The impact of online delivery on the Financial Accounting III curriculum: A student perspective at Durban University of Technology (DUT)

by

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Declaration

I, Kim Mary Joshua, declare that this dissertation represents my work in conception and execution. I have not submitted this work for another degree at any university or institution of higher learning. I have ensured acknowledgement of all information cited from published or unpublished works.

12/10/2022

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Dedication

I dedicate this thesis to my family and friends, who have supported me with love, kindness, and hope. The advice I received in times of despair and failure always lifted me.

I also dedicate the thesis to the many people we have lost due to the Covid-19 pandemic. May the souls of Gerard' Geezo' Thompson and Carmel Thompson rest in peace.

A special dedication of the thesis to my late sister. May the soul of Keri Ann Bloem rest in eternal peace.

Abstract

The study aimed to determine whether the current online technological platforms support teaching, learning and assessment of the Financial Accounting III (FA3) module at the Durban University of Technology. The study explored the effectiveness of the emergency change of the Financial Accounting III module curriculum delivery on students' ability to learn and be assessed. This study also examined the impact of online accounting curriculum delivery on the Financial Accounting III students at Durban University of Technology, Durban. The following questions premised the research. Is the online curriculum effective in supporting all Financial Accounting III students' learning? What are the challenges experienced by Financial Accounting III students in terms of the change to online curriculum delivery? What must be done to enhance online curriculum delivery to promote students' learning and performance? The researcher adopted a quantitative method for the study. A census approach allowed the entire population of 800 students completing the Financial Accounting III modules an equal opportunity to participate in this study. The study revealed that 34% of the target population gave feedback on their experience. The target population of Financial Accounting III students were selected due to their experience with both traditional and online pedagogies in their diploma qualifications. This study's findings revealed that students have adjusted to how they experience teaching, learning and assessments. The study revealed an urgent need to train students and facilitators. Due to the global Covid-19 pandemic, the transition from traditional to online pedagogy took place with very little student and academic training. Interestingly, Financial Accounting III students embraced the pedagogical change. Even though the two technological platforms used during this transition phase of curriculum delivery did not cater for discipline-specific needs, these online platforms were user-friendly and easy to connect with academic staff, tutors, and peers.

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CHAPTER ONE
INTRODUCTION

This chapter introduces the background of the study, reflects on the research problem, and further articulates the research questions and objectives. The study adopted a quantitative research design using survey questionnaires as the method of data collection from Financial Accounting III students at the Department of Financial Accounting found in the Faculty of Accounting and Informatics (FAI) at Durban University of Technology, Durban. The adopted research design and the data collection methods allowed respondents to express their views, needs, challenges and developments relating to the study's objectives and aims. This chapter ends by offering a breakdown of all the chapters outlining the dissertation's structure.

1.1 Background

Education is the foundation of all innovation and development in any country's drive for growth (Olutola and Olatoye 2015). E-learning has become an essential tool to achieve growth in a country (Olutola and Olatoye 2015), as education is moving into the third decade of significant change. There is a shift from a physical contact learning environment to a virtual learning environment (Anderson 2008). This study focuses on the transition of Teaching, Learning and Assessment (hereafter called TL&A) of the Financial Accounting III module during Covid-19. It includes the delivery of the curriculum to accounting students at the Durban University of Technology. An increase in e-learning technologies developed over the past 15 years promotes the flexibility and availability of students, removes situational barriers such as the country's infrastructure and improves cost-effectiveness for students and academic staff (Gros and García-Peñalvo 2016).

Coronavirus Disease 2019 more commonly known as Covid-19 is refers to a respiratory illness or disease which affects human beings. This virus is spread through large droplets when people cough or sneeze which land on surfaces which then come into contact with others. This restricts physical contact with a person who has contracted Covid-19 with others (Al-Kadri, Al Moamary and Al Knawy 2020).

Digital Technology for Higher Education (hereafter called HE) is in constant flux. Hence, the development of new ideas emerging from digital teaching and learning platforms has led students to use various technology platforms and devices.

Some of the most convenient devices are smart mobile phones, tablets, laptops, and desktops: teaching, learning and assessment can occur using these various devices for remote online learning. Montrieux *et al.* (2015) reiterate that students have access to different learning platforms at home, in student residences or anywhere else in the world.

New teaching and learning technologies utilising online module material make daily activities easier for students. These technological learning platforms are entirely altering the learning environment (from face-to-face to online engagement). Therefore emotional distress on students and academic staff needs to be considered (Wosnitza and Volet 2005). A student's level of engagement affects their emotional satisfaction and motivation toward online material such as online lecturers, online assessments and the availability of administrative and academic staff (Martin and Bolliger 2018). Online educational systems have been developing rapidly globally over the past ten to twelve years. It has brought many obstacles to light through the implementation of these systems (Harasim 2017). Isolating Higher Education (herein called HE) students from their peers affects students' level of engagement, which impacts a student's emotions and motivation toward online courses (Gillett-Swan 2017).

1.2 Research problem

In 2020, a sudden transition from a traditional (face-to-face) learning system to an online one was necessary due to the Covid-19 global pandemic. Minimum contact between individuals was essential to limit the spread of the virus (Bhagat and Kim 2020). The Covid-19 pandemic forced all HE organizations in South Africa to change from traditional pedagogy to an online pedagogy (Kandri 2020). Due to this sudden change in 2020, online learning systems across the globe have become a vital means of providing an adequate education. These systems have allowed Teaching & learning interaction between students and academic staff. HE Institutions in South Africa transitioned from face-to-face to online teaching, learning and assessment due to prescriptive Covid-19 pandemic protocols

forbidding face-to-face contact and enforcing social distancing of 1, 5 meters. The transition from face-to-face to online teaching, learning and assessments occurred over a short, unexpected period (Park *et al.* 2016).

In March 2020, an outbreak of the Covid-19 virus within South Africa and on a global scale impacted the day-to-day operations of humanity (Burki 2020). Since March 2020, DUT has conducted learning through the Think Learn Zone (TLZ), also known as Moodle, and the alternate technological platform of Microsoft Teams (MSTeams). Teaching and learning activities, as well as assessments, were facilitated on both technological platforms. Before the sudden change from physical (face-to-face) engagement to virtual engagement between students and academic staff, Moodle (TLZ) was the technical platform that DUT already used for students and academic staff. However, academic staff only used Moodle for uploading course material and as a noticeboard.

Before March of 2020, Moodle was active within DUT but not used for teaching or assessment, just as a repository. Moodle and MS Teams are available online technological platforms for all modules and disciplines, so these platforms were not discipline-specific to financial accounting. In addition, due to the Covid-19 pandemic, all six faculties across the institution use Moodle and MSTeams as a technological instructional platform for TL&A.

Synchronous pedagogy systems refer to academic staff and the student simultaneously being in the same place (Li *et al.* 2020). Asynchronous teaching and learning occur when students and instructional staff are neither in the same place nor at the same time. This method posts pre-recorded videos, lecturers and other course material (Ene and Upton 2018). Both Moodle and MS Teams adopt an asynchronous method of teaching. However, MS Teams allows academic staff to hosting synchronous live lectures. It is where students can virtually interact with academic staff who are simultaneously on the system. MSTeams is a synchronous online system which allows academic staff to record live sessions (lectures) and upload these recordings to the technological platform. Students can access these recordings at a later stage after sessions (classes) is over. It allows students to attend online lectures/ sessions yet not necessarily be physically online in the exact location.

From March 2020, due to time constraints and Covid-19 regulations affecting the completion of the syllabus, a change in day-to-day activities and assessment operations was vital. Therefore, the institution adopted the online method of TLA. Unfortunately, the technological platforms do not allow specific disciplines to customize teaching and learning or assessments – one size does not fit all (Malan 2020).

South African Higher Education Institutes (hereafter called SAHEIs) across the country have all transitioned from traditional, face-to-face (physical contact) TL&A to online teaching, learning and assessment method, fuelled by the global paradigm shift of Covid-19 protocols promulgated by the World Health Organisation (WHO). Before Covid-19, the core function of all SAHEI was to conduct TL&A and research using a face-to-face and distance medium. As a result of Covid-19 protocols, the Centre for quality assurance (CQPA) decided to change their modus operandi from formative and summative assessments to continuous assessments for most modules, including Financial Accounting III, to eradicate the face-to-face TLA challenges. Thus, this has lead to a transition from face-to-face assessments to online assessments in 2020. This transition from traditional face-to-face teaching, learning and assessment to online education, learning and evaluation became necessary due to the high risk of Covid-19 pandemic infections and deaths in South Africa between 2020 and 2021. However, due to the untimely transformation to online TL&A, the use of current technological platforms (Moodle and MS Teams) was necessary to conduct these activities. Yet, the existing technological platforms have met minimal discipline needs as online systems are available. Therefore, the quality of assessments gained by students may be questioned due to this new way of testing and assessing Financial Accounting III. These tests and assessments take place through an online learning platform. First, the researcher evaluated second and third-year financial accounting undergraduate students (diploma students) using continuous assessment from March 2020 – July 2022. Regardless of which stage a student was in, whether first, second or third year, there was no difference in the process of assessing a student. Third-year students, which are exiting level students, have no difference in their assessments compared to first-year students using online technological platforms.

Methods or security within assessments did not differ from a first-year student to a third-year student. Formative assessment involves monitoring students' knowledge while allowing the

student to develop through feedback on mistakes from an instructor (Wiliam and Leahy 2016). While Summative assessment can be viewed as goal orientated and evaluates a student's knowledge at the end of a specific timeline (Kibble 2017). However, there have been inconsistencies in the assessments of Financial Accounting (FA), third-year students, at all SAHEIs in Kwa-Zulu Natal (KZN). Some SAHEI, such as the University of Kwa-Zulu Natal (UKZN) and the University of Zululand (UniZulu), chose to have a face-to-face summative examination for all third-year students in November and December of 2020 and 2021. They chose the route because they were exiting-level students. They are typically in their final year of an undergrad programme. These students could graduate and are eligible to enter the workforce with their Diploma qualifications. It ensured the quality of assessments done in a controlled and secure setting, with minimal risk of students copying. The Faculty of Accounting and Informatics (accounting cluster, IT, and IS) at DUT has adopted the continuous assessment route for all programme levels, undergraduate students (first, second and third-year students), using the same technological platform.

Financial Accounting III students' pass rates may have significantly improved from 2019 to 2020/2021. However, the increased pass rate for 2020 – 2021 does not correlate with an increase in quality education. DUT is an English medium SAHEI, with factors affecting students, such as coming from many different areas and educational backgrounds. The language barriers students face should also be taken into consideration. These factors could impact the quality of education, affecting students as exit-level students who could enter the workforce. This increase in pass rates due to online assessments also raises many concerns from academic staff at institutions. It is questionable whether the current technological platforms, such as Moodle and MS Teams, have not catered to the needs of the Financial Accounting (FA) discipline(Ali 2020). Are students coping with the new shift in curriculum delivery, or has the quality of assessments suddenly dropped due to these changes?

1.3 Significance of the study

E-learning is a tool or system using a device (such as a computer) and a connectivity source (the internet) to learn from anywhere at any time. E-learning is a material delivery method (Islam, Beer and Slack 2015). E-learning (online curriculum delivery which includes online teaching, online curriculum delivery, online learning platforms, online engagement, etc.) has

become an essential part of learning in the 21st century. However, as much as there are many benefits, concerns are raised with the transition from face-to-face teaching and learning to virtual teaching and learning (Islam, Beer and Slack 2015). Students transitioned in March 2022 from face-to-face TL&A to e-learning, attended class, accessed module material, and took assessments virtually and remotely.

Massive Open Online Courses (MOOCs) have been innovative and evolutional in electronic learning. However, in Higher Education Institutions, it has not always achieved its desired results (Atiaja and Proenza 2016). Many have raised the questions of acceptance in industry, credibility, quality and assessment methods (Atiaja and Proenza 2016). The level of student dropouts also comes into question, as many students are not sufficiently motivated to engage in online courses – resulting in a high dropout rate (Bawa 2016).

Online assessments have several challenges brought to light since the institution's utilisation of these two online technological platforms. Among them are the security risk concomitant with ensuring the identity of students answering and submitting assessments, time management of students, and academic honesty (Rovai 2000). There is no way to control who takes online assessments unless in a controlled face-to-face setting (Nurse, Creese and De Roure 2017). The creation and development of online assessments are crucial contributors to the credibility of online courses and online curriculum delivery (Kebritchi, Lipschuetz and Santiague 2017). Suppose the course is not designed from its inception to be an online course with online delivery. In that case, the transformation from face-to-face course design to online course design regarding the curriculum delivery is significant.

Courses designed online have an embedded testing method to ensure assessment quality. However, when the intention is for a class to be face-to-face, security risks when testing and delivering material factors differ. Such as physical invigilation during assessments by outside parties, printed coursework material, and consultation opportunities differ. Therefore, the approach to the design of the course varies. The element of taking a face-to-face design course on an online technological platform needs to be carefully considered, especially concerning assessment. Due to Covid-19, academics had to re-theorize (change their approach) on basic principles of teaching, learning, and delivering curriculum and assessments as they were in a non-traditional landscape. A focus on students'

trustworthiness and how formative and summative assessments work in an online environment must be considered when hosting an online course (Baleni 2015).

It is fundamental for SAHEIs, post-Covid-19, to understand that there is a difference between 'emergency remote' TL&A and online TL&A. Online teaching and learning is a well-planned and maintained course, while 'emergency remote' TL&A is working to support instruction under a crisis (Hodges *et al.* 2020). Due to the Covid-19 pandemic, many South African Higher Educational Institutions were forced to change from face-to-face TL&A to hybrid remote learning. However, institutions did not plan or envisage this paradigm shift from face-to-face to emergency remote online TL&A. So, many staff and students were neither adequately nor appropriately trained to handle this sudden transition to TL&A online. (Bozkurt and Sharma 2020). In addition, institutions require students and staff to study and work remotely with various devices (computers, laptops, tablets, and smartphones), which require data and connectivity (internet) to access TL&A.

Many studies support the benefits of online TL&A, distance learning and remote learning. However, there are minimal studies on the shortcomings or challenges with online TL&A pedagogy of the Financial Accounting III curriculum. Therefore, this study will explore the challenges faced by Financial Accounting III students within the Faculty of Accounting and Informatics at the Durban University of Technology (DUT), Durban.

1.4 Focus Area

One size does not fit all (Malan 2020), and the level of engagement between students, instructional staff and technological platforms has never been as vital as today. The Durban University of Technology (hereafter called DUT) is a South African Higher Education Institution (SAHEI) based in Durban, Kwa-Zulu Natal. According to the Times Higher Education World University ranking, DUT was rated in the top 5 universities in South Africa (SA) (Dowsett, 2020). The Durban University of Technology has six faculties spread over a variety of disciplines, as displayed below:

Figure 1- Faculties at the Durban University of Technology

Source: DUT website (2020).

The six faculties (figure 1) which create the focus areas of discipline within the Durban University of Technology are as follows; Arts and Design, Engineering and Built Environment, Management Sciences, Health Sciences, Applied Sciences and Accounting and Informatics. Three accounting departments form the accounting cluster within the Faculty of Accounting and Informatics (FAI). This study will focus on the accounting cluster, which consists of three departments. Financial Accounting, Cost and Management Accounting and Auditing and Taxation. Each department specializes in a specific accounting discipline (Basdav 2016). This study will focus on all Financial Accounting III students as this module is one of the core courses in the curriculum of the accounting cluster. This study will focus on the needs and challenges of accounting students and the need for the current technology platform to be discipline specific.

1.5 Aim of the study

To examine the impact of online accounting curriculum delivery on Financial Accounting III students at Durban University of Technology (DUT), KwaZulu-Natal

1.6 Research Objectives

1) To determine the perceived effectiveness of the online delivery of the curriculum in supporting all Financial Accounting III student learning.
2) To identify challenges experienced by all Financial Accounting III students due to changing to online curriculum delivery.
3) To establish online learning practices that are perceived to improve all Financial Accounting III students' learning.

1.7 Research Questions

1) How effectively does the online curriculum support all Financial Accounting III students' learning?
2) What are the challenges experienced by Financial Accounting III students in terms of the change to online curriculum delivery?
3) What must be done to enhance online curriculum delivery to promote Financial Accounting III students' learning and performance?

1.8 Research Methodology

Research methodology determines the approach and strategies for the execution of the study. It states the inclusion criteria for the research and the sample and sample size. It also highlights the advantages and disadvantages of the selections for the study (Kumar 2018). This study will adopt a quantitative approach. A quantitative approach requires a survey as the data collection tool. Therefore, the researcher adopted a census approach for this study. Adopting a census approach allowed the entire target population (800 students) an equal opportunity to participate in this study. The researcher administered the survey to all Financial Accounting III students at DUT, Durban (KZN). The researcher adapted the survey to an e-survey (electronic/online) to help collect data and minimize physical contact due to the Covid-19 pandemic. The data obtained from the e-survey was automatically transferred to an excel spreadsheet as respondents completed the survey. The researcher then handed over the completed excel spreadsheet to an independent, qualified statistician. The statistician then conducted an analysis using an SPSS system.

1.9 Overview of this study

Chapter 1: Introduction

This chapter introduces the research, sets out the background of the study, and presents the research problem, focus area, aim and objective, and the study's significance.

Chapter 2: Literature Review

In this chapter, the researcher presented the literature and relevant research on the research topic. This study shows the impact of online delivery of the Financial Accounting III curriculum: A student perspective at the Durban University of Technology, focusing mainly on Durban, KZN exiting level students. Since there is very little research on challenges faced by students and how students are affected by the change in delivery at Durban (KZN), the study looks at how to improve a student's experience in learning Financial Accounting III online. The researcher also included theories and models such as Task Fit Technology and Social Constructivism to support this study.

Chapter 3: Research methodology

Chapter 3 discusses the research methodology used in this study. The researcher presented the research design, population, data collection, ethical considerations, and data analysis.

Chapter 4: Presentation, interpretation, and discussion of the results

This chapter presents data analysis of the findings of the study.

Chapter 5: Conclusions and recommendations

The final chapter presents the research conclusions and contributions of the research recommendations and makes suggestions for further research.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

Chapter one explored the background of the study, aims, objectives and research methodology of this study, and upcoming chapters. In addition, the chapter contains the literature review, which will discuss the theoretical framework of the study, and past literature which is relevant to this study to provide a deeper understanding of the impact of online delivery of the Financial Accounting III curriculum: A student perspective at the Durban University of Technology, Durban (KZN). This chapter draws on views of online assessment quality through measuring academic records of financial accounting students and delivery of curriculum using online pedagogy. Pedagogy is the conduct of teaching, learning and assessments (DeRosa and Robison 2017) of the online technological platforms implemented and challenges students face. This chapter covers the following sections which support the aims, objectives and theoretical framework of the study: Background of Learning Technologies, Definition of Applicable Terms, Traditional Pedagogy, Hybrid Learning, Remote learning, Demographics (age and gender) in Higher Education, Language Barriers, Reason for Change in Teaching Learning and Assessment in Higher Education, Accounting Curriculum, Technological Tools and Platforms, Learning and Assessment approaches, Student Engagement, Online Assessment Practices and Risks, Task Fit Technology, Social Constructivism

This chapter focuses on how the Teaching, Learning and Assessment (TL&A) of Financial Accounting III modules have changed during Covid-19 and the curriculum delivery to students.

2.2 Learning Technologies

Education is the base of all innovation and development in any country's economy and society. Therefore, E-learning is essential for achieving growth in a country (Olutola and Olatoye 2015). In addition, education is moving into the third decade of significant change,

transitioning from a face-to-face learning environment to a virtual or remote learning environment (Anderson 2008).

Technology is constantly evolving, and with the constant development and new ideas emerging from technological learning platforms, students can now learn using different technical platforms and devices. For example, students can use any technological devices to learn, so TL&A can be done using a tablet, laptop, desktop or even a mobile smartphone. Moreover, students have access to multimodal learning platforms at home, in a student residence or anywhere else (Montrieux *et al.* 2015). In addition, an increase in e-learning technologies has evolved over the past 15 years, enhancing the flexibility and availability of students, situational barriers such as the country's infrastructure, and cost-effectiveness for students and instructional staff (Gros and García-Peñalvo 2016).

As new teaching and learning technologies develop, one of the core functions is to engage students with online study/course/subject material. This study material may vastly differ from face-to-face to online presentation. In a face-to-face learning environment, it was widespread for physical printed versions of study guides or test books to be used. In contrast, in an online learning environment, students engage with study material virtually, which refers to its display on some form of screen. The lack of interpersonal connections impacts the student's level of engagement, which will, in turn, affect emotional satisfaction and motivation towards material such as online TL&A. The perceived limited availability of administrative and instructional staff (academic staff) compounds the problem (Martin and Bolliger 2018). Undoubtedly, it is essential to consider emotional distress and disengagement as they could impact both students and instructional staff (Wosnitza and Volet 2005).

Online educational technologies have been developing globally rapidly over the past ten to twelve years. However, many obstacles have come to light with implementing these online systems (Harasim 2017). Isolating students from their peers could affect students' level of engagement with each other. This isolation could negatively affect students' emotions and motivation for online courses (Gillett-Swan 2017).

2.3 Definition of terms

2.3.1 Curriculum delivery

The best delivery method for an online curriculum is through scheduled video sessions. Humans' best receive and relate to information from other humans. Students level of engagement is affective when they can see others and interact directly with them (Oki *et al.* 2020). A synchronous delivery, combined with a shared projection of prepared PowerPoint slides or exercises, works best for students presented with information in the virtual lecture hall or classroom (Taha *et al.* 2020). While curriculum content involves teaching, delivery methods encompass how you lead the subject matter (Al-Kadri, Al Moamary and Al Knawy 2020).

The methodology of delivering the information (which the instructional staff retains as knowledge of subject matter) online to students who have receive the content is vital if students receive the intended message.

2.3.2 Third-year students

Third-year students are final year undergraduate or exiting students at a Higher Education Institution. Many students have their journey in Higher Education. However, it is typical for third-year students to be leaving level students (Akhtar and Saeed 2020). This category of students is essential because they could enter the workforce (Ganyaupfu 2013). A student's performance in the third year is proof of understanding and knowledge gained in a particular course or discipline. When a student obtains a pass of a certain level within that discipline, a prospective employer assumes the student can perform the task (Sánchez-Martín *et al.* 2020).

2.4 Traditional Pedagogy

Traditional (face-to-face contact) pedagogy and assessments of accounting students within the education system can be determined as having five main contributory components. The five components are as follows:

Table 2.1 Five elements of the traditional pedagogy

Number	Component
1	**Curriculum and instruction**
2	**Content area instruction**
3	**Educational technology**
4	**Students**
5	**Faculty staff**

Source: (Apostolou *et al.* 2017).

Within a traditional education system the use of summative(formal) assessment is most commonly practiced as it evaluates the knowledge of students in a managed and restrained environment (Dixson and Worrell 2016). In summative assessment, marks and attainments are assigned to a student in order to assess the knowledge acquired by a student over a specific time period or a specific segment/outcome (Kibble 2017).

Over the past 10 years accounting education has been transformed as technology advancements provided various course curriculum delivery choices for many Higher Education institutions worldwide. Adopting technology for curriculum delivery has raised many issues for instance quality of output, security dangers which a student is exposed to and cost of completing a program. However, the most potent developing issue is character of students, as the student has very miner framework insofar as learning customs and learning conditions is concerned (Murray and Pérez 2015). The traditional educational environment (testing instruments are included), which has been functional since 1924, had been refined to as close to perfect as it can get with many approaches, styles and philosophies adapted to suit the needs of the student and the task at hand (Castronova 2002). Understandably, due to online technological platforms now emerging as a popular and necessary means of course delivery and virtual TLA, many difficulties are being faced

by both faculty and students. Therefore, there is a need to strengthen adaptive systems for learning needs. Also, it is essential to meet primary objectives before any modern education systems can be a fact (Sabatini 2001).

2.4.1 Disadvantages of Face-to-Face Learning Systems

Compared to an online technological system a traditional learning systems have many additional areas. Across the internet period and the fourth industrial revolution, critical views of a conventional structure are no longer an issue (Asselman, Nasseh and Aammou 2018). Face-to-face time and being actually present within a lecture hall to learn is no longer a necessity as students now have admission to a lesson wherever they are on the globe (Radović-Marković 2010). If students are to miss that class or lesson, they can play the recordings at the click of a button (whether on a laptop, mobile phone or tablet). The hidden cost of a traditional learning system to the student – transport costs, food costs, attire and personal essentials such as note books costs – are eliminated (Srivastava 2019). These everyday costs are no longer there as the student would not have to journey to university, procure lunch or personally hand in any form of assignments or documents. Without faculty members ever seeing what students look like, all these tasks can be done on the other end of a device(Jones 2006).

2.4.2 Advantages of Face-to-Face Learning Systems

Few of the most significant benefits of traditional educational structure are the safety factor, quality of examination and tests and accessibility to faculty, whether administrative or instructional staff. The safety assessment dangers in a traditional learning system compared to an online one is much lower (Hassanzadeh, Kanaani and Elahi 2012). Admission to data such as study material and straight forward admission to faculty and department staff is governed within a traditional system, as many universities operate with student cards or identification cards which permit access to specific campuses or areas of the university. Internally a conventional educational structure, it is easy to verify students submitting assessments or participating in an examination in various ways: by reviewing the identification card versus the student who is actually present or through recognition by a faculty staff member (Razali and Yahya). Authenticity occurs without concerns about the

identity of the person taking the examination. Further, physical admission to faculty staff and students is much more frequent as there is a scheduled time period and specific place for individuals to be in attendance (Kathriarachchi and Dissanayaka 2020).

2.5 Hybrid Learning Approach

From 2007, many Higher Educational Institutions have been using the term blended or hybrid learning more often and it has become very popular. Hybrid learning is a mix of traditional and electronic learning systems (Hockly 2018). Blended or hybrid learning was initially used to introduce electronic learning systems to conventional learning systems. The first occurrence of the terms was in English Learning Teaching (ELT) over a ten years ago. Due to remote education becoming necessary during the Covid-19 pandemic worldwide, hybrid education took a back seat as electronic or cyber education became the primary course delivery method (Hrastinski 2019). Many Higher Educational Institutions (HEI) will tend to head towards a blended or hybrid learning approach when face-to-face lessons return post-Covid-19. The mix of strategies adopted will have to take an innovative approach, such as micro-learning or separated learning to enhance the mixed education techniques of course delivery. A thriving hybrid approach would demand aligning the students, institutions and faculty staffs targets. In order to support faculty staff and students the infrastructure which will be needed to be put in place must be reliable and discipline-specific(Singh 2021).

In order to obtain the infrastructure which is discipline-specific it could come at a high cost, however it is of great importance the discipline-specific infrastructure is obtained in order to safeguard quality of output. The efficiency and analysis of the hybrid method require constant tracking as the primary implementation of the combined approach may contain much hardship and oversight, which can become fiscally and time exorbitant (Moskal, Dziuban and Hartman 2013). Educator will use information obtained from the system tracing and analysing to produce a flawless mix of traditional and online learning systems. An all-embracing approach may not be helpful in this learning system, as some fields of study may need more unique aspects and others may not (Bonk and Graham 2012).

2.6 Remote (Online) Learning

Students and faculty staff or instructors are two main components in the process of remote learning or education. Remote education can also be seen as correspondence courses or home based education. It is a process whereby a student still accepts direction from faculty staff (though through an online technological platform) with no physical connection and if so very little contact. If traditional learning spaces, such as schools or campuses cannot be achieved as an educational method a substitute method of education could be remote learning (Calvo *et al.* 2010). A critical part of remote learning is the process of faculty staff preparation, as delivery of course curriculum moves away from traditional methods. A vital skill which should be obtained is communication skills. There is limited access between faculty staff and students within remote learning. Therefore, there is a need to define expectations clearly. Requirements needed by both faculty staff and students is to be set and stated. Within a virtual classroom the visual appearance is of much importance. As when a student enters a live lesson or virtual classroom the atmosphere and mood is created by the visualisation of the virtual environment. A students surroundings and settling, such as their workplace and desk, need to be taken into account when participating in a virtual lesson to prevent disturbance to other students and create a mood at atmosphere that will promote ideal learning (Eder 2020). For faculty staff and students time management is a crucial skill to obtain. All learning outcomes must be met in the allotted time frame by the faculty staff, while the responsibility of managing all online lessons and assessments which must be attended and completed is the responsibility of the student (Sibirskaya *et al.* 2019).

Since 1728 within the education system there has been some form of remote learning which mainly consisted of mailed lessons to students. However, the conversion to remote learning within Higher Education Institutions has taken place due to the Covid-19 pandemic. Learning through the internet and video conferencing by utilising computers, laptops, tablets and mobile devices (Ali 2020). Prior to Covid-19, many institutions did not adapt to using online technological platforms as a teaching assessment practice because of the high-safety risks. However, due to the Covid-19 pandemic these online technological platforms are now the leading means of curriculum delivery and education (Morgan 2020).

Many faculty staff still struggle with the conversion of teaching courses previously designed for a traditional lesson and now been taught through as an online lesson. There is also an urgent need to establish new practices for students, faculty and staff to complete the remote teaching process, as many new components affect the mental and physical wellbeing of all participants involved (Kay 2020). Due to remote teaching, faculty staff must adjust and balance home life and work. Coping with the pressure of compartmentalised life has now become challenging (Herold 2020). The daily adjustments which is experienced by both faculty staff and students in the delivery of a curriculum which was designed for a traditional learning systems been taught via an online classroom is still has its challenges. The preparation of course material, setting of learning handouts and notes and creation of assessment tasks is a time-consuming demand (Asanov *et al.* 2021). Students must adjust and be self-disciplined when participating in home based learning. Lack of connection socially significantly impacts student performance as there is a disconnection from their traditional educational method (Garbe *et al.* 2020).

2.6.1 Advantages of Remote (Online) Learning

Remote learning has expanded hugely over the past decade as simplicity and flexibility inspire many students. This means of teaching has provided many advantages for them. Flexibility remains one of the main supports of distance education (Shalevska 2021). Students can participate in a lesson worldwide, utilising a secure internet connection and a reliable device. The location will not disrupt learning whether a student is on vacation in another country across the globe or simply in the comfort of their own home. The completion of a degree or a certificate can still be achieved as the flexibility of remote teaching allows a student a more comprehensive range of disciplines (Fatonia *et al.* 2020). Furthermore, remote learning eliminates commuting or travelling for faculty staff and students, as all classrooms are virtual.

Students would not have to spend time or money travelling back and forth to lessons in a particular venue. Online courses are usually cheaper than traditional courses as online courses utilise fewer resources (Antonivska 2020). Remote learning allows students to personalise their learning schedule to their lifestyle and develop time management skills essential in the working environment. It enables a student to work part-time or to follow any

other hobbies they may find necessary to life and development. Students will get their lessons, tutorials and assessments from the comfort of their homes or residence, which allows them freedom (Alruwais, Wills and Wald 2018).

Since the Covid-19 pandemic, most lessons have been virtual. Students learning through online classes further enhance their tech skills as they experience new technology and software, which is essential now that the world is in the Fourth Industrial Revolution (4IR) (Mukhtar *et al.* 2020).

2.6.2 Disadvantages of remote learning

Student engagement is a critical factor in students' success, as students have a higher chance of completing courses if they feel fully engaged. The lack of social interaction for students is one of the main downsides of remote learning. Students cannot interact with their peers or faculty, whether instructional staff or administrative support (Urokova 2020). Complex technology also creates fear in many students and staff, as many are learning remotely for the first time and are, therefore, newly exposed to new software, which could be daunting. Technology can be a disadvantage for some students with a preferred learning style: individuals who are not comfortable with web pages or software programs may struggle with grasping concepts communicated through an online platform (Ivanytska and Kern 2016).

Students must possess specific hardware devices and software programs to participate in online learning. Limited devices are a concern, as some students do not have the financial means to purchase updated technology or a variety of technology (Serhan 2020). Connectivity problems – a vital element of remote learning – may hinder a student's progress. Infrastructure issues and limited financial resources may be the influence of these connectivity challenges (Vlasenko and Bozhok 2014). Compared to the traditional learning environment, an online course or learning environment requires more self-organisation, self-discipline and self-motivation. A significant obstacle many students experience is time management (Talebian, Mohammadi and Rezvanfar 2014).

There is also a need to protect the private information of both students and faculty staff. However, the safety risk for both students and academic staff may not be a well-controlled

setting within a remote learning environment as the risk of system or internet hackers has increased within the 21st century. Assessment risk or safety risk is still one of the highest concerns in a remote learning environment. There is no way to determine identity, as it is not administered in a controlled environment (Brasche and Harrington 2012). Finally, remote learning is not a one-size-fits-all. Therefore, it could result in the costly implementation of online learning software (Morgan 2020).

2.7 Demographic differences between students in Higher Education

2.7.1 Gender differences in Higher Education

The world has transformed over the last 50 years into an advanced technological period that our forefathers could only imagine (Basalla 1988). At the forefront of creativity, education, growth and innovation we can find modern technology. The roles of sexes can be dated back to the even before the pre-industrial era, within the workplace and with the development of inventions there were clearly defined roles according to gender (Meyer, Dunne and Richardson 1994). Males have dominated the technology industry due to the workforce within the 19th century being mainly males; however, over the past 100 years, the number of females in the technological sector has increased (David 2015). In the pioneering 1900s and 1800s, primarily university and collage attendants were male as their primary objective was to contribute for their households financially and build a career. Females who did participate within the workforce did not require any form of higher education, most females were homemakers in the early 1900's and 1800's (Reay, David and Ball 2005). Females started gaining more independence from the mid-1900s, this transformation saw a more career motivated culture within females with more equality and rights resulting in a drastic increase in the enrolment of more females attending and ripening university programs and courses (Grebennikov and Skaines 2009).

2.7.2 Age difference in Higher Education

Higher Education Institutions have been shaped by technology in various ways. Laptops are beginning to take centre stage from the workstation being a desktop computer to the daily wireless tasks, from projecting to printing. Not just how we worked but also what tools were used to work is changing (Moran, Seaman and Tinti-Kane 2011).

All generation members share a comparable undergoing with technology. Currently there are five surviving generations:

Table 2.2 - Categories of Generations

The traditionalist who are born before 1945
The baby boomers, born between 1946 and 1964
Generation X, born between 1965 and 1979
Millennials or Gen Y, born between 1980 and 1995
Generation Z who are born from1996 to the present

Source: (Tess 2013).

Generation X were the first generation to use computer and technology, enabling them to become stronger entrepreneurs than the ages before them. Millennials created and developed a social advancement and the multi-media age through digital formats and social media. However, their access to the internet was limited (Roblyer *et al.* 2010). Gen Z is flush with the multi-media period and is more designed to socialise, shop and learn via technology. Gen Z tends to develop and collaborate with technology freely as it has consistently been part of their daily journey at work and school (Henderson *et al.* 2015). Generation Z are most likely not to be scared to engage with the latest technologies. Technology has always been a part of their daily lives therefore they have an extremely different relationship with technology. In a survey, 40% of Gen Z stated a reliable WIFI source was more significant than dependable bathrooms (Jones *et al.* 2010).

2.7.3 Language barriers

Language barriers are miscommunication between the sender and receiver of the message due to a lack of understanding of each other's words and accents (Federici, 2022). In

addition, language can aid the decolonisation of the curriculum, which could help students understand content and subject matter more meaningfully (Prah, 2017).

2.8 The impact of Covid-19 on operational changes and Digital Transformation in Higher Education Institutions

Many changes has affected the world as we know it and our daily lives today due to the coronavirus (COVID-19) worldwide pandemic. Due to these changes, Higher Education and Institutions have felt the impact. All HEI and overall education students from around the world have obviated any contact participation at universities and schools. This change has affected up to 90% of all students across the world (Kandri 2020).

In Higher Education, the teaching method is essential to students. However, the traditional learning method in a classroom environment followed by sit-down tests and examinations is evolving (Brinson 2015). New technology and individuals with new ideas and techniques for day-to-day activities stimulate change in the 21st century. It is no different within education, as the COVID-19 pandemic forced a difference in teaching (Mishra, Gupta and Shree 2020). With the change in Higher Education, transitioning from traditional learning methods to remote or hybrid learning methods was essential to fulfil the curriculum during the original time span (Dhawan 2020).

2.8.1 Fourth Industrial Revolution revolutionising Higher Education

The change in regards to the way in which the world is conveying education, business and much of our daily lives is due to the Fourth Industrial Revolution (4IR), the shift in education was a shift which Higher Education Institutions were unprepared for (Butler-Adam 2018). Due to the Covid-19 pandemic a change in order to allow students to proceed with their qualifications and complete their studies within the allocated time span with minimal disturbances was needed. Thus, an online learning system was adopted (Buelow, Barry and Rich 2018).

Higher Educational institutions could not host traditional face-to-face lessons and had to turn to an online teaching platform in a short time span (Krishnamurthy 2020). Academic staff who are responsible for the Teaching and Learning activities adopted an online communication platform as a means to conduct daily operations and complete tasks at hand

(Basilaia and Kvavadze 2020). The use of online technological platforms as a mode of TL&A in South Africa and globally, even before the pandemic affected the change. The prediction of online education could become the common method of teaching and learning and supplier of high-quality economic education to students (Toufaily, Zalan and Lee 2018).

Covid-19 affected the world in March 2022, and many components of life shifted, including higher learning. Subsequently, there were changes from in-class to virtual classes for the remainder of the year, which continued into 2022. Unfortunately, the emergency caught many institutions unaware. Switching to digital platforms required speed and promptness (Burki 2020).

A vast number of questions from both students and faculty on what would work best could not be responded to as a level of tribulations and flaws began to be exposed. The needs of students and academic staff were unclear in early March 2022 (Aristovnik *et al.* 2020). Technology and isolation were some of the key elements that surfaced. Because there was no decided strategies due to the emergency change, the creation of course material was completed by instructors in isolation as well as deciding which online technological platform would be most suitable to conduct or complete daily tasks from according to their level of comfort with technology. Academics began devising the wheel by ones self, which forced the combination of groups of undergrad students (Marinoni, Van't Land and Jensen 2020).

The Higher Education section experienced a crisis, necessitating almost switch immediate from a traditional learning and teaching domain to an online learning and teaching domain with faculties or students given no choice (Toquero 2020). As a result, the pedagogy section transitioned into constant unpredicatbility. Commitments made now are essential for all Highr Educational Institution's time ahead, as most Higher Educational Institutions could adopt a blended learning approach even if they return to contact lectures. Thus, within Higher Educational Institutions, the people and operational sides will have to embrace change (Jena 2020).

Due to the large capacity of homework, many students experience a large stress level, resulting from a high level of responsibility and independent working. As a result, many students felt despondent and like defeats, which developed into added significant stress

levels (Tarkar 2020). It was of vital importance that every stakeholder within the HEI had a voice and contributed to the emergency shift from a traditional learning system to a remote or online system. Whether student, administrative staff or academic staff, each stakeholder had helpful guidance or input on how to transition to a online educational environment to meet the common objective: to complete the accounting curriculum within the required time allocation (Dwivedi *et al.* 2020).

2.9 Financial Accounting III curriculum

The curriculum within accounting is the course component studied subject (Francis 2014). Many daily tasks has been influenced by the Fourth Industrial Revolution (4IR) and their methodology of performance. Keeping up with the constant development, change and advancement of technology could be a task for the entire accounting profession, from education to industry (Al-Htaybat, von Alberti-Alhtaybat and Alhatabat 2018). The shift from a traditional learning environmnet to online learning environmnet is occurring due to Covid-19. Thus, the curriculum in accounting needs to evolve according with the shift (Tuck and Gaztambide-Fernández 2013).

Table 2.3 Abstract 1.2. of Financial Accounting III module descriptor for DUT.

20	**Teaching and learning**		
		Learning Activity	**% learning time**
		Extensive class activities - lectures	30%
		Small group activities – tutorials, technology-mediated Learning; independent study	10% 60%

Source: Approved module descriptor from CQPA (DUT, 2018)

According to the module descriptor, there are specific teaching and learning actions whcich form part of it. As per Table 2.3, the portion of the module descriptor indicates the action, percentage it willform and how it will take place of the total (Savery 2015). According to the above abstract, the learning actions comprise only 10% been allocated for technological methods and compact batches of students for tutorials, a learge physical lecture classes worth 30% of the whole and 60% of learning in the form of self-sufficient studying. When

designing this module, it is inherent that online learning platforms or technological methods was not the focus or a priority section.

Academic staff face the test of creating an online learning experience that is as near to a leacture classroom encounter as possible. A constant challenge is the level of engagement and standard of interaction connecting academic staff and students (von Konsky, Jones and Miller 2014). Academic staff look to course design for guidance on the whens and hows of an online course, thus couse design has a significant influence on academic staff. Challenges occure when courses designed to be face-to-face classes adopt the same structure for online courses. The change from visual and verbal components is crucial when changing a traditional lectureroom participation to a virtual lectureroom participation. The course design and lay out of a accounting module can be looked at in the same way (Jabbarova 2020). A digital sketch maps used is a ubiquitous tool as it allows students in an opening session to become more integrated with the material explored in the course, this allows a student an overview or tour of which the module will expose them to. Studetns will then be allowed, at any point in time, to go back and review where they are within the module (Morgan and Houghton 2011). Due to minimal choice, many courses which were originally designed for traditional courses are now changed to online courses. This change also occurred in a concise time period which left very little space for statigic planning. HEIs' were pushed into online spaces due to the emergence change in course delivery. However, HEIs were unprepared to meet the need if transition from traditional learning environment to an online learning environment before Covid-19 pandemic (Gosper and Ifenthaler 2014).

Management and academic staff should review the current course design, curriculum delivery and curriculum content, concidering special attention to a course which was created for face-to-face learning or classroom, while changing the curriculum to combine what works within the delivery methods currently used (Chugh, Ledger and Shields 2017). The planning of assessments and management of time can be guided throught the use of lesson planners. This ensures that faculty staff do not lower the quality, exposer and interaction between subject matter and students within an online learning environment. Lesson planners also act as a guideline or framework for students to ensure them of what is expected of them, the timeline they must keep to and where they currenly are within the course material. Using this tool is a simplistic way to effectively ensure that a specific quality and standard is achieved

and a way to manage time dedicated for a specific task (Burrell *et al.* 2015). Another tool which can be used in an online learning environment is prerecorded videos or audio recordings as an overview lesson, followed by a deeper interactive lecture. It simply means facilitators will split topics into two parts.

The first part will allow students to listen to an introduction or an outline of the subject on what they will learn for that period. Part two will be the lessons that follow on the topic, allowing a student to detail the issue, thus allowing a student to understand the broader picture before funnelling into a topic's content. It focuses a student's attention on the lesson still to come. (Mohanasundaram 2018). Rubrics could also be used as a standard tool in remote online learning environment as they allow students to understand how they will be marked and what is required from them (O'Neill 2015).

2.10 Technological Tools and Online Platforms.

The learning environment in the 21st century have many technological tools on hand for use. Currently most HEIs' primary approach to TLA is the use of remote online learning, due to this shift in curriculmn delivery the intergration of technological learning platfroms used has increased. This change has affected the learning environment for faculty staff and students which has been of vital importance (Keengwe and Bhargava 2014). The level of interaction and engagement with students as well as the lack of discipline-specific technological platforms used within a remote learning environment is a large concern commonly expressed by faculty staff. Integrated online platforms and tools aid asynchronous and synchronous learning (Chick *et al.* 2020). Academic staff have free access and availability to many of these online platforms and tools at no to little cost. Many of the highest used online platforms are:

2.10.1 Google Jam Board

Google jam board consist of on online digital whiteboard which can be seen by all participants and students can connect with each others inputs in real-time. It is fundamentally a whiteboard that pedagogical staff are able to show and share with their students, students may then access that set whiteboard and connect with the live subject matter or course material in real-time (Basilaia and Kvavadze 2020).

2.10.2 Microsoft Teams

Microsoft Teams allows the end-user to conduct video seminars and upload multimedia subject matter or course material. In addition, MS Teams permits the academics to give a lesson face-to-face using video seminars, permitting a utmost of 500 participants/students in a unique or particular classroom. Microsoft Teams also permits instant chats and real-time correspondance (Pal and Vanijja 2020).

2.10.3 Padlet

Padlet is a program which allows students to post media in all forms on an online bulletin board. Students can also respond and interact with each other on the bulletin board in real-time. In addition, it permits students to dicuss and share content or specific subject matter or a piece of work in real-time (Deni and Zainal 2018).

2.10.4 Zoom

Zoom permits the end-user to quickly establish an online classroom using features like the webcam, instant chat and whiteboard feature, while using these features the end-user may record these lessons and making them acessable for students to revert to use and review in the future. Zoom allows a utmost of 100 students within an end-users classroom at a given time, Zoom allows this type of classroom for free; however, more options are available for purchase (Serhan 2020).

2.10.5 Pear Deck

Pear deck is now available as a PowerPoint addition. Pear deck can be seen as Google presentation slides. This allows the end-user to add drawings, add open-ended questions and quiz questions. These features are add-ons used by the end-user when creating presentation slides, enablliling students to connect with a display in real-time (Javed and Odhabi 2018).

2.10.6 Moodle HQ

Moodle was invented for online assessments and teaching to indulge a number different teaching and evaluation approches. One of the Moodles main attraction is that it is free of charge for the end-user. The user can upload recordings and include course matterial, and connection with students on the online learning platform at no cost (Gogan, Sirbu and Draghici 2015).

2.10.7 Nearpod

Nearpod is a program where students engage and connect with each other and instructional staff through many pre-set features. It provides prepaired interactivity and lesson tools which integrate with alternative edtech technological platforms. One of the main attractions of Nearpod is the ability to blend with other programs such as PowerPoint and Google Slides (Shehata *et al.* 2020).

A vital part of online technological platforms and tools achievement of success lies in students actively participating and engaging with the online platforms or tools used. Students entering and viewing lectures are not enough to grasp key and core concepts: active participation and a enthusiasm to interact with online function and virtual course material are needed (Onyema *et al.* 2020). The purpose of formative assessment practices or tools are for students to audit their perception of module or course content. By students monitering their knowledge, the tool also provides faculty staff insight of what their studetns are experiencing as challenges and what they may need in order to sucessed (Williamson, Eynon and Potter 2020). In addition, using assessment tool such as these permits students to collaborate and connect with each other in common disiplines, as well as improve communication abilities (Ali 2020).

2.11 Different types of Teaching, Learning and Assessment Methods

According to (Moore, Dickson-Deane and Galyen 2011), there are different ways in which students behave to a form of online or virtual learning domains. Three of the most commonly

used terms by students are traditional learning, distance learning and online learning systems.

There is no physical contact between students and teacher within distance learning. Geographically students and teachers are in separate locations. The institution (or lecturers) sends learning material and course resources via email, a post office or a exact communication carrier (e.g., Zoom). An online element does not need to form part of a distance learning system. Written correspondence is the main medium of communication for queries, gaining of material and submission of assessments (Simonson, Zvacek and Smaldino 2019).

No form of contact is used in an online learning system, the use of the internet is the main medium of connectivity between lectures and students (Kauffman 2015). Within a traditional learning system lectures would be supervising and moderating the knowledge and process of information within a physical classroom setting before students expand their own perception of the curriculum content through completing additional examples and exercises inthier individual time or with the aid of a lecture or tutor (Pritchard 2017). The teaching style has not changed, just the delivery method which is now online (Traxler 2018).

Lecturers can use formative or summative assessments in an online learning or traditional learning domain as a form or tool of assessment. Assessments can be linked to performance of students and justifiable by grades (González-Gómez, Jeong and Rodríguez 2016). (Banerjee 2016), states in order to decrease drop out rates, ther must be increase in performance of students. Using formative assessment practices or tools are often the most commonly used method in an online learning system, it allows the growth abd development of students due to the ongoing tasks and lecturer feedback. Students can be supervised and are permited to scaffold knowledge obtained from specific assessements (Moss and Brookhart 2019). According to (Baleni 2015), both lecturers and students can benefit from online assessments. The mouldability of online course assessments is advantageous to both students (who are permitted to participate in assessments aligned with their time and availability) and staff members (as the duties of grading assessments is ancient history) (Manurung, Fildzah and Rajagukguk 2019).

Using an online method exposes many rewards and challenges of TLA. The main advantage is the mouldability for students working according to their own comforts, such as the cost benefit of not travelling, completing exercises at thier own pace and the ability to learn where they reside. This method of learning also allows a student to study and work full time jobs at the same time. Challenges which a student may face could be the absence of motivation or a students attitude toward learning (Alexander, Truell and Zhao 2012). Due to the absence of interatction between students socialy. Students may be negatively affected to engage or motivated to interact with course material. Unreliable access to technology and electricity can impact students receiving the required course or study material. Time-sensitive issues may also be affected, such as results of a module or registration due to the delay of feedback from administrative or teaching staff. Finally, using online learning platforms does limit the variation in students' study or learning styles (Buelow, Barry and Rich 2018).

2.12 Student Engagement with online courses

The level at which students engage with an online TLA method may directly link to performance. For a student to be active with an online system, the student must possess specific resources and infrastructure established by the country where the student resides. In addition, there is a need for well-established connectivity and a device which will allow the allocated funnel of information from academic instructor to a student (Khan *et al.* 2017). Once the student has these fundamental essentials, the student's willingness to participate and level of motivation could further enhance performance in the online learning system (Delaney, Kummer and Singh 2019).

According to (Nor and Kasim 2015), blended learning allows an instructor to combine face-to-face and online contact learning to assess its usefulness in blended learning. Firstly, how frequently do students use online systems? Secondly, what social and economic factors influence students' online tools? Finally, how can educators improve the online method and the interaction of students using the system (Kintu and Zhu 2016)?

Due to the onset of the Covid-19 pandemic, remote learning has become the leading method of curriculum delivery. This change from a traditional learning system to a remote one has affected student engagement and interaction between peers and faculty staff (Arbaugh

2000). Some instructional staff believe that it will take expensive equipment and technology to engage with students at a deeper level when this may not be true. There are two vitally important components which need to be taken into consideration when going into remote learning (Ralston *et al.* 2019):

2.12.1 Time Component

In the remote educational environment, time is the first component compared to traditional knowledge, the perception of time is very different in remote learning. When there is lockdown or isolation - without schedules to help keep track when working remotely from a residents or home, days and times can be astray (Edyburn 2021). The schedule of the academic's release of content in the online classroom, where it is released, when it is released and even how much time is allowed for the information released to be processed by a student is essential for the degree of engagement required from the student (Gares, Kariuki and Rempel 2020).

2.12.2 Interaction Component

In order to learn, students must be allowed to connect with the content, absorb the data, implement the knowledge, and analyse that data. The more frequent opportunities studetns have to engage with advanced knowledge, the more likely our brains will absorb that data or information (Radloff and Coates 2010). The rule will stay constant, within a remote learning environment. In order to allow the brain to absorb or process data or information and grasp the data, a students needs to be exposed to a constant level of interaction with the data or information. If only videos arewatched and having question and answer sessions based on the videos is used in a remote learning environment, the student is not experiencing the desired level of interaction in order to fully engage with the subject matter. Merely watching videos may cause the dropping out of a large number of students from the course as they can not interact or engage with the subject matter on a desired level (Wester *et al.* 2021).

2.13 Online Assessment Practice

A critical component when creating an online or remote course is assessment evaluation and design. Online course design is aided by communication skills, availability and presence of all stakeholders within the learning environment (Martin *et al.* 2019). Within the online technological platforms, whether summative or formative assessments are used, face-to-face assessment approaches have been intergrated by many institutions; however, these intergrations appropriateness is ambiguous (Beebe, Vonderwell and Boboc 2010).

The module descriptor serves as a guide for practical assessments according to their goals and learning results. Whether it be a traditional face-to-face course or an remote course the module descriptor is relevant (Keengwe and Kidd 2010). Educators must meet the investigation of what students are required to answer or do. In addition, all learning goals and objectives must be perceptible (Baldwin and Trespalacios 2017).

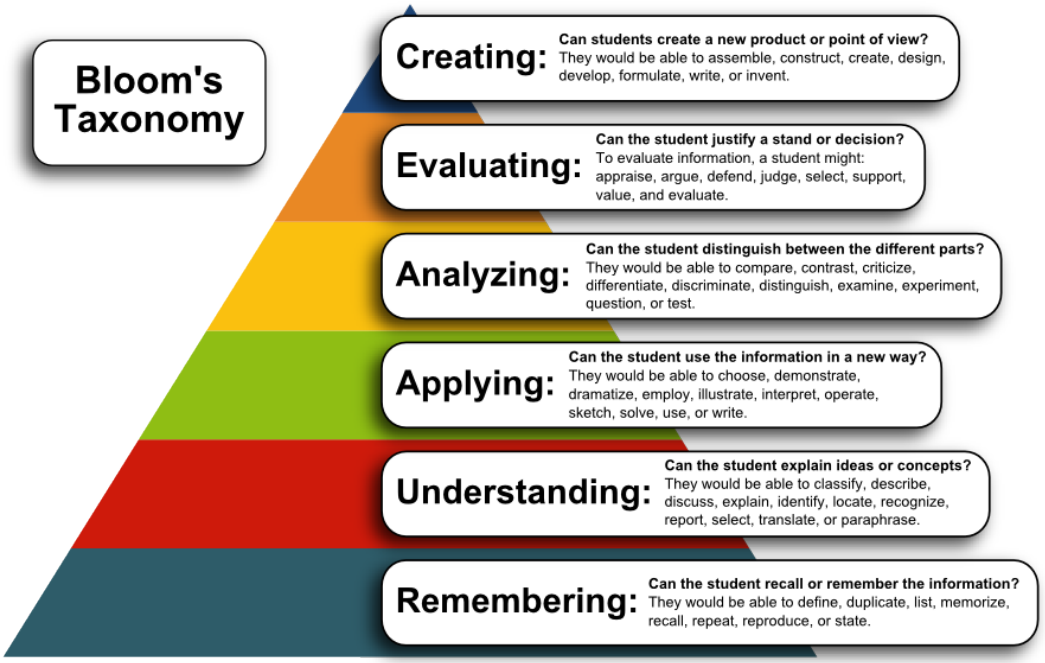


Figure 2- Online Assessment Practice

Source: Bloom Taxonomy (1956)

The model (Figure 2) is on how to create assessments while still being able to measure outputs(King and Alperstein 2014). Online assessments are encouraged to be varied in style and challenge, as varying assessment models will allow students to test all outputs. Some students may be more comfortable with assignments, while others may be comfortable with online tests. Therefore, educators must provide various assessments to give all students a fair chance (Bryan and Clegg 2019). Large portfolios or final-term assignments do not allow students to show progress along the way. Instead, assessing as often as possible will allow all students taking the module to show progress or lack thereof (Ross 2011). Providing timely and quality feedback will assist students in understanding where they may have a shortfall or what they might have done incorrectly (Ashenafi 2017). Students should also be permitted to make choices when appropriate to take responsibility for their choices (Shraim 2019). Assessments must be authentic (this speaks to the quality and standard set for the module), discipline-specific and relatable to the content taught (Gilles, Detroz and Blais 2011).

2.13.1 Disadvantages of Online Assessment

All assessments must be seen as open book assessments as there is no control, and students can utilise Google and other apps (Dumford and Miller 2018). Therefore, staff and students must be on board and familiar with modern-day technology (Aithal and Aithal 2016). Infrastructure makes a significant contribution to access to online platforms. The two main issues are connectivity, network and cost and availability of electricity (Hodges *et al.* 2020). South Africa is currently experiencing load shedding. Load shedding is a disruption of electrical power at certain times. These power outages are scheduled and have different levels of intensity. Trustworthiness of the registered student to take the assessment is a high-risk factor as students could employ others to take the assessment (Filieri 2016).

Due to Covid-19, there was a need to move all assessments from a traditional testing system to an online system. The global issue of providing students with quality education is bringing together diverse stakeholders. Thus new technologies are constantly emerging (Crawford *et al.* 2020). With all this, security is still one of the main concerns regarding online assessments. Without physical sit-down assessments, online assessments have come with their own set of drawbacks. Confirming who is preparing an assignment or providing the answers to an online test can still not be guaranteed (Boud and Cohen 2014). There are

many limitations that academic staff face with assessments, such as time constraints, the number of attempts permitted and even biometric scanners; however, the assessment could never be truly secure unless in a safe, controlled environment – which was close to impossible due to the Covid-19 pandemic (Kahu 2013). As diverse stakeholders come together to digitalise platforms to deliver online learning, with almost 60% of the global population online, how do educational institutions provide for their students and ensure that the digital divide does not increase? As online learning becomes the new trend, how do we ensure that these trends will remain beneficial to the end user: the learners themselves (Manca and Ranieri 2016)?

2.13.2 Online Learning Theories

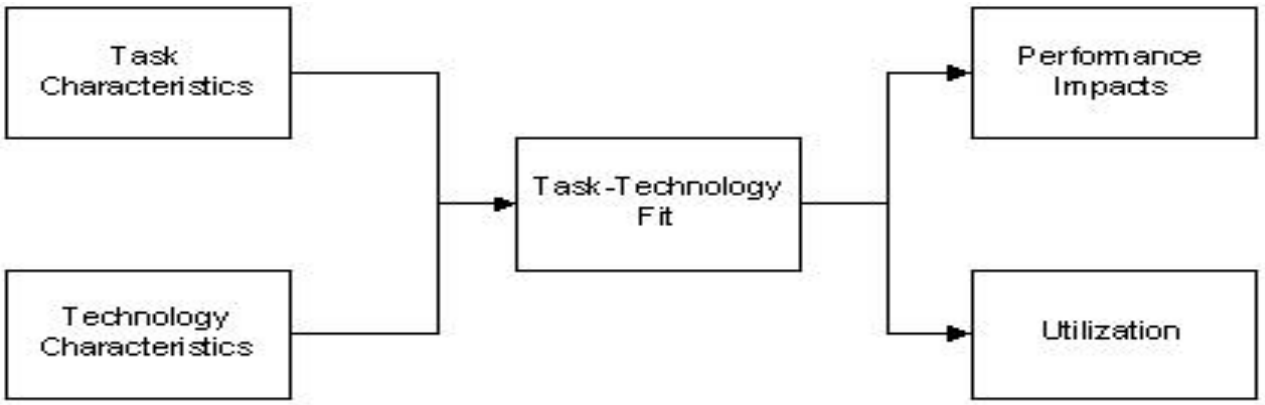
In a traditional learning environment, there are not one but many teaching theories which have emerged. It is the same with the online learning environment. Nevertheless, the teaching theories from a traditional face-to-face environment are still valuable to the online learning environment despite the delivery method. Therefore we can revert to these fundamental learning theories, which bear appropriateness to an online course design (Picciano 2017).

2.14 Theoretical Framework

2.14.1 Task Technology Fit

Online learning courses expand the future of education, tackling many vital issues facing distant learning in poor areas. While online learning courses have garnered much interest, the quality of these courses is still in question, especially in developing countries (Khan *et al.* 2018). Task Technology Fit (TTF) is the extent to which technology assists a person/user in performing their task (Lin 2012). Information quality and user-friendliness significantly contribute to the user's completing tasks. The graphical astatic, security features, or privacy factors often do not enhance the user's task completion (Aljukhadar, Senecal and Nantel 2014). Blended learning institutions must determine the task which needs completion to match relevant technologies to the user's output. The usefulness and satisfaction of the

system utilised by the user have a significant impact on the user's continuing use of the system(Lin and Wang 2012).



Source: Goodhue and Thompson, (1995)

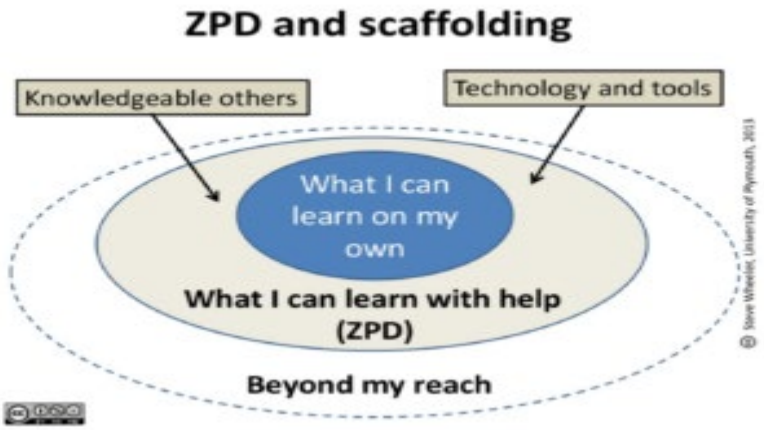
Figure 3 - Task Technology Fit Model

The model (Figure 3) shows that task and technology characteristics impact the Task Technology Fit. As a result, performance impacts and utilisation is achieved (Goodhue, Lewis and Thompson 2012)**.**

We use specific technology for a particular task. All required components for completing the job must have the person conducting the undertaking (Yuce, Abubakar and Ilkan 2019). If all necessary details do not have the person to complete the task, the task cannot be completed (McGill, Klobas and Renzi 2011). The task technology fit predicts that if task characteristics and technology characteristics are aligned, this will lead to performance impacts and utilisation with the correct use of the right technology to complete the task (Zhang *et al.* 2017). If they meet, it is most likely one would use the same technology again as it provided the desired product (Yadegaridehkordi, Iahad and Ahmad 2014). With the constant development of technology, the options or variety available for users have increased. Where, in the past, limited possibilities of technology were available, such as a camera to take photos, users now have many options to take a picture: a camera, a cell phone, a tablet, etc. (D'Ambra, Wilson and Akter 2013).

2.14.2 Social Constructivism

Social constructivism states that knowledge and many other aspects of the world are not actual. They only exist through society's agreement, e.g., money. Money only exists within a human societal context (Hodson and Hodson 1998). Social constructivism in a teaching environment shows that students learn from doing and not just observing. Constructivists believe that students bring prior knowledge into a learning situation and engage in a repetitive process of interpretation, articulation and re-evaluation to learn (Hirtle 1996).



Adapted: Vygotsky 1978.

Figure 4 - Social Constructivism theory

Figure 4 is the social constructivism theory which is a scaffolding approach. This theory states that students build knowledge on past knowledge, gains, and experience within the subject content. Students come with existing knowledge and then move from one level to the next as they experience different subject elements (Kim and Hannafin 2011). As students develop in their learning, so should the method of testing. Students should be more exposed as they elevate from level to level. One of the methods for involving scaffolding is the testing method. When institutions test students, they should advance from understanding concepts and development to implementing ideas in real-life scenarios (Reiser, 2018).

2.15 Summary

In this chapter, the researcher defined critical terms. The researcher explored types of TL&A approaches, the change of operation and how students, staff and the system used all need to be considered. The researcher examined the advantages and disadvantages of assessment. The researcher also discussed the impact of Covid-19 and its effects on the adsorption of HEIs. The researcher explored theoretical and conceptual frameworks in the above chapter. The discovery of the importance of designing the methods and resources needed to deliver an accounting curriculum took place in the above chapter. The following chapter will discuss the research methodology of this study.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

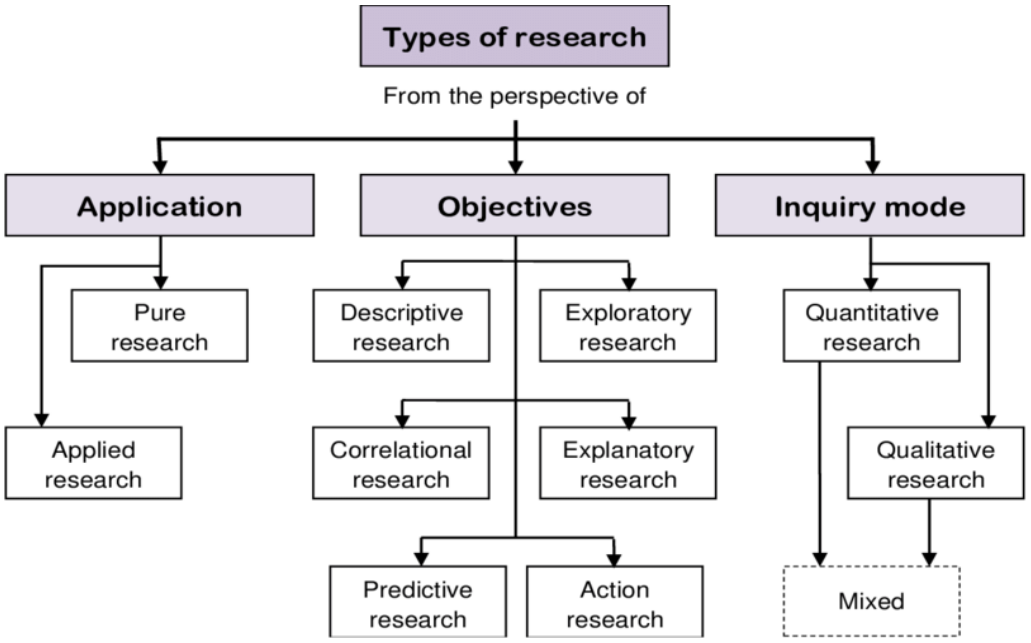
In this chapter, the researcher explored the methodology predicating the study. The researcher also investigates the selection of the research approach. This chapter will explore the choice and the reason for using a census research approach. Also, the researcher established the research design of the study. Finally, the researcher presented detailed steps in the selection of the population and sample size and research instruments for the study.

3.2 Research methodology

Research methodology encompasses the processes a researcher undertakes to determine the appropriate steps that would help to achieve the study's central aim and objectives. It involves how a researcher thinks (in the context of the study), what the researcher hopes to carry out, and how the researcher hopes to execute it. It also involves determining the inclusion of participants in the study and selecting a sample and sample size. It also explores the advantages and disadvantages of each research choice for achieving the research goals (Kumar 2018). Research methodology is the plan that explains why a research method is employed (Mackey and Gass 2015). Research methodology is the body of knowledge that explains the entire process involved in undertaking a study, from idea conception to conclusion and recommendation. This chapter contains the research method for collecting and analysing data (Nayak and Singh 2021).

3.3 Choice of Research Approach

There are three main research categories based on the study's aim, the method of data collection, and the study objectives. The research method refers to the strategy for data collection or evidence for analysing or discovering new information. It helps to get a better understanding of a particular topic. The researcher uses the research method as a strategy to navigate through the study (Patten and Newhart 2017). The research methodology is the theoretical positioning of the study. Finally, the research method is the process or steps the researcher will follow in undertaking the study, including the tools and other materials needed to complete the study (Punch and Oancea 2014).



Source: (Adapted, Kumar,1996)

Figure 5 - Approach Selection Map

The above diagram illustrates the flow in which a study should select its research approach. The researcher must answer(s) the first level of questions: Is this study application, objective, or inquiry mode? It will lead the researcher through the appropriate channel to choose the correct form for the study

This study will take a quantitative approach. Quantitative research refers to the research method approach in trying to prove something by considering surrounding factors. The questions: What? Why? And Whose? could be answered using this method (Attneave and Arnoult 1956).

In this study, inquiry of the topic is the question that needs answers, leading to quantitative or qualitative research (Figure 6). The researcher adopted the quantitative approach using the census approach for a large population, and no specific participant was targeted (Baumberg 2016). The quantitative method aims to assess the opinions of all third-year students at DUT. All third-year Financial Accounting students participated in this study as they were part of different teaching pedagogies. In students' first year of their undergrad studies, students attended full-contact lectures. Students' second year of undergrad studies experienced blended or multimodal learning (partly face-to-face and partly online). These diploma students are now in their third year, also referred to as their exit level year or final year of an undergrad qualification. So, they have only received online lectures. It will benefit the students from a performance and engagement perspective. The student has adopted the quantitative approach to identify this research project's effects, patterns, and outcomes. This study will use this approach to acquire information from respondents

3.4 Research Design

Research design is the overview or plan of the actual steps. The research design is a plan to answer the research question (L Mitchell and M Jolley 2010). This plan will show how the researcher will undertake, structure and describe the general method for collecting, analysing and evaluating data (Myers, Well and Lorch Jr 2013).

The research questions for this study are as follows:

- The first research question for this project is: How effective is the online curriculum delivery in supporting students learning?
- The second research question is: What are the challenges experienced by students in terms of the change to online curriculum delivery?
- The third research question is: How can online curriculum delivery be enhanced to promote students' learning and performance?

All three of these questions aim to analyse the impact of online delivery of the Financial Accounting III curriculum from a student's perspective. What are the effects and challenges of online delivery of Financial Accounting III, and how can their experience be enhanced through LT&A?

These research questions also aim to discover whether the current technological platforms are appropriate for teaching and learning the Financial Accounting discipline.

As previously mentioned, the study will follow the quantitative approach. The researcher utilised a survey questionnaire to collect data because of the size of the total population and cost-effectiveness. The survey questionnaire will describe 'what is and how variables are distributed (Rhind, Davis and Jowett 2014). The researcher administered an online quantitative questionnaire due to the large sample size or population of approximately 800 students. In addition, the researcher selected an online questionnaire due to Covid-19 restrictions, which prohibit physical contact. Consistent with Zajenkowski *et al.* (2020), the reason for the online questionnaire is to reduce the physical connection between participants due to the Covid-19 pandemic. (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020) (Zajenkowski *et al.* 2020).

3.5 Population and Sampling methods

3.5.1 Population

The researcher wants to extract information from the population or participants (Babbie 2010) which comprises final year diploma students at the Department of Financial Accounting at DUT. The total population size (table 3.1 below) is approximately 800 students who are doing diplomas in Financial Accounting, Cost and Management Accounting, Internal Auditing and Taxation:

Table 3.1 Population of Third Year Accounting students

All Diplomas	Number of students registered in semester 1 for Financial Accounting III	Number of students registered in semester 2 for Financial Accounting III
Diploma in Accounting	250	250
Diploma in Cost and Management Accounting	250	250
Diploma in Internal Auditing	150	150
Diploma in Taxation	150	150

The study received ethical clearance on 20 August 2021 (Annexure A). Data administration was conducted from 22 September 2021 to 15 December 2021 via an e-survey link distributed to students registered for both modules through technological learning systems such as MSTeams and Moodle.

The reason for selecting third-year students was that these students had experience with face-to-face and online curriculum delivery methods. In the first year of studying financial accounting, the students experienced a full-contact curriculum delivery. The second year was a mixed year as students had both contact and online lectures, and now in their third year of studying financial accounting, they were only exposed to online classes and assessments. It makes the third-year students an excellent target population as they would have experienced both forms of curriculum delivery. Third-year students were chosen as exiting level students and could form part of the South African workforce.

3.5.2 Sampling Methods

Sampling is a procedure used by researchers to choose a relatively compact number of individuals (subset) from a pre-planned population to serve as subjects for observation per

her study's objectives (Sharma 2017). Sampling techniques involve probability and non-probability sampling techniques.

3.5.2.1 Probability Sampling

According to (Taherdoost 2016), probability sampling can be defined as every participant in the population has a chance of being selected. Therefore, it is commonly known as equal population sampling (EPS). There are four primary probability forms of sampling: simple random, systematic, stratified, and cluster (Alvi 2016). This way of sampling may be costly in time and energy and may lead to error; however, it is also the best method to avoid bias (Taherdoost 2016).

3.5.2.2 Non-Probability Sampling

Non- probability sampling is a no random element involved when the sample section is selected ((Etikan, Musa and Alkassim 2016). The non-probability forms are convenience, purpose, quota, and snowball.

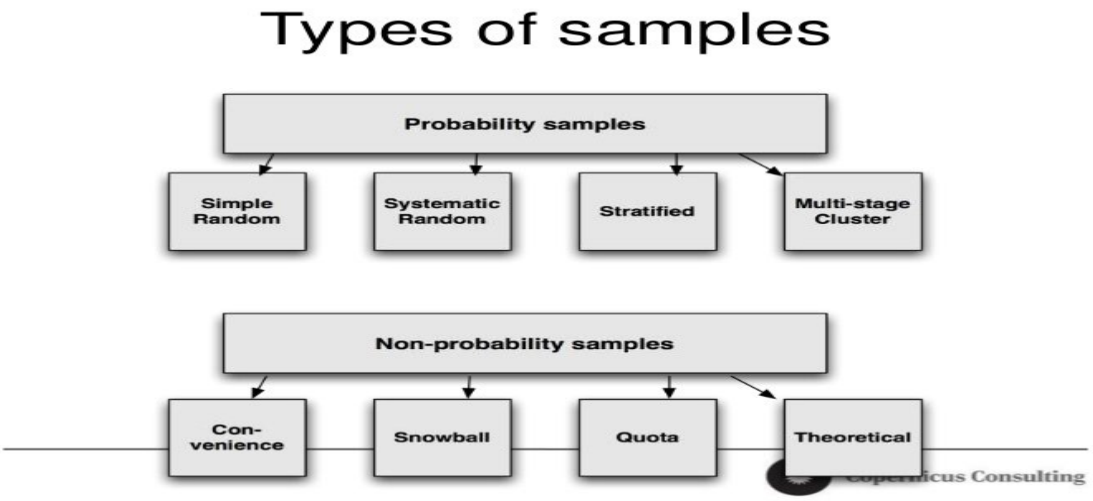


Figure 6 - Types of Sampling

The target population will be the undergrad accounting students over levels one, two and three (+- 600 students per level). There will be a close focus on level three, as it is an exit level, and students will qualify once all modules are complete.

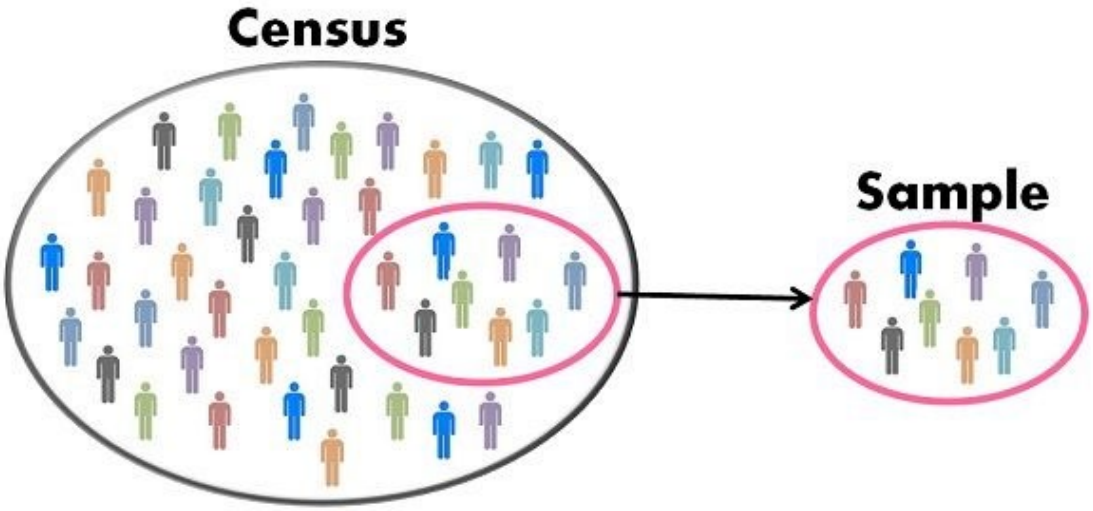


Figure 7 - Census vs Sampling

The sampling frame will constitute a selection of students from all qualifications who complete an accounting module in their undergrad studies. The focus is the accounting clusters, as their specialities are in accounting. This study adopted a census approach (figure 7), allowing all students in the target population to participate instead of just a specific group.

3.5.3 Sample selection

Researchers use judgmental sample techniques in qualitative and non-probability studies. In this sampling technique, the researcher seeks expert opinions. The researcher targets the participants because of their depth of knowledge in the area of study (Alvarado-Valencia *et al.* 2017)

Convenience sampling involves sampling participants because of the ease of reaching them. The availability of participants determines who the researcher tests. It may lead to biased selections of the sample, as it limits the researcher to what is nearby or self-selection interest by the participant (Etikan, Musa and Alkassim 2016).

According to (Columb and Atkinson 2016), researchers determine how many participants will be needed to create a sample for the study by a formula that considers population size, margin for error and confidence level.

	Size of population					
Margin of error	>5000	5000	2500	1000	500	200
±10%	96	94	93	88	81	65
±7.5%	171	165	160	146	127	92
±5%	384	357	333	278	217	132
±3%	1067	880	748	516	341	169

Figure 8 - Size of Population

3.5.4 Census Data Techniques

This study adopted a census approach, defined as collecting data from all participants in a population (Ghosh 2016). The sample population will consist of all third-year Financial Accounting students (800 students) in the Faculty of Accounting and Informatics at DUT, Durban. It is primary data, as it is collected directly by the researcher from all participants in the population (Mills *et al.* 2015). The researcher adopted a census approach to achieve the most accurate results, as every participant in the population will have input into the data collection (Doxsey-Whitfield *et al.* 2015).

Table 3.2 -Target Population and Sample Size

All Diplomas	Target Population	Sample Population Size
Diploma in Accounting	250	210
Diploma in Cost and Management Accounting	250	43
Diploma in Internal Auditing	150	18
Diploma in Taxation	150	7

3.6 Research Instruments

This study will use an online or electronic research questionnaire (e-questionnaire) comprising a series of questions and other props to gather information from respondents (Rowley 2014). The researcher designed the statistical analysis of the responses. The

questionnaire has been used as a research instrument since 1938 by the Statistical Society of London (Ekinci 2015). The reason for adopting a questionnaire as the instrument for this study is that it will be cheap to conduct, will reach a vast number of respondents promptly, is limited to the amount of effort from the researcher, and contains standardised questions which make it simple to compile data (Artino Jr *et al.* 2014)**.** The researcher used an electronic questionnaire (a digital version of a questionnaire usually completed over the internet (Ponto 2015)) due to the current Covid-19 pandemic. This method has become famous for collecting data over the past two decades due to the time efficiency, minimal cost and accessible compilation of data as the responses would already be in digital form (Allery 2016).

3.6.1 Pre-Testing

In this study, the researcher pre-test the questionnaire to ensure that she met all parameters. The researcher administered questionnaires to two academic staff members, two students and two external parties. The researcher made necessary changes according to the pre-test results. The questionnaire was then retested by the supervisor and accredited quantitative statistician using SPSS V.25 after the researcher made all the adjustments required to their satisfaction. Once the researcher considered and implemented all parties' comments, she administered the revised questionnaire to the population.

3.6.2 Questionnaire design

Questionnaires are a list of questions researchers distribute to the participants of a research study to use their answers for a purpose, e.g. to understand what type of chocolates are famous for the owner of a chocolatier store to make informed decisions on what product they should purchase more or less of (Krosnick 2018).

The measurement scales are nominal, ratio, ordinal, interval, and Likert.

- Nominal scales assign numbers to objects where different numbers indicate different things, e.g., all adults receive the number 1 and all children receive the number 2. The numbers have no real value other than separating the various objects (Brace 2018).

- Ordinal scales assign numbers to objects; however, the numbers have meaningful order, e.g., 1st, 2nd, 3rd in a race. The number value shows how the participant performed compared to the others. Educators may use this scale to rank participants (Liu and Keusch 2017).
- Interval scale: numbers have order, but there are also equal breaks in adjacent groups, e.g., the gap between 200 degrees and 210 degrees on a thermometer is the same as 560 degrees and 570 degrees. The difference is meaningful (Nadler, Weston and Voyles 2015).
- Ratio scales: the difference is meaningful, and the ratio is significant. There is a valid zero point (0 means nothing or actual 0 or absence), e.g. If there are twice as many assets as R1 000 liabilities, the ratio will reflect 2000/1000 = 2) (Schuldt, Roh and Schwarz 2015).
- The Likert scale consists of framed statements to capture the participant's opinion, e.g., Strongly disagree, disagree, not sure, agree, strongly agree. The views are all in order, and each idea will have a numerical value, e.g. Strongly disagree (1), disagree(2), not sure(3), agree(4) and strongly agree(5) (Joshi *et al.* 2015).

The survey questionnaire below used the Likert scale as a measurement tool for the study. According to (Flake and Fried 2020) measurement is the application of numbers to objects following a set of rules.

3.6.3 Content and Layout of the questionnaire

The questionnaire was designed to cover the following areas

- Biographical Information
- Readiness for online learning (objective 1)
- Effectiveness of online learning (objective 1)
- Challenges affecting Financial Accounting III students (objective 2)
- Factors to enhance the online learning experience (objective 3)

3.6.3.1 Section A

The section below discusses the reasons for each question used in the survey questionnaire. Part one (section A) asked respondents to provide details of their demographical information. This was to provide vital information about participants and the biological information of the current Financial Accounting III students. The respondents' feedback was then analysed using responses to the following questions (Annexure B):

1. Which of the following diplomas are you registered to study for?

Diploma in Accounting	Diploma in Cost and Management Accounting	Diploma in Internal Auditing	Diploma in Taxation

The purpose of the above question (1) was to determine which diploma was more popular and which students, according to diploma, were more interactive with the online system

2. Age category:

18 – 20 years	21 – 30 years	31 – 40 years	41years +

The purpose of the above question (2) was to determine which age cohort is more likely to study using an online system as this will show their level of comfort with technology

3. Gender

Male	Female

The purpose of the above question (3) was to determine the gender of accounting students, which is related to the literature in chapter 2.

4 Language: Is English your first language?

Yes	No

The purpose of the above question (4) was to determine the predominate language of accounting students, which will cater for student's understanding and language comfort.

3.6.3.2 Section B

The following section discusses the reasons for the question choice. The second section (B) asked respondents to provide details regarding their online readiness. This was to provide detailed information on students' experiences, challenges faced and needs of the Financial Accounting III students.

The respondents' feedback was therefore analysed using responses to the following questions:

1.1,2,3 Which learning, and assessment method is currently used for Financial Accounting III? /Financial Accounting II? /Financial Accounting I?

Face-to-face teaching, learning, and assessment only	
Blended (some face-to-face and some remote) teaching, learning and assessment	
Remote teaching, learning, and assessment only	

The purpose of the above questions (1.1,2,3) was to show that these students did experience the mix of traditional and online curriculum delivery.

2 Do you use the same online learning platforms (MS Teams and Moodle) for all disciplines?

Yes	No

The purpose of the above question (2) is to determine if all disciplines and the other module use the same teaching, learning and assessment platforms.

3 Indicate your agreement with the following statements:

	Readiness of students' items	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
3.1	I was familiar with technological learning platforms (Moodle and MS Teams) for learning and assessments **before** Covid-19.					
3.2	I have adequate computer skills to be able to use technological learning platforms effectively and efficiently					
3.3	I have basic computer knowledge (how to put a computer on and off, primary Microsoft office usage)					

The above questions (3.1 to 3.3) were included in determining the readiness of students to use/ learn on online platforms as the change from face-to-face to online learning was an emergency change.

4 Indicate your agreement with the following statements:

		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

4.1	Using online technological platforms is effective for teaching, learning and assessments in accounting					
4.2	Online engagement with teaching assistants/ tutors is effective					
4.3	Using online platforms to access teaching assistants/tutors is effective					
4.4	Using online platforms to gain access to my peers (i.e. fellow students) is effective					
4.5	Engaging and exchanging information or ideas with my peers is effective with Moodle and MS Teams					
4.6	Moodle and MS Teams are effective learning platforms for accounting					

The purpose of the above questions (4.1 to 4.6) was to determine the effectiveness of the online learning system for financial accounting III and whether these online systems are user-friendly with the appropriate support.

5 Indicate your agreement with the following statements:

		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**

5.1	Moodle and MS Teams are easy to use for both learning and assessments.					
5.2	I was appropriately and adequately trained **before Covid-19** on how to use Moodle and MS Teams.					
5.3	Learning Management Systems support for Moodle and MS Teams is available to me at DUT.					
		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
5.4	My home is conducive to studying remotely.					
5.5	I have access to a device or devices which support my learning and assessment applications.					
5.6	I have access to reliable connectivity (internet access) for learning and assessments.					
5.7	Online synchronous (live virtual) lectures and classrooms are suited to Financial Accounting 3 modules.					
5.8	I find electronic notes and textbooks used for learning					

	and assessments easy to work with					

The purpose of the above questions (5.1 to 5.8) was to assess the challenges faced by Financial Accounting III students concerning the new way of LT&A.

6 Which of the following scenarios would you like to see happening in the future regarding lectures, if it were possible? (Select ONE option only)

Full face-to-face lecturers (4 hours a week)	Blended lectures of 2 hours face-to-face and 2 hours online each week	Full online classes (4 hours a week)	Some other blend of lectures

6.1 If you selected 'some other blend of lectures', please detail what you would like

_____

_____

The above question (6 and 6.1) attempts to gather what Financial Accounting III students prefer and the method of LT&A they are most familiar.

7 Which forms of assessment would you like to see happening in the future regarding lectures if it were possible? (Select ONE option only)

Complete face-to-face assessments (tests	Online tests with a final sit-down examination in person on campus (a	Comprehensive continuous online assessments only	Some other blend of assessment

and examinations) only	physical examination session)		

7.1 If you selected 'some other blend of assessment', please detail what you would like

_____

The above question (7 and 7.1) determines how financial accounting III students prefer to be tested**.**

8 Indicate your agreement that the following practices would improve student learning and performance if it remains an online process.

		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
8.1	Face-to-face consultations with lecturers at an allocated time					
8.2	Online consultation with a lecturer at an allocated time					
8.3	Improved response time from lecturers					
8.4	Being able to access links to different 'examples' regarding accounting calculations and formats					
8.5	Being able to access electronic accounting material and online links					

8.6	Using other, more appropriate, technological platforms, apart from Moodle and MS Teams, for Financial Accounting 3					

The above questions (8.1. to 8.6) determined the improvements in financial accounting III students wish to experience in online learning and curriculum delivery.

3.7 Data Administration and Data Collection

The researcher distributed a survey questionnaire via an online survey due to Covid-19. Less physical contact should encourage participants to respond as there is a lower risk of infection (Gupta *et al.* 2020). An online questionnaire is easy to create, and analysis can be conducted promptly (Pendry and Salvatore 2015). All diploma respondents in the total population will form part of the study. In addition, this will form part of the primary data as it will be collected directly by the researcher. Therefore, all data will be accurate as every population has input (Sutherland 2006). The researcher sent a link to respondents to access the online survey questionnaire (Annexure B).

The researcher distributed the association on two platforms, i.e., Moodle and MSTeams of the Financial Accounting III module group. Once students complete and submit the questionnaire, the researcher saves the answers in a created data file. The researcher also saved the data collected on an excel spreadsheet and stored it in a secure location to which only the researcher, supervisor and quantitative statistician had access to the data.

Before administering the questionnaire, the researcher obtained gatekeeper permission via email from the Head of Department of the Financial Accounting Department, as the population of this study is Financial Accounting III students. In addition, the researcher sought permission via email to reduce the level of physical contact due to Covid-19 (Annexure A).

3.8 Reliability and Validity

Reliability and validity are tests that measure consistency, stability, and accuracy. We will always test validity first because if the work is not valid, it will not matter whether it is reliable (Mohajan 2017).

Reliability is the degree to which a test is consistent and stable in measuring what it claims to measure. It holds a consistent performance over time and possesses the same characteristics as previous performance (Heale and Twycross 2015). Validity was achieved for this study. Reliability test is conducted. All statistical analysis is conducted by an independent statistician and has had no personal influence by the researcher. This allows the results of the electronic questionnaire to be reliable. The researcher applied factor analysis with ProMax rotation within the study. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy statistic (KMO) and a significant Bartlett's test, thus confirming that reliable extraction has taken place within the factor loading analysis (Table 4.4 of Section 4.5.2) in Chapter 4. Furthermore, a Cronbach's alpha value score will be used.

Validity is the degree to which the test measures what it claims to measure. A parameter governs it. It questions whether the researcher achieved the aim of the research and whether it is logical and can be answered (Noble and Smith 2015). Using an anonymous electronic questionnaire and allowing only Financial Accounting III students the opportunity to answer set questionnaire allows the results of the questionnaire to be valid. Which leads to answering the aim of the study which is to examine the impact of online accounting curriculum delivery on Financial Accounting III students. The study will use construct validity, including convergent and discriminant validity.

3.9 Ethical Consideration

Ethics involves dealing with matters of wrong and right (Resnik 2015); through this definition, the researcher will attempt to follow the principles of ethics by informing participants that they are not obligated to participate in the study and may withdraw their participation at any time they feel necessary. The researcher stored data collected from participants securely. The researcher ensured she was the only one with access to the data before handing it over to the department. The researcher will ensure participants' anonymity by safely storing data

that may reveal their identity (Lehnert, Park and Singh 2015). Ethical clearance was obtained on the 20 August 2021 from DuT (Annexure A).

3.9.1 FACULTY RESEARCH ETHICS COMMITTEE (FREC)

The research completed ethical training (Annexure C) on 11 August 2021 to apply for FREC clearance and a gatekeeper's letter. FREC clearance was granted on the 17 August 2021 (Annexure E). As a result, on 20 August 2021, a gatekeeper's letter was received from the director: RESEARCH AND POSTGRADUATE SUPPORT DIRECTORATE at DUT (Annexure A). It allowed the researcher of this study permission to conduct and collect data from DUT students.

3.10 Summary

The above chapter expressed a detailed plan of the methods, tools and approaches adopted for this study. The researcher discussed the processes, tools and techniques adopted and used for this study. Data collection and analysis will occur from a specific target population. The target population for this study was Financial Accounting III students.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The chapter describes the research method used in data administration and collection. The chapter will present the findings related to the aim of the study, which is to examine the impact of online accounting curriculum delivery to the Financial Accounting III students at Durban University of Technology, Durban

The following is a brief description:

- Biographic information of the respondents (Financial Accounting III students)
- The online experience of Financial Accounting III students, the use of technological platforms for learning Financial Accounting III (readiness and effectiveness) (Objective 1)
- Opinions of students on the challenges faced while learning Financial Accounting III online (Objective 2)
- The researcher explored students' perspectives on factors enhancing online delivery of Financial Accounting III (Objective 3).

The researcher used the Statistical Package for Social Science (SPSS) Version 25 to analyze raw data. The researcher collected the quantitative data from Financial Accounting III students in the accounting cluster who are exit-level students in the Faculty of Accounting and Informatics (FAI) at Durban University of Technology (DUT).

- This data was captured on the Microsoft Excel spreadsheet for onward submission to an accredited quantitative statistician, who transferred the data to SPSS V.25. The biographical information used a descriptive statistical analysis (Section A) for all students. In addition, the researcher used inferential statistical analysis in Section B for the impact of online accounting curriculum delivery on Financial Accounting III

students. Finally, the researcher presents the findings of the study from the data using the following:

- Descriptive statistical tests
- The researcher conducted inferential tests using T-Tests (commonly known as student tests).
- Chi-square
- ANOVA
- Pearson's and Spearman's correlation
- The researcher completed one sample t-test and an independent sample t-test.

4.2 Data analysis process and structure

Below is a description of Financial Accounting III students, detailing the different diplomas these students belong to, students' age and gender, and whether English (the medium of TLA) is their first language. The researcher used a Likert scale to determine the intensity of the respondent's response responses from strongly agree to strongly disagree with neutral at the centre of this 5-point scale. The structure of the questionnaire in section B used the 5-point Likert scale. (Sekaran and Bougie, 2010:211).

Table 4.1 Description of research instrument for students

Sections	DIMENSIONS
SECTION A	BIOGRAPHICAL INFORMATION - FOR ALL DUT STUDENTS
Question 1	Biographical information
SECTION B	Online experience
Question 2	Readiness for online learning and assessments
Question 3	The effectiveness of online learning systems
Question 4	Challenges affecting Financial Accounting III students
Question 5	Scenarios for lecturers and assessments
Question 6	Practices to improve learning and assessments
Question 7	Impact of the shift to online learning and assessments

4.2.1 Section A: Biographical Information

It emphasized the principal analysis using descriptive measurements of respondents' biographical information obtained from Financial Accounting III students at Durban University of Technology, Durban. The biographical information (Annexure C) segment aims to determine the different cohorts, language barriers and age and gender of accounting students. The researcher distributed the survey e-questionnaire through a link, and data collection commenced on 22 September 2021.

A sample size response was 278 final-year accounting students out of 800. The relevant questionnaires were collected by 15 December 2021. As previously mentioned, a response rate of 34% of an entire population of 800 financial accounting III students using the census approach. As previously mentioned, the data was captured on an MS Excel spreadsheet by 17 December 2021 and forwarded on 17 December 2021 to the accredited SPSS statistician for further inferential analysis. Therefore, the researcher gave all students within the population an opportunity to participate in it.

Below is an illustration (Figure 9) of the Diplomas which Financial Accounting III students are completing:

