>
<th>Overall (Pre Post)</th>
<th>DUT vs MUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pr</td>
<td>Po</td>
<td>G ap</td>
<td>Pr</td>
</tr>
<tr>
<td>When I am feeling depressed about a forthcoming test, I can find a way to motivate myself to do well</td>
<td>2.21</td>
<td>3.65</td>
<td>20</td>
<td>0.55</td>
</tr>
<tr>
<td>When I am struggling to remember technical details of a concept for a test, I can find a way to associate them together that will ensure recall</td>
<td>2.22</td>
<td>3.48</td>
<td>89</td>
<td>0.41</td>
</tr>
<tr>
<td>When I have to take a test in a subject I dislike, I can find a way to motivate myself to earn a good grade</td>
<td>2.23</td>
<td>3.48</td>
<td>02</td>
<td>0.53</td>
</tr>
<tr>
<td>When I think I did poorly on a test that I just finished, I can go back to my notes and locate all the information I had forgotten</td>
<td>2.24</td>
<td>3.76</td>
<td>89</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Figure 5.14 Understanding
On the subject of the learners’ test preparation abilities, the study found that the mean values were all above three, indicating that the levels are closer to agreement with the test preparation statements in the questionnaire. There was a significant difference in most of the values, except for statement 2.24 for DUT and statement 2.21 regarding MUT. The post-test scores for DUT were higher than MUT post-test scores.

### 5.3.2.7 Reading Skills

Table 5.11 and Figure 5.16 illustrates the respondents’ reading abilities at both DUT and MUT.

On the topic on reading ability, the study found that the mean values were all above three, suggesting that the rates are closer to agreement on the questionnaire's self-learning (reading) claims. There was a significant difference in all the values, except for statement Q2.26 for the pre-test vs post-test for MUT. The scores for DUT were higher than MUT. The gaps, which
refer to the difference between the pre-test and post-test, were all positive, indicating that the post-test scores were higher than the pre-test scores. The gaps for DUT were higher than MUT.

Table 5.11 Reading Skills

<table>
<thead>
<tr>
<th>DUT</th>
<th>MUT</th>
<th>Overall</th>
<th>DUT (Pre vs Post)</th>
<th>MUT (Pre vs Post)</th>
<th>Overall (Pre vs Post)</th>
<th>DUT vs MUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>Po st</td>
<td>Gap</td>
<td>p-value</td>
<td>Pre</td>
<td>Po st</td>
<td>Gap</td>
</tr>
<tr>
<td>2.25</td>
<td>3.4</td>
<td>3.9</td>
<td>0.5</td>
<td>0.0</td>
<td>7</td>
<td>3.4</td>
</tr>
<tr>
<td>2.26</td>
<td>3.7</td>
<td>3.5</td>
<td>0.5</td>
<td>0.0</td>
<td>2</td>
<td>3.8</td>
</tr>
<tr>
<td>2.27</td>
<td>3.2</td>
<td>3.5</td>
<td>0.3</td>
<td>0</td>
<td>1</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Figure 5.16  Reading Skills
### 5.3.2.8 Written Communication Skills

Table 5.12 and Figure 5.17 illustrate the respondents’ written communication abilities.

#### Table 5.12 Written Communication Skills

<table>
<thead>
<tr>
<th></th>
<th>DUT</th>
<th>MUT</th>
<th>Overall</th>
<th>DUT (Pre vs Post)</th>
<th>MUT (Pre vs Post)</th>
<th>Overall (Pre vs Post)</th>
<th>DUT vs MUT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Gap</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td></td>
</tr>
<tr>
<td>When I find that my first draft of a paper is wrongly worded, ungrammatical, or confusing, I can revise it so that it is completely clear and grammatical</td>
<td>2.28</td>
<td>3.51</td>
<td>4.10</td>
<td>0.5</td>
<td>9</td>
<td>3.4</td>
<td>3.5</td>
</tr>
<tr>
<td>When I am asked to write a concise, well-organized paper overnight, I can find a way to do it</td>
<td>2.29</td>
<td>3.11</td>
<td>3.70</td>
<td>0.6</td>
<td>0</td>
<td>3.3</td>
<td>3.4</td>
</tr>
<tr>
<td>When I am asked to write a paper on an unfamiliar topic, I can find good enough information to please my lecturer</td>
<td>2.30</td>
<td>3.08</td>
<td>3.74</td>
<td>0.6</td>
<td>6</td>
<td>3.1</td>
<td>3.2</td>
</tr>
</tbody>
</table>

#### Figure 5.17 Written Communication Skills
With regards to the learners’ written communication ability, the study found that the mean values were all above three, indicating that the levels are closer to agreement with the self-learning (writing) statements in the questionnaire. There was a significant difference in all values except for statement Q2.28 for pre-test vs post-test for MUT. The post-test scores for DUT were higher than that for MUT. The gaps observed for DUT were larger than MUT.

The next section will answer statements made by the primary informants about the questionnaire's three pre-test and post-test questions. Word clouds and tree maps have been utilised to evaluate respondents' claims.

5.3.3 Findings (Pre-test and Post-test Statements of Learners)

The current section begins with the pre-test statements made by both DUT and MUT respondents on the aspects of Self-efficacy and General Education.

5.3.3.1 Pre-test Statements

Q 1 What is your opinion of Self-efficacy on academic performance in Cost and Management Accounting?

Figure 5.18 indicates the statements made by respondents regarding Self-efficacy affecting the academic performance of learners. As documented by the respondents:

“Self-efficacy is very important in this because there are many difficult chapters that sometimes you wouldn’t understand in class and have to study on your own”.

“It plays a major role in how goals, tasks and challenges are approached. People with self-efficacy can perform well in their studies”.

“Self-efficacy is an important feature in this specific course. That is because in Accounting we deal with solving problems mostly. Therefore it must be in Accounting student nature to solve problems”.

“My opinion is our lecturers they should try their best to make us understands especially to those who didn’t do Accounting at school”.

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“From my experience, Cost and Management Accounting is a tricky module as much as it will be hard for students to understand, it will also encourage them to work harder hence increasing their beliefs in themselves”.

“I think that academic performance can improve because this subject needs the understanding a student has to apply the method needed”.

The above responses may suggest that the ‘understanding’ of the module and ‘Self-efficacy’ are key factors to improving academic performance in Management Accounting. Therefore, further efforts are necessary to make the module understandable and to improve learners' Self-efficacy.

Figure 5.18 Pre-test Statements of Self-Efficacy on Academic Performance

<table>
<thead>
<tr>
<th>Q2 In addition to General Education skills, what else in your opinion can DUT/MUT do to improve the Self-efficacy of learners?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 5.19 indicates the other factors according to the respondents’ opinion on what DUT/MUT can do to improve Self-efficacy of learners, in addition to General Education skills. As indicated by the respondents:</td>
</tr>
</tbody>
</table>

> “Motivate the learners so that they will trust themselves and have self-confidence”.

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“Have support groups to motivate and encourage learners never to give up on their course”.
“Top achievers should be acknowledged so that everyone will be motivated to become one”.
“To engage with students, motivate them to become more than academics”.
“I think offering those extra classes and more tutorials can be very effective to them”.
“If we could have more tutorial classes and afternoon classes”.
“They should have extra classes for those learners who struggle with their academics”.

The above responses from learners can imply that ‘motivation’, ‘tutorials’ and ‘extra classes’ are key to improving Self-efficacy. Hence, there must be more efforts in promoting motivation, extra classes and tutorials in the module.

Figure 5.19  Pre-test Statements on Other Factors to Improving Self-Efficacy
Q3 What is your opinion of General Education skills such as written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy on academic performance in Cost and Management Accounting?

Figure 5.20 indicates the opinions of the learners on General Education skills such as written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy for academic performance in Cost and Management Accounting. As pointed out by the respondents:

“I think it can increase the performance in Cost and Management Accounting, since communication is significant in solving issues”.

“Oral communication is quite a big challenge if you coming from rural areas”.

“Oral communication and critical thinking are good for Cost and Management Accounting”.

“I think Oral Communication is important because some students can understand and write, but speaking English is still difficult for them. And we can also add some information and computer literacy in the time table”.

“To have oral presentations to improve oral communications”.

“General education skills are essential for academic performance in Cost and Management Accounting as this module focuses on theory and calculations”.

“I lack critical thinking skills. We do more of easy homework”.

“My opinion is that general education skills should be conducted for all first year students because it prepares them to think logical”.

“These general education skills are very important in cost and Management Accounting because they teach us the root of Accounting and helps us understand Accounting better”.

“Some skills I am not good at such as computer literacy but I know my potential. I can learn fast so I’m very confident”.

The above responses suggest that the General Education skills are key to performance in Management Accounting. In future, there must be more effort to include skills such as written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy in the module.
The current section has given an account on the pre-test statements made by respondents from both DUT and MUT. It is now equally important to address the post-test statements made by both groups of respondents about the facets of Self-efficacy and General Education in relation to the open-ended questions that emerged in the study’s main instrument.

5.3.3.2 Post-test Statements

Q1 What is your opinion of Self-efficacy on academic performance in Cost and Management Accounting?

Figure 5.21 denotes post-test statements made by the learners regarding Self-efficacy in the academic performance of learners. As highlighted by the respondents:

“So far I understand what my lecturer is saying and if I continue working hard I can make it”.

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“I am doing well so far since I work hard to do extremely well next time or on my test, but so far I have a clear understanding”.

“Given more time in a chapter I believe I would do a better job of understanding the work”.

“My opinion is that this Self-Efficacy will help students to do exceptionally well by recognising the importance of it and remember their opinions that they have given”.

“Self-efficacy is good in CMA”.

“I think that a student needs to have self-efficacy for this course because it requires hard work and attention”.

“I think self-efficacy is good because it increases the performance in cost and management”.

Self-efficacy is important in ensuring a successful outcome in cost and management”.

Figure 5.21 Post-test Statements of Self-Efficacy Effect on Academic Performance

The feedback from the post-test that was received from the respondents from both the institutions was similar to the pre-test and that ‘understanding’ of the module and ‘self-
efficacy’ proved to be essential factors to improving the academic performance of the learners. It is imperative that more time and effort be awarded to those factors.

Q2 In addition to General Education skills, what else in your opinion can DUT/MUT do to improve the Self-efficacy of learners?

Figure 5.22 denotes post-test statements on other factors responsible for improving the Self-efficacy of learners.

Figure 5.22 Post-test Statements on Other Factors for Improving Self-Efficacy

As indicated by the respondents:

“They can add more classes in our timetable because I feel we need more assistance”.

“They must create some extra classes for those students who are not able to understand new topics immediately or group them with those who are capable to muster those topics easily”.

“They can increase our classes in a week to see the lecturers more often in order to be able to complete all the work on time”.
“I think everything is pretty fine because we also have tutorials which help us if we have problems”.

“Provide more question papers so that in the test or the exams they will do better than they usually could have done and have more tutorials to discuss the answers”.

“They must motivate learners and tell them to study very hard. They must not give up on them. They must encourage learners”.

“They must motivate those who didn’t do well in their school work and reward those who perform well that will increase self-efficacy”.

The responses of the respondents from the post-test was similar to the pre-test and that ‘motivation’, ‘tutorials’ and ‘extra classes’ is key to improving self-efficacy.

Q3 What is your opinion of General Education skills such as, written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy on academic performance in Cost and Management Accounting?

Figure 5.23 reveals post-test statements of the respondents’ opinion on General Education.

**Figure 5.23 Post-test Statements of Student Opinion on General Education**
As indicated by the respondents:

“Computer literacy has not been part of the package as yet, but communication, critical thinking etc. is going well”.

“I can always do better in oral communication and critical thinking in cost and management”.

“General education skills can make some other learners to understand some modules easy like communication”.

“The communication must be well-developed”.

“General education skills should be improved in cost and Management Accounting because students doing Accounting are always not introduced to oral and writing skills”.

“General education skills are essential to encourage holistic learning and this improves academic performance”.

The responses received from the respondents for the post-test question was similar to the pre-test feedback and that the general education skills such as written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy is essential to improve performance in Management Accounting.

5.3.4 Overall Findings of Other Variables (DUT & MUT)

The study also analysed other variables that could affect the Self-efficacy of learners. Sex, race, home district, school (urban / rural) and language proficiency were the variables considered.

Table 5.13 reflects the overall analysis of DUT and MUT. For the effect size testing, the study used ANOVA. An effect size is utilised when the dependent variable is numerical and the independent variable is categorical and is measured using a partial eta squared score.

Various scenarios were set up for individual institutions, together with a combined cohort. In all instances, there was a minimal effect by the following variables on the scores observed: Gender, Race, Home district, School (urban/rural), Language proficiency and the combinations thereof. It was observed that all of the partial eta squared values are less than 0.02, which is an
indication of a small effect (refer to Table 5.13. This means that these variables had little to no effect on the overall patterns observed. Refer to Annexure G for detailed calculations.

Table 5.13 Overall Findings of Variables (DUT & MUT)

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>2286.663^a</td>
<td>19</td>
<td>120.351</td>
<td>1.627</td>
<td>0.048</td>
<td>0.086</td>
</tr>
<tr>
<td>Intercept</td>
<td>149706.686</td>
<td>1</td>
<td>149706.686</td>
<td>2024.446</td>
<td>0.000</td>
<td>0.860</td>
</tr>
<tr>
<td>Q1.3</td>
<td>18.590</td>
<td>1</td>
<td>18.590</td>
<td>0.251</td>
<td>0.616</td>
<td>0.001</td>
</tr>
<tr>
<td>Q1.4</td>
<td>340.560</td>
<td>2</td>
<td>170.280</td>
<td>2.303</td>
<td>0.102</td>
<td>0.014</td>
</tr>
<tr>
<td>Q1.5</td>
<td>44.561</td>
<td>1</td>
<td>44.561</td>
<td>0.603</td>
<td>0.438</td>
<td>0.002</td>
</tr>
<tr>
<td>Q1.6</td>
<td>69.478</td>
<td>1</td>
<td>69.478</td>
<td>0.940</td>
<td>0.333</td>
<td>0.003</td>
</tr>
<tr>
<td>Q1.7</td>
<td>13.052</td>
<td>1</td>
<td>13.052</td>
<td>0.177</td>
<td>0.675</td>
<td>0.001</td>
</tr>
</tbody>
</table>

5.3.5 Comparative Findings of Other Variables (DUT)

The current study also probed a comparative analysis of biological data for DUT that could have an effect on learners’ Self-efficacy. The variables taken into consideration were Gender, Race, Home district, School (urban/rural) and Language proficiency. Table 5.14 provides the detailed analysis of variables for DUT.

The comparative analysis between the same variable revealed no significant difference. However, females, Africans, Urban Home District, Urban School and English Second Language learners scored more in the post-test.

Table 5.14 illustrates a comparative analysis of variables regarding DUT.
<table>
<thead>
<tr>
<th>DUT</th>
<th>Pre-test % (Mean Score)</th>
<th>Post-test % (Mean Score)</th>
<th>Difference % (Mean Score)</th>
</tr>
</thead>
<tbody>
<tr>
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### 5.4 CONCLUSION

The current chapter focused on the presentation of the findings from the respondents by means of descriptive statistics through the form of word clouds, tree maps, pie charts, bar graphs and tables. In the present chapter, the analyses were based on the empirical findings as described in the chapter. The following chapter will present a complete analytical discussion of all the findings using the theoretical framework and literature to guide and support the facts and argument.
CHAPTER SIX

6 DISCUSSION, ANALYSES AND RECOMMENDATIONS

6.1 INTRODUCTION

The previous chapter provided the empirical findings from the data collected via the self-administered structured questionnaire with the learners that were registered in the programme Management Accounting and the interviews conducted with the lecturers from both DUT and MUT. The current chapter will present a comprehensive analytical discussion of all the results using the theoretical framework and literature to guide and support the facts and arguments.

6.2 PURPOSE OF THE STUDY

The rationale for this study emanated from the researcher’s years of lecturing at the university in the Faculty of Accounting and Informatics, observing that some learners were eager to learn and willing to tackle new challenges while others seem uninterested or un-motivated. The researcher also noted that some of the learners demonstrated high levels of confidence in their abilities, while others seemed unsure of themselves. The research question then arose; what affects the students’ beliefs in their capabilities to succeed in the programme Accounting?. Therefore, the aim of this study was to investigate the impact of General Education on enhancing the Self-efficacy of Accounting learners.

The present study draws on the six objectives that were indicated in the first chapter. The first object was to investigate the General Education challenges experienced by Accounting learners at HEIs and possible intervention strategies to enhance learners’ Self-efficacy. The second objective was to explore Accounting learners’ perceptions about their capabilities to cope with the demands of an academic environment. The third objective was to ascertain the level of learners’ Self-efficacy, as reported by learners. The fourth objective was to identify the relationship between General Education and learner Self-efficacy. The fifth objective was to establish whether additional learning initiatives are effective. The final objective was to
develop a strategy to alleviate the deficiency experienced by Accounting learners in communication skills, as well as a framework to measure the improvement of an Accounting learner’s ability to communicate efficiently from year 1 to year 3.

6.3 DISCUSSION OF FINDINGS (LECTURERS)

The present research is a very good study that is applicable to the real world. The interviews with the lecturers from both the universities of technologies provided valuable findings that contributed and formed an integral part of the current study. It was imperative to get hold of the point of view and observations of the lecturers themselves in order to obtain a holistic approach to the research problem at hand. In doing so, the data did reveal some very interesting findings.

The study found that similar to General Education skills, there is also a lack of Self-efficacy in current learners. Lecturers highlighted that communication skills seems to be very poor amongst current learners and should be an area of focus because respondents believe that Self-efficacy can have a positive effect on the academic performance of learners.

The current research findings regarding the lack of General Education skills are supported by Gardiner (2008: 21), that a substantial number of teacher-training colleges in South Africa are of poor quality and trained teachers use static, rote-learning approaches in the classroom, which resulted in learners becoming dependent on lecturers. The findings is further supported by Pickworth's (2001: 140) study at the University of Pretoria on MBChB learners, who found that rote learning is a shallow approach that lacks understanding or perspective. Required is a deep approach that needs understanding. Rote learning will lead to poor and ineffective communication skills. Equal Education (2018) indicates that according to the NEIMS study on the absence of resources at public schools throughout the country, it was observed that 22,938 schools do not have stocked libraries, while 19,541 do not even have libraries. This lack of library services would affect the English vocabulary of the learners.

This lack of General Education skills is further exacerbated as Grade 6 language teachers did not perform well on the SACMEQ reading test according to Taylor, Van der Berg and
Mabogoane (2012: 20). Nel and Muller (2010: 646) reinforced this notion that if the channel of knowledge communication was complicated and obstructed with inadequate English skills on the part of both the learner and the teacher, then information transmission cannot be effective. Up to 20 percent of respondents believed that learners’ communication skills were successful. Baker and McGregor (2000:153) highlight the importance of writing skills in their research using joint analysis to assess significant Accounting learners’ characteristics and found that one of the most important things employers demand from new graduates is communication skills, yet learners are lacking such skills.

The lecturers report that learners cannot write or express in calculations. This current research findings regarding calculations is supported by Taylor, Van der Berg and Mabogoane (2012: 20). The researchers highlight that the teacher test scores for both language and Mathematics disclose that within the country, the Western Cape be the highest performing province by some margin. However, when comparing South Africa’s top province with other African countries, the picture becomes somewhat different. Kenyan teachers, for instance, outscored those in the Western Cape with a significant margin in Mathematics.

The lecturers highlighted that the methods of improving Self-efficacy lay in the main strategies that revolve around innovative teaching, learning and research methods; increasing skills development such as critical thinking and computer skills; and promoting more Self-efficacy based workshops and programmes, amongst other factors shown. Teaching, Learning and Research can be categorised according to Bandura’s Theory on Past Performance. Bandura (1994: 71-72) highlights that the best and most effective way of developing a strong sense of efficacy is through mastery experiences. The strengthening of modules, skills and abilities can be categorised according to Bandura’s Theory based on physiological responses. The trust of the learner in their capacity influences cognitive process by affecting the creation and practice of pro-active human scenarios (Bandura 1994: 72). For example, learners with high Self-efficacy beliefs tend to expect possibilities of success, while those with low Self-efficacy beliefs tend to focus on things that can go wrong and foresee failure. Self-efficacy, in short, drives analytical thinking (Bandura 1994: 73).

Self-efficacy can affect the performance of learners through of four major psychological processes, namely cognitive, motivational, affective and selection, according to Bandura
The findings of Bandura (1994: 72-75) supports the current student findings of the study that Self-efficacy was considered to have a positive impact on the academic performance of learners, based on perceptions of the respondents. Bandura (1994: 71-72) pointed out that Self-efficacy belief comes into being by individuals interpreting the input they grasp throughout the four foundations below:

i. Past Performance (Bandura believe that the most active way of cultivating a robust sense of efficacy is through mastery of experiences);

ii. Modelled Behaviour:

iii. Social Persuasion or Feedback from others; and

iv. Physiological Responses.

The lecturers also indicated that the General Education skills ought not to be considered just as an academic or professional skill, but should evolve to become life-skills, as these skills are applicable to almost any real-life situation. Quality learning incorporates factors such as critical thinking skills, decision-making abilities, the Rauding Theory and Bloom’s Taxonomy. The Rauding Theory and Bloom’s Taxonomy indicates skills that are essential for quality of learning so learners can be successful in their studies. Those skills also form part of General Education. The theories mentioned were discussed and reported on extensively in Chapter Three and are consistent with the current findings as reported by the lecturers regarding the different learner skills.

By learners becoming equipped with such skills, it can ultimately enhance their academic skills as well as employability. As soon as learners become more employable, it will have a positive influence on unemployment and socio-economic challenges. It will also positively contribute to building the economy and alleviating many societal ills. Therefore, it is something that ought to be as a vital commodity treated and taken forward by evidenced based research, as did the current study.

The current study makes a valuable contribution to the area of building the economy and alleviating many societal ills.
6.4 DISCUSSION OF FINDINGS (LEARNERS)

The present section focuses on the discussion of the findings that were presented in Chapter Five. The conclusions of the study are formulated based on the objectives that were detailed in Chapter One. The study presented three open-ended questions to the learners. The open-ended questions focused on the independent variable on the subject of General Education and the dependent variable of the effect Self-efficacy on the learners’ studying and understanding abilities. The main aim of the open-ended questions was to obtain a true understanding of the learners’ viewpoints or mind-sets and not to point in the right direction of what the study intended to highlight or influence them in any particular way.

Learners highlighted that an understanding of the module and Self-efficacy were essential factors to improving the academic performance of learners. The learners further highlighted that motivation, tutorials and extra classes were key to improving the Self-efficacy of learners. They also indicated that General Education skills such as written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy was crucial to performance in Management Accounting. In summation, as one of the learners highlighted: “General education skills are essential to encourage holistic learning and this improves academic performance”.

6.4.1 Biographical Data

The biographical variables of learners between the two universities of technologies was used test and eliminate any possible influence it had over the Self-Efficacy of learners. The study needed to ensure that they were no other variable influencing the findings of the current study.

There were various scenarios were set up for individual institutions, together with a combined cohort. In all instances, there was a minimal effect by the following variables on the scores observed: Gender, Race, Home district, School (urban/rural), Language proficiency and the combinations thereof. It was observed that all of the partial eta squared values are less than 0.02, which is an indication of a small effect. This means that that these variables had little to no effect on the overall patterns observed.
It was also necessary that the current probe the comparative analysis between the pre-test and post-test of DUT learners regarding the biographical variable and to eliminate any possible influence on the learner’s self-efficacy. The variables taken into consideration were Gender, Race, Home district, School (urban/rural) and Language proficiency. The comparative analysis between the same variable revealed no significant difference. However, females, Africans, Urban Home District, Urban School and English Second Language learners scored more in the post-test.

6.4.2 Self-Efficacy & General Education

The present section focuses on the discussion of the findings that were presented in Chapter Five.

- Problem-Solving and Logical Reasoning

The scoring patterns for MUT were similar between the pre-test and post-test regarding problem-solving and logical reasoning. Since there were larger gap scores for DUT than there were for MUT which means DUT learners was better with problem-solving and logical reasoning. There were significant differences in all the gap scores for DUT. It is noted that all of the gap scores for DUT were positive, implying that the post-test scores were higher than the pre-test scores.

Kurland (2000) suggests that the critical thinking skills needed include the use of essential skills such as reasoning, self-awareness, consistency and judgment. The skills needed for critical thinking, as Kurland (2000) suggests, were further reinforced by a panel of 46 experts from across the United States and Canada that included both men and women (Facione 2015: 8). Decision-making and problem-solving skills was also re-enforced with the knowledge creation model by Slabbert and Gouws (2006: 342).

Self-efficacy can affect the performance of learners through four major psychological processes. According to Bandura (1994: 72-75), these four key psychological processes are the Cognitive/Rational, Motivational, Affective Emotional and Selection processes. Bandura
advocates that Self-efficacy beliefs are formed according to how people perceive the feedback they receive from four sources:

v. Past Performance (Bandura claims that one of the most powerful ways to build a clear sense of success would be through interactions of mastery);

vi. Modelled Behaviour;

vii. Social Persuasion or Feedback from others; and

viii. Physiological Responses.

It is therefore necessary learners be exposed to problem-solving and logical reasoning.

- **Critical Thinking Skills**

It is noted that all of the gap scores for DUT were positive, implying that the post-test scores were higher than the pre-test scores. In all instances with both institutions on the subject of critical thinking skills, the most difficult material presented in text “I am certain I can understand the most difficult material presented in texts” scored the lowest.

The Rauding Theory, Bloom's and Krathworhl's Taxonomies illustrate the essential skills required for quality learning are: Remember; Understand; Apply; Analyse; Evaluate and Create. Remembering (level one) is associated with the retention of information from the six levels defined in the revised taxonomy, while the subsequent stages of interpretation, implementation, review, assessment and development are associated with information transfer (Mayer 2002: 228). Black and Ellis (2010 cited in Thomas 2011:28) emphasise that the need for learners to always be able to function at all taxonomy levels.

- **Quantitative Analysis**

The DUT post-test scores regarding quantitative analysis (and hence the gap scores) were higher than MUT. Quantitative analysis is the use of mathematical and statistical techniques to assess how the business is performing. Management Accountants can now make use quantitative methods to predict trends, determine the allocation of resources, and manage projects. Quantitative techniques are also used to evaluate investments. The skill is important especially for learners who are intend to join the Management Accounting field. The
quantitative analysis skill again, it is defined by the Rauding Theory, Bloom's and Krathworhl's Taxonomies.

The Self-efficacy of a person plays a key role in the management of goals, tasks and challenges. A learner with high Self-efficacy will therefore perceive that he has academic control. Bandura's early work focused on the learners' propensity and ability to understand and change their behaviour as a result of vicarious experience and social learning, rather than direct experience. Bandura suggested that beliefs in Self-efficacy are influenced by how individuals perceive the input they obtain from four sources, namely mastery experience, model actions, social influence (feedback from others) and physiological responses. Cherry (2018) highlights that those learners who have a robust awareness of Self-efficacy:

- Vision thought-provoking difficulties as responsibilities to be grasped;
- Mature a deep sense of attention in the actions in which they take part;
- Develop a deeper understanding of their desires and behaviours; and
- Make progress speedily from hindrances and displeasures.

**Researching Skills**

Regarding the section on researching abilities, there was a significant difference in all of the p-values ($p < 0.05$), with the exception being for the pre-test vs post-test comparison for one of the statements.

For a learner to write an effective summary of the original notes requires the ability of researching. Researching is an essential tool for understanding, learning and ultimately having a positive influence on learner performance. Recollecting, recognizing, applying, assessing, reviewing and developing are skills necessary for researching and quality learning. As evidenced by the Rauding Theory, learners should be able to perform the following:

- Rauding
- Researching
- Planning

Learners should be able to examine essential statements and be able to examine for relevant information from case studies.
- **Understanding**

The DUT post-test scores (and hence the gap scores) in relation to studying abilities were higher and positive as compared to MUT. This means that DUT learners performed better after taking the General Education modules.

Schunk (1989: 16) points out that learners who think they may encounter significant difficulty in interpreting materials may have a low sense of effectiveness in learning it, whereas learners who feel that they are capable of handling information processing requirements will feel more positive. A higher sense of success allows learners to perform certain tasks, which they believe will lead towards competence. As a learner works on a task, he/she derives information about how well they understand. Schunk (1991: 215) also suggests that if the learner has the illusion that he/she can understands the academic content, then this enhance their success and motivation for learning. Using Bloom's and Krathwohl Taxonomies a greater sense of efficacy can be realised. Bandura (1994: 71-72) advocates that these abilities are formed from four sources:

i. Past Performance (Bandura claims that one of the most powerful ways to build a clear sense of success would be through interactions of mastery);

ii. Modelled Behaviour;

iii. Social Persuasion or Feedback from others; and

iv. Physiological Responses.

- **Test Preparation**

The study found that the mean values were all above three, indicating that the levels are closer to agreement with the test preparation statements in the questionnaire. There was a significant difference in most of the values for DUT. The post-test scores for DUT were higher than MUT post-test scores.

While Bloom's Taxonomy came into being in 1956, due to its popularity and significance, it is still widely practiced today and has been included in the present study. In the revised taxonomy, Krathwohl made some minor but significant amendments. Both the Taxonomies of Bloom and Krathwohl, including the Rauding theory, suggest essential attributes that are important for
learners to acquire and/or grow to be academically successful in test preparation and Management Accounting. The relevance of Bloom’s and Krathwohl's Taxonomies has also been highlighted by the IFAC, IEC 3, SAICA and other professional bodies.

- **Reading Skills**

The scores for DUT were higher than MUT. The gaps, which refer to the difference between the pre-test and post-test, were all positive, indicating that the post-test scores were higher than the pre-test scores. The gaps for DUT were higher than MUT.

While learning, learners may employ different reading techniques and the Rauding principle best explains these approaches to reading. Reading is categorised as Scanning; Skimming; Rauding; Learning and Memorizing, according to the Rauding Principle (Carver 1978: 118). A learner is Rauding when the he/she is not scanning, skimming, learning or memorizing, but looks in sequential order at 100 percent of all the words in a text segment, as well as simultaneously understanding all the thoughts found in that passage. Rauding means comprehension or knowing, terms or sentences in a text (Carver Learning Systems 2019). It is the mixture of reading and listening: reading by looking at written words to assess the meaning and listening to spoken words to ascertain the meaning (Carver Learning Systems 2019).

- **Written Communication Skills**

The post-test scores for DUT were higher than that for MUT. The gaps observed for DUT were larger than MUT.

Many learners can communicate in English, but they do not have the ability to express themselves or transfer their thoughts into written text. Learners can read about four times a day, but they still lack an understanding of what they have read (Jiya 1993: 82). Tonge and Willett (2009: 209) stressed the importance of inferential learning by creating a final-year Management Accounting Learner’s assignment to promote the use of critical thinking through review, evaluation and reflection. The other goal of the assignment was to develop written communication skills. The development of inferential learning is realised through the critical thinking skills phase.
All these General Education abilities leads to knowledge formation. The knowledge formation has been outlined in chapter three of the study. It is a holistic approach to the requirements for quality education.

- **Opened ended questions (Learners)**

The pre-test feedback that was received from the opened ended questions from the learners indicated that ‘understanding’ of the module and ‘Self-efficacy’ are key factors to improving academic performance in Management Accounting. Therefore, further efforts are necessary to make the module understandable and to improve learners' Self-efficacy. The learners further indicated that ‘motivation’, ‘tutorials’ and ‘extra classes’ are key to improving Self-efficacy. Hence, there must be more efforts in promoting motivation, extra classes and tutorials in the module. Learners also reported that General Education skills are key to performance in Management Accounting. In future, there must be more effort to include skills such as written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy in the module. The post-test feedback that was received regarding the open-ended questions were similar to that of the pre-test findings.

Furthermore, learners with high Self-efficacy tend to learn and gain more than those with low Self-efficacy, even when the actual skill rates are the same (Ormrod 2008: 137). Furthermore, Cherry (2018) suggests that those learners with a poor sense of Self-efficacy appear to avoid challenging tasks and perceive troublesome activities and circumstances as outside of their capabilities. As Bandura (1977: 197) points out, by watching others, learners acquire behaviours and then mimic or model what they have observed to form the features of modelled behaviour; recall the actions they wish to model; repeat those behaviours; and have the motivation/incentive to replicate behaviours in the future.

As indicated by Bandura learners with low self-efficacy can be improved through four sources:

i. Past Performance (Bandura claims that one of the most powerful ways to build a clear sense of success would be through interactions of mastery);

ii. Modelled Behaviour;

iii. Social Persuasion or Feedback from others; and

iv. Physiological Responses.
The General Education skills which are reinforced by critical thinking skills, Rauding Theory, Bloom's, and Krathwohl's Taxonomies are factors that affects these sources.

### 6.4.3 Research Objective One

**To Ascertain the Level of Self-efficacy of Learners Prior to Undertaking the General Education Modules and Those Who Are Not Undertaking the General Education Modules Respectively**

The findings indicated similarities between the level of Self-efficacy of learners prior to undertaking the General Education Modules and those who were not part of the implementation of the General Education Modules.

### 6.4.4 Research Objective Two

**To Determine the Level of Self-efficacy of Learners After Undertaking the General Education Modules and Those Who Did Not Undertake the General Education Modules Respectively**

The findings revealed that there were differences in the level of Self-efficacy of learners after undertaking the General Education Modules as compared to the level of Self-efficacy of learners who did not undertake the General Education Modules.

### 6.4.5 Research Objective Three

**To Establish If There Is a Significant Difference in the Pre-Test (Self-efficacy) Scores of the Group That Undertook the General Education Modules and the Group That Did Not Undertake the General Education Modules**
The findings in the pre-test (Self-efficacy) scores of the group that undertook the General Education Modules as compared to the group who did not undertake the General Education Modules revealed no significant difference.

6.4.6 Research Objective Four

To Ascertained Whether There is a Significant Difference between the Pre-Test (Self-efficacy) Scores and Post-Test (Self-efficacy) Scores of the Group That Undertook the General Education Modules and the Group Who Did Not Undertake the General Education Modules Respectively

The findings between the pre-test (Self-efficacy) scores and post-test (Self-efficacy) scores of the group that undertook the General Education module revealed a significant percentage difference (+ 9.1%) as indicated in Figure 6.1.

The results between the pre-test (Self-efficacy) scores and post-test (Self-efficacy) scores of the group that did not undertake the General Education Modules revealed no significant difference.

6.4.7 Research Objective Five

To Determine Whether There is a Significant Difference in the Post-Test (Self-efficacy) Scores of the Group That Undertook the General Education Modules and the Group That Did Not Undertake the General Education Modules

The findings between the post-test (Self-efficacy) scores of the group that undertook the General Education module and the group that did not undertake the General Education modules revealed a significant difference in support of the group that undertook the General Education module.
6.5 PROPOSED INTERVENTION STRATEGIES TO ENHANCE SELF-EFFICACY IN THE CONTEXT OF GENERAL EDUCATION

In any research paper, in addition to the problem statement that is being scrutinised, it is equally significant that the researcher provides an intervention strategy that will address the issue at hand.

The current section highlights an intervention strategy that DUT could implement to identify at risk learners at an early stage of enrolment.

6.5.1 General Education Intervention Strategy

An intervention strategy signifies that there is a problem and problem-solving encompasses several steps. The steps essentially reflect the methodical approach for defining and describing a problem; generating potential solutions; and implementing, monitoring and evaluating the effectiveness of the selected intervention. It is therefore imperative that the design and implementation of the intervention strategy focuses on the needs of the learner. The suggested intervention strategies and plan of action for implementation to enhance learners’ performance are as follows:

6.5.1.1 Screening and Assessment Model

It is essential to universally screen and assess for academic difficulties before learner enrolment into the institution. Depending on the learner’s performance in the screening and assessment outcome, lecturers can select instructional programmes and provide the necessary intervention. The institution or department can screen learners via the Standardised Assessment Tests for Accessing and Placement, commonly known as SATAP. The Standardised Assessment Testing for Accessing and Placement can be utilised for assessing performance on General Education aspects such as: (i) Communication; (ii) Critical Thinking; (iii) Quantitative Analysis; (iv) Research and Information; and (v) Computer Literacy. The institution or department can make use of SATAP in combination with Grade 12 results in order to ascertain whether the learner has an aptitude or needs intervention. The main aim of the test should be for placement and
diagnostic purposes. The outcome of the test can also be utilised to identify any shortfall of skills, as well as if the learner needs any additional intervention.

The screening and assessment model that the institution selects should include the following four basic components:

i. Screening and assessment that focuses on learner skills/needs rather than classification;

ii. Assessing response to instruction, rather than relying on norm-referenced comparisons;

iii. Using evidence-based strategies within General Education; and

iv. Fostering a collaborative partnership amongst general and special lecturers for consultation and team decision-making.

6.5.1.2 **Institutional Support Programme**

The institution’s support programme should provide sufficient learner support to be successful and improve academic performance. Learner support should include but not be limited to mentorship, coaching, counselling and tutorials. Academic support to learners can be by way of additional instructional time, remedial courses and extended learning programmes. Remedial courses should include the General Education components such as Communication, Critical Thinking, Quantitative Analysis, Research and Information and Computer Literacy. Qualified and dedicated individuals or tutors should carry out the support programmes.

The response to intervention ought to align with the steps of the institution’s screening and assessment model:

i. Employing evidence-based interventions;

ii. Regularly measuring a learner’s progress to determine whether the intervention is effective;

iii. Assessing the quality of the instructional strategy; and

iv. Assessing the reliability of its implementation. For example, has the intervention worked? Was the intervention scientifically constructed and executed as planned?
6.6 PROPOSED FRAMEWORK TO MEASURE THE IMPACT OF SELF-EFFICACY ON ACCOUNTING LEARNERS’ ABILITY TO COMMUNICATE EFFECTIVELY FROM YEAR 1 TO YEAR 3

The development of a framework to measure the impact of Self-efficacy would be a valuable tool in providing constructive feedback regarding learners’ education skills in the following crucial areas:

- Problem-Solving and Logical Reasoning;
- Critical Thinking;
- Quantitative Analysis;
- Researching;
- Understanding;
- Test Preparation;
- Reading and
- Witten Communication.

After meticulous deliberation and consideration, the areas listed above provided valuable education skill areas for learners to be academically successful. It was therefore determined to take advantage of and incorporate the listed above educational skill areas in providing a framework for assessing the impact of Self-efficacy on Accounting learners’ ability from year 1 to year 3. The framework was thereafter adapted to include scores/points under each sub-category. It was necessary to allocate scores/points in order to facilitate the final overall calculations to measure the impact of Self-efficacy on Accounting learners’ ability to communicate effectively. The framework also has the flexibility and adaptability in those additional areas of focus, which be included or excluded depending on what aspect one is assessing or targeting.

The study's final goal as outlined in Chapter One was creating a model. The section below is intended to outline the structure or model for assessing the influence of Self-efficacy on the ability of Accounting learners to communicate effectively from year 1 to year 3.
Framework Measuring Self-Efficacy

**Self-Efficacy** refers to the belief in one's ability to complete specific tasks.

**Notes:**
1) Please answer questions as you actually are and not where you think you should be.
2) Provide one response to each item.
3) There are no right or wrong answers.
4) Indicate the extent to which you agree or disagree with each of the following statements by placing a cross (X) in the appropriate box.

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<td>3 If I am in trouble, I can usually think of a solution.</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5 I am confident I can understand the most complex material presented by the lecturer.</td>
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<tr>
<td>6 I am sure I can do an excellent job on the problems and tasks assigned for this class.</td>
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<td></td>
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<tr>
<td>7 Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.</td>
<td>1 2 3 4 5</td>
<td></td>
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</tbody>
</table>

<table>
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<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
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</thead>
<tbody>
<tr>
<td>8 Thanks to my resourcefulness, I know how to handle unforeseen situations.</td>
<td>1 2 3 4 5</td>
<td></td>
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<td></td>
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<tr>
<td>9</td>
<td>I am interested in classes/training.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
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<tr>
<td>10</td>
<td>I have family responsibilities.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>11</td>
<td>I have the necessary motivation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>12</td>
<td>I am talented enough.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td></td>
<td><strong>Researching</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13</td>
<td>When I miss a class, I can find another Learner who can explain the lecture notes as clearly as my lecturer did.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>When my lecturer’s lesson is very complex, I can write an effective summary of the original notes before the next class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>When I have trouble studying the class notes because they are incomplete or confusing, I can revise and rewrite them clearly after every lecture.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>16</td>
<td>When I am taking a course covering a huge amount of material, I can condense my notes down to just the essential facts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td></td>
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<tr>
<td>17</td>
<td>When I am trying to understand a new topic, I can associate new concepts with old ones sufficiently well to remember them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>When another Learner asks me to study together for a course in which I am having trouble, I can be an effective study partner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>When I find myself getting increasingly behind in a new course, I can increase my study time sufficiently to catch up.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>When I discover that my homework assignments for the semester are much longer than expected, I can change my other priorities to have enough time for studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Test Preparation</td>
<td>SD</td>
<td>D</td>
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<td>SA</td>
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<td>--------------------------------------</td>
<td>----</td>
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<td>----</td>
</tr>
<tr>
<td>21 When I am feeling depressed about a forthcoming test, I can find a way to motivate myself to do well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22 When I have to take a test in a subject I dislike, I can find a way to motivate myself to earn a good grade.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>23 When I am struggling to remember technical details of a concept for a test, I can find a way to associate them together that will ensure recall.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24 When I think I did poorly on a test that I just finished, I can go back to my notes and locate all the information I had forgotten.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<table>
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<tr>
<td>25 When I notice I am having trouble concentrating on a reading assignment, I can refocus my attention and learn the material.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>26 When I do not understand a paragraph I have just read, I can clarify it by careful rereading.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>27 When I have trouble recalling key facts in a reading assignment, I can find a way to remember all of these two weeks later.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tbody>
<tr>
<td>28 When I find that my first draft of a paper is wrongly worded, ungrammatical, or confusing, I can revise it so that it is completely clear and grammatical.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>29 When I am asked to write a concise, well-organized paper overnight, I can find a way to do it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>30 When I am asked to write a paper on an unfamiliar topic, I can find good enough information to please my lecturer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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### Score Interpretation

<table>
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<tr>
<th>Score</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-74</td>
<td>You need to keep working on your communication and self-learning skills. You are not expressing yourself clearly, and you may not be receiving messages or learning correctly. The good news is that, by paying attention to communication and self-learning skills, you can be much more effective at your studies, and enjoy much better performance.</td>
</tr>
<tr>
<td>75-112</td>
<td>You are a competent communicator with good self-learning skills, but you at times experience communication and self-learning issues. Take a moment to think about your approach to communication and self-learning, and focus on receiving messages and learning effectively. This will help you improve on your performance.</td>
</tr>
<tr>
<td>113-150</td>
<td>Excellent! You are familiar with your role as a communicator and self-learner, both when you send messages, and when you receive them. You expect problems, and you choose the right ways of communicating and problem solving. People acknowledge you for your ability to communicate clearly and self-learn, and they appreciate your listening and self-learning skills.</td>
</tr>
</tbody>
</table>

Research studies in general commence and conclude within a certain scope or parameter. It is therefore necessary that the next section concentrates and outlines the scope and limitation of the research study undertaken.

### 6.7 GAP ANALYSIS BETWEEN PRE-TEST AND POST-TEST USING THE PROPOSED FRAMEWORK

Figure 6.1 illustrates the overall gap analysis between pre-test and post-test, using the current study’s proposed framework to measure the impact of Self-efficacy on Accounting learners’ ability to communicate effectively from year 1 to year 3.
Figure 6.1 Overall Gap Analysis between Pre-Test and Post-Test

Figure 6.1 is a summary of the scoring patterns for the eight sections on the learners’ Self-efficacy as indicated in the proposed framework of the current study (out of a maximum of 150) for the two institutions, as well as a combined score. It was noted that the pre-test scores are marginally higher for DUT, but that the post-test scores are much greater for DUT than MUT.

The Wilcoxon Test was utilised to compare the pre-test score to post-test score for each institution. In both instances, there was a significant difference in the p-value ($p \leq 0.001$). The combined scores also showed the same trends with a significant difference in the p-value ($p < 0.001$). However, on comparison between both the institutions, DUT exhibited the largest positive Gap, indicating a much better post-test score than the pre-test score. The same trends were observed in the overall analysis.

6.8 SCOPE AND LIMITATIONS

The present study focused on Accounting learners and was confined to DUT and MUT in KwaZulu-Natal. Therefore, the findings/results may or may not apply to other Universities of Technology or any other tertiary institution, depending on the learners’ former educational and cultural background.
A research is only complete after the researcher issue his/her recommendations. Therefore, the next section will now focus and outline the researcher’s recommendations to ensure that the study is comprehensive and has embraced all aspects of the study.

6.9 RECOMMENDATIONS

In any research paper, in addition to the research problem being investigated and providing an intervention strategy that will address the issue at hand, it is also equally essential that the researcher provide recommendations in order to bring the study to its conclusion. The current study has addressed the research problem, provided an intervention strategy and a framework for measuring Self-efficacy. The following section provides the recommendation to conclude and bring the research to its finalisation.

The findings indicated a conclusive relationship with the integration of General Education in to the academic programme to enhance the Self-efficacy of Accounting learners. After consideration of the findings of this study, together with the implementation of General Education within the programme as stand-alone modules or embedded, the recommendations listed below were reached to enhance the success of good and effective verbal and written communication, be it under examination conditions, in class or in the work environment. Although the section at hand focuses more on the learner, however the lecturers have to provide the necessary skills to the learners to enhance the success of good and effective verbal and written communication, be it under examination conditions, in class or in the work environment. The recommendation will also enhance the learner’s Self-efficacy. The study recommends the continuation of the General Education Modules, be it stand-alone or embedded.

The current section highlights the ways in which learners’ can adapt to improving their verbal and written skills, thus contributing positively to enhancing their Self-efficacy. Enhancing the learner’s Self-efficacy may lead to better academic performance of Accounting learners and preparing them for employment in industry. It is necessary for lecturers to highlight the importance and re-inforce to learners on the following skills:

- Message Planning (The Source);
- Formulating Clear and Well-Crafted Messages (Encoding);
- Channel Selection;
- Message Interpreting and Understanding (Decoding); and
- Feedback.

The following section will elaborate on and analyse the need for the above listed skills.

6.9.1 Message Planning (The Source)

Before communicating any information, it is essential for a learner to take a moment to figure out what he/she wants to say, and why. Do not waste time conveying information that is irrelevant and do not waste the listener or reader's time. Learners too often just keep communicating or go on writing because they feel that by saying more, they will surely cover all the points. Too often, however, all learners do is confuse the individuals or lecturers with whom they are communicating.

The learner should consider the following steps when planning communication:

i. Understand his/her your objective. Why are you communicating?
ii. Understand his/her audience. With whom are you communicating and what do they need to know?
iii. Plan what needs to be articulated and how to forward the message; and
iv. Seek feedback on the outgoing message.

The above process will lead to a well-crafted message that will surely be accepted by the audience/lecturer. It is essential to use the principle of ‘Keeping it simple and straightforward’. Good communicators are aware that less is often more, and that good communication should be efficient as well as effective.

6.9.2 Formulating a Clear and Well-Crafted Message (Encoding)

After deciding on the information that needed to be in words, then it is essential to decide exactly how to communicate the information to the intended individual. The learner is
responsible for sending a message that is clear and concise. To achieve this, the learner needs to consider not only what he/she wants to say, but also how he/she believes the recipient will perceive it.

Too often, the focus is on the transmitted message and the way in which to send it. On the other hand, if the message is without consideration of the other person's perspective passed on, then it is likely that parts of that message will be lost. For an effective communication, the learner should:

- Understand what is required and what ought to be expressed;
- Anticipate the other individual’s reaction to the message; and
- Choose words and body language that allow the other person to hear what is truly articulated.

By way of written communication, make sure what is written will be perceived in the way that it is intended. When writing, learners must take time to:

- Review your style;
- Avoid jargon and slang;
- Examine your grammar and punctuation; and
- Examine for tone, attitude, nuance and other subtleness. If the message may be misunderstood, then it almost certainly is. Devote some time to clarify it.

Another essential point is to use pictures, charts and diagrams wherever possible. In addition, whether it is a spoken or a written message, consider the cultural context. If there is a potential for miscommunication or misinterpretation due to cultural or language barriers, address these issues in advance. Consult with learners who are familiar with these, and do research in order to note problems that may appear.

### 6.9.3 Channel Selection

Along with encoding the message, the learner needs to choose the best communication channel to send the message. It is important to be efficient and to make the most of the communication opportunity.
An email to send simple instructions is practical. On the other hand, if one needs to delegate a complex task, an email will probably just lead to more questions. Hence, it may be best to arrange a time to speak in person. If the communication has any negative emotional content, stay well away from an email. Make use of face-to-face or phone communication to judge the impact of the words and adjust these appropriately. After determining the best way to send a message, the learner must consider the following:

- The sensitivity and emotional content of the subject;
- The easy way to communicate;
- The receiver's preferences;
- Time constraints; and
- The need to enquire and answer questions.

6.9.4 Message Interpreting and Understanding (Decoding)

The focal point about speaking is because it is simple. Since individuals usually have lots to voice, they want to get their points out. On the other hand, a great communicator will take a step back, let the other person talk and just listen.

This does not mean that the individual should be passive. Listening can be hard work. To cultivate active listening, learners should take note of the following:

- Look at the person;
- Pay attention to his/her body language;
- Stay away from distractions;
- Nod and smile to recognise points;
- Occasionally think back about what the person has mentioned;
- Permit the person to speak, without thinking about the next word; and
- Do not interrupt.

6.9.5 Feedback

Feedback is important because without it, there will be no indication of whether the message was understood. Feedback is sometimes verbal and sometimes non-verbal. On the other hand,
feedback through body language is perhaps the most essential source of clues to the effectiveness of communication. Through observing facial expressions, gestures and the posture of the person communicating, the following can be determined:

- Confidence levels
- Defensiveness
- Agreement
- Comprehension or lack of understanding
- Levels of interest
- Levels of engagement with the message
- Truthfulness or dishonesty.

The speaker, by understanding the listener's body language, can give an opportunity to adjust the message and make it more understandable, appealing, or interesting. Body language can show more about what the other person is saying as a listener. To ensure that the speaker and listener understand each other, questions can then be asked to clarify any doubts. In both situations, miscommunication can be set aside when it happens.

Feedback can also take place formally and depending on the importance of the communication, it is often advisable to confirm with the receiver whether the message was clear and understood.

In all research studies, there is always scope for further research and it is therefore necessary that the next section focus on areas for potential future research.

**6.10 FUTURE RESEARCH**

The present research is a case study and considered Accounting learners from two institutions with DUT being the focus group and that DUT is a first recognised example with the implementation of General Education, either as stand-alone modules or embedded within programme or faculty modules.
Future research could therefore be undertaken amongst all the universities of technology and traditional universities within South Africa to gain an overall point of view of Accounting learners’ Self-efficacy.

The section thereafter wraps up by presenting the gist of the findings and directs the study to its finality.

6.11 CONCLUSION

The aim of the study was to investigate the impact of General Education in enhancing the Self-efficacy of Accounting learners. The current chapter has therefore brought the research to its conclusion, to which the questions that were formulated in Chapter One were comprehensively investigated and the objectives met. By means of interpreting the data collected and summarizing the main findings, the researcher was in a position to outline the impact of General Education on enhancing the Self-efficacy of Accounting learners.

In any research, the study is not fully complete unless the study provides a solution to the research problem. The present study pointed out the research problem, provided a possible intervention strategy and developed a possible framework to measure the impact of Self-efficacy on Accounting learners’ ability to communicate effectively.

The main aim of any research study is to broaden the existing body of knowledge by exploring new ways and implementing innovations in achieving and performing tasks. The present study has provided such an opportunity by focusing on ways to improve the teaching and learning practices of learners in the Accounting environment.
7 REFERENCES


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percent20a percent20critical percent20determinant percent20of percent20self-

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ANNEXURES

ANNEXURE A

QUESTIONNAIRE

Instructions to Cost and Management Accounting Learners

5) The questionnaire pertains to Self-Efficacy.
   Self-Efficacy: refers to the belief of one's ability to complete specific tasks.
6) Your feedback will play a vital role in the research being conducted.
7) Provide one response to each item on the form.
8) Complete using a black or blue pen.
9) There are no right or wrong answers.
10) Place a clear ‘✓’ inside the appropriate box.
11) If you want to change your answer, fill in the entire box and mark the correct box with an ‘✓’.
   Example:  
12) Do not omit any questions.

Write your answers for each of the following in the blocks.

1. PERSONAL INFORMATION

1.1 Surname…………………………………… Initials…………………………

1.2 Learner Number……………………………

1.3 Please indicate your gender

   1  2
   Male Female

1.4 Please indicate your race

   1  2  3  4
   African Coloured Indian White

1.5 Do you consider your home district to be

   1  2
   Urban Rural (Farm)

1.6 Was your high school in a rural or urban area?

   1  2
   Urban Rural (Farm)
1.7 Your English proficiency level

Indicate the extent to which you agree or disagree with each of the following statements by placing a cross (X) in the appropriate box.

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<th>Strongly Disagree (SD)</th>
<th>Disagree (D)</th>
<th>Neutral (N)</th>
<th>Agree (A)</th>
<th>Strongly Agree (SA)</th>
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2. SELF-EFFICACY (BELIEF OF ONE’S ABILITY)

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<tr>
<td>2.1 I always manage to solve difficult problems if I try hard enough.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.2 When I am confronted with a problem, I can usually find several solutions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>2.3 If I am in trouble, I can usually think of a solution.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
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<tbody>
<tr>
<td>2.4 I am certain I can understand the most difficult material presented in texts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.5 I am confident I can understand the most complex material presented by the lecturer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.6 I am sure I can do an excellent job on the problems and tasks assigned for this class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.7 Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>2.8 Thanks to my resourcefulness, I know how to handle unforeseen situations.</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2.9 I am interested in classes/training.</td>
<td>1</td>
<td>2</td>
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</tr>
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<td>2.10 I have family responsibilities.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>2.11 I have the necessary motivation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
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<tr>
<td>2.12 I am talented enough.</td>
<td>1</td>
<td>2</td>
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<td><strong>2.13</strong> When I miss a class, I can find another Learner who can explain the lecture notes as clearly as my lecturer did.</td>
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</tr>
<tr>
<td><strong>2.14</strong> When my lecturer’s lesson is very complex, I can write an effective summary of the original notes before the next class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td><strong>2.15</strong> When I have trouble studying the class notes because they are incomplete or confusing, I can revise and rewrite them clearly after every lecture.</td>
<td>1</td>
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<tr>
<td><strong>2.16</strong> When I am taking a course covering a huge amount of material, I can condense my notes down to just the essential facts.</td>
<td>1</td>
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<td>3</td>
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</tr>
<tr>
<td><strong>Understanding</strong></td>
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<tr>
<td><strong>2.17</strong> When I am trying to understand a new topic, I can associate new concepts with old ones sufficiently well to remember them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td><strong>2.18</strong> When another Learner asks me to study together for a course in which I am experiencing difficulty, I can be an effective study partner.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
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<tr>
<td><strong>2.19</strong> When I find myself getting increasingly behind in a new course, I can increase my study time sufficiently to catch up.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td><strong>2.20</strong> When I discover that my homework assignments for the semester are much longer than expected, I can change my other priorities to have enough time for studying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>5</td>
</tr>
<tr>
<td><strong>Test Preparation</strong></td>
<td></td>
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<tr>
<td><strong>2.21</strong> When I am feeling depressed about a forthcoming test, I can find a way to motivate myself to do well.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>2.22</strong> When I am struggling to remember technical details of a concept for a test, I can find a way to associate them together that will ensure recall.</td>
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<td><strong>2.23</strong> When I have to take a test in a subject I dislike, I can find a way to motivate myself to earn a good grade.</td>
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<td>3</td>
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<td>5</td>
</tr>
<tr>
<td><strong>2.24</strong> When I think I did poorly on a test that I just finished, I can go back to my notes and locate all the information I had forgotten.</td>
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<td>3</td>
<td>4</td>
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</tr>
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<td>N</td>
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<td>SA</td>
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<td>2.25 When I notice I am having trouble concentrating on a reading assignment, I can refocus my attention and learn the material.</td>
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<td>2.26 When I don’t understand a paragraph I have just read, I can clarify it by careful rereading.</td>
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<tr>
<td>2.27 When I have trouble recalling key facts in a reading assignment, I can find a way to remember all of these two weeks later.</td>
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<th>A</th>
<th>SA</th>
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<tbody>
<tr>
<td>2.28 When I find that my first draft of a paper is wrongly worded, ungrammatical, or confusing, I can revise it so that it is completely clear and grammatical.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
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<td>2.29 When I am asked to write a concise, well-organized paper overnight, I can find a way to do it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>2.30 When I am asked to write a paper on an unfamiliar topic, I can find good enough information to please my lecturer.</td>
<td>1</td>
<td>2</td>
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<td>5</td>
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</tbody>
</table>

3. **GENERAL**

3.1 What is your opinion of Self-efficacy on academic performance in Cost and Management Accounting?

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3.2 In addition to General Education skills, what else in your opinion can DUT/MUT do to improve the Self-efficacy of learners?

..............................................................................................................................................
..............................................................................................................................................
..............................................................................................................................................

294
3.3 What is your opinion of General Education skills such as, written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy on academic performance in Cost and Management Accounting?

Thank you for your time and effort.
ANNEXURE B

Instructions to Cost and Management Accounting lecturers

1) The interview pertains to General Education and Self-efficacy.

   In this questionnaire, the definition of General Education and Self-efficacy are:

   **General Education**: general education encompasses the breadth of knowledge involving the major intellectual and aesthetic skills and achievements of humanity. The goals of General Education are to help learners think critically, develop values, understand traditions, respect diverse cultures and opinions, and most important, put that knowledge to use.

   **Self-Efficacy**: it refers to the belief of one's ability to complete specific tasks.

2) Your feedback will play a vital role in the research being conducted.

**Question 1**

In your opinion what do you think are barriers to a learner’s success in Cost and Management Accounting (CMA)?

**Question 2**

In your opinion can CMA learners communicate effectively?

**Question 3**

In your opinion, do CMA learners have Self-efficacy?

**Question 4**

In your opinion, what do you think are some of the difficulties experienced by learners in respect of the interpretation of questions?

**Question 5**

Do you think that DUT learners are equipped with the necessary General Education skills such as, written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy? Explain your answer.
Question 6
What is your opinion of General Education skills such as, written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy on academic performance in CMA?

Question 7
What can DUT do to improve a learner’s General Education skills such as, written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy to improve the learner’s performance in CMA?

Question 8
Do you think that General Education skills such as, written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy will impact a learner’s Self-efficacy? Explain your answer.

Question 9
In addition to General Education skills, what else in your opinion can DUT do to improve the Self-efficacy of learners?

Question 10
What is your opinion of Self-efficacy on academic performance of learners in CMA?

Question 11
Do you have anything else to add?

Thank you for your time and effort.
ANNEXURE C

LETTER OF INFORMATION

Date

Dear Participant

I am a registered Learner at the Durban University of Technology in the Department of Public Management. I humbly request your assistance in completing the attached questionnaire for the D. Tech.: Public Management.

Permission has been kindly granted by DUT to conduct the in-house investigation and for the administration of the questionnaires in relation to the topic. In order to successfully complete my Doctorate degree, the latter part of the empirical framework involves the administration of a structured closed ended questionnaire. You have been randomly selected as one of the respondents comprising the sampling frame of this organisation.

Title of the Research Study: The Integration of General Education in the Academic Programme to Enhance the Self-Efficacy of Accounting Learners at Universities of Technology in KwaZulu-Natal

Principal Investigator/s/researcher: Mr S. K. Naidoo (MTECH: CMA, ACIS)

Co-Investigator/s/supervisor/s: Mr V. Moodley (Co-supervisor)
Dr S. Govender (Supervisor)

Brief Introduction and Purpose of the Study: Learners are taught in their home language at schooling level and this way of teaching has created problems at tertiary levels. Learners get misled into thinking that a superficial understanding of math and accounting software are the only things that needed to be successful in the accounting sector. In addition to the formal educational training, such as acquiring a business and accounting degree, accountants actually require a variety of skills to have staying power and keeping abreast in the accounting sector.

The area of focus of the study entails the relationship of six key components of General Education, which includes written communication, oral communication, critical thinking, quantitative analysis, research, information and computer literacy on learners’ self-efficacy or beliefs in studying Accounting. General education will be part of a process that is responsible for the formation of the entire undergraduate programme from first to final year and may be included as stand-alone modules or be embedded within programme or faculty modules. The study, therefore, sets to investigate the impact of general education in enhancing the self-efficacy of accounting learners.

Outline of the Procedures: Completing the questionnaire will take approximately 10 minutes and will be dispatched to the respondents via email.

The researcher will conduct the interview and it will take about 30 minutes. The interview will take place in DC1201A in the Accounting Seminar room.

Risks or Discomforts to the Participant: There are no risks and the information divulged in the questionnaire will be kept strictly confidential.
**Benefits:** There are no financial benefits for participation in this study. It is envisaged that the findings of this study will assist learners to be skilled in quantitative analysis, problem-solving, critical and creative thinking, written and oral communication, information and technological literacy, teamwork and ethical deliberation, enabling them to be more successful in the accounting environment. The findings will positively contribute to the university’s Learner pass rate and ultimately government funding. The study also proposes to develop a strategy to alleviate the deficiency experienced by accounting learners in communication skills and a framework to measure the improvement of an accounting learner ability to communicate efficiently from year 1 to year 3.

**Reason/s why the Participant May Be Withdrawn from the Study:** Participating in this study is voluntary. Therefore, the participant has a right to withdraw from the study if he/she feels uncomfortable or for any other reason that may deem him/her unfit to do or continue with the study.

**Remuneration:** There is no remuneration for participating in this study.

**Costs of the Study:** There is no cost for the participant to cover towards the study.

**Confidentiality:** No Learner’s name or identity will be disclosed in this study.

**Research-related Injury:** There will be no injuries and this study does not involve any medication or body exercise.

**Persons to Contact in the Event of Any Problems or Queries:** Dr S. Govender (Supervisor) on 031 373 5740, Mr V. Moodley (Co-supervisor) on 031 373 6866, Mr S. K. Naidoo (Researcher) on 031 373 5645 or the Institutional Research Ethics administrator on 031 373 2375. Complaints can be reported to the Director: Research and Postgraduate Support, Prof S Moyo on 031 373 2577 or moyos@dut.ac.za

**General:**
Potential participants must be assured that participation is voluntary and the approximate number of participants to be included should be disclosed. A copy of the information letter should be issued to participants. The information letter and consent form must be translated and provided in the primary spoken language of the research population e.g. isiZulu.
27 March 2018

IREC Reference Number: REC 78/17

Mr S K Naidoo
21 Mitchell Crescent
Mithanagar
Tongaat
4399

Dear Mr Naidoo

The Integration of General Education in the Academic Programme to enhance the Self-Efficacy of Accounting Students at Universities of Technology in KwaZulu-Natal

The Institutional Research Ethics Committee acknowledges receipt of your notification regarding the piloting of your data collection tool.

Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the IREC acknowledges receipt of your gatekeeper permission letters.

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

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

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

Yours Sincerely,

Professor J K Adam
Chairperson: IREC
Durban University of Technology

Dear Mr SK Naidoo

It is my pleasure to inform you that permission to conduct project titled: “The Integration of General Education in the Academic Programme to enhance the Self-Efficacy of Accounting Students at Universities of Technology in KwaZulu-Natal” amongst MUT Cost and Management Accounting lecturers and students has been granted.

Permission to conduct the project is granted on the condition that any changes to the project must be brought to the attention of the MUT Research Ethics Committee as soon as possible.

Good luck with your research.

Yours faithfully,

Prof. K Shale

Director: Research (Acting)

Mangosuthu University of Technology

031 907354/4550

shale.karabo@mut.ac.za
ANNEXURE F

Descriptives by Institution

Institution = DUT

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a. Institution = DUT

Institution = MUT

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a. Institution = MUT

NPar Tests

Institution = DUT

Wilcoxon Signed Ranks Test

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a. Institution = DUT
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c. Post_% > Pre_%
d. Post_% = Pre_%
Test Statistics\(^{a,b}\)

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b. Wilcoxon Signed Ranks Test
c. Based on negative ranks.

**Institution = MUT**

**Wilcoxon Signed Ranks Test**

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a. Institution = MUT
b. Post\% < Pre\%
c. Post\% > Pre\%
d. Post\% = Pre\%

**Test Statistics\(^{a,b}\)**

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a. Institution = MUT
b. Wilcoxon Signed Ranks Test
c. Based on negative ranks.

**Descriptives by Combined**

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**NPar Tests**
Wilcoxon Signed Ranks Test

### Ranks

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b. Post_% > Pre_%
c. Post_% = Pre_%

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a. Wilcoxon Signed Ranks Test
b. Based on negative ranks.

### Gap Scores

#### By Institution

**Institution = DUT**

#### Descriptive Statistics

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a. Institution = DUT

**Institution = MUT**

#### Descriptive Statistics

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ANNEXURE G

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Univariate Analysis of Variance

Notes
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Missing Values: Definition of User-defined missing values are treated as missing.

Cases Used: Statistics are based on all cases with valid data for all variables in the model.

Syntax

UNIANOVA Overall_Percent_Gap_Score BY Q1.3 Q1.4 Q1.5 Q1.6 Q1.7 /METHOD=SSTYPE(3)

Resources

Processor Time 00:00:00.13

Elapsed Time 00:00:00.13

Institution = DUT

n-Subjects Factors

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a. Institution = DUT

between-Subjects Effects

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Institution = MUT

n-Subjects Factors

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307
### Two-Subjects Effects

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**a. Institution = MUT**

**b. R Squared = 0.660 (Adjusted R Squared = 0.005)**

**DATASET ACTIVATE Dataset2.**
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/CRIERATIA=ALPHAL(.05)
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Univariate Analysis of Variance

Notes
Output Created 09-JAN-2020 09:13:52

Comments
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Filter <none>
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Resources Processor Time: 00:00:30:14
Elapsed Time: 00:00:30:16

n=Subjects Factors

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Home district: 1.00 Urban: 136
2.00 Rural: 211
Was your hi?: 1.00 Urban: 160
2.00 Rural: 189
Your English: 1.00 1st Language: 95
2.00 2nd Language: 254

Between-Subjects Effects
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### Univariate Analysis of Variance

**Notes**

Output Created: 09-JAN-2020 09:14:46

**Comments**

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**Missing Val**: Definition of User-defined missing values are treated as missing.

**Cases Used**: Statistics are based on all cases with valid data for all variables in the model.

**Syntax**: UNIANOVA Post_Percent BY Q1.3 Q1.4 Q1.5 Q1.6 Q1.7 /METHOD=SSTYPE(3) /INTER

**Resources**: Processor: 1.00 00:00:00.08

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a. R Squared = .066 (Adjusted R Squared = .033)
# Annexure H

**Thesis 1**

**Originality Report**

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2. **www.scilit.net**
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6. **ifrnd.org**
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7. **www.mindtools.com**
   - Internet Source
   - <1%

8. **uknowledge.uky.edu**
   - Internet Source
   - <1%

9. **Submitted to University of KwaZulu-Natal**
   - Student Paper
   - <1%
To: Whom it may concern

Editing of Doctoral Thesis: S NAIDOO

The Integration of General Education in the Academic Programme to Enhance the Self-Efficacy of Accounting Learners at Universities of Technology in KwaZulu Natal

This letter serves as confirmation that the aforementioned thesis has been language edited.

Any queries may be directed to the author of this letter.

Regards

MP MATHEWS
Lecturer and Language Editor: DUT
mercillenem@dut.ac.za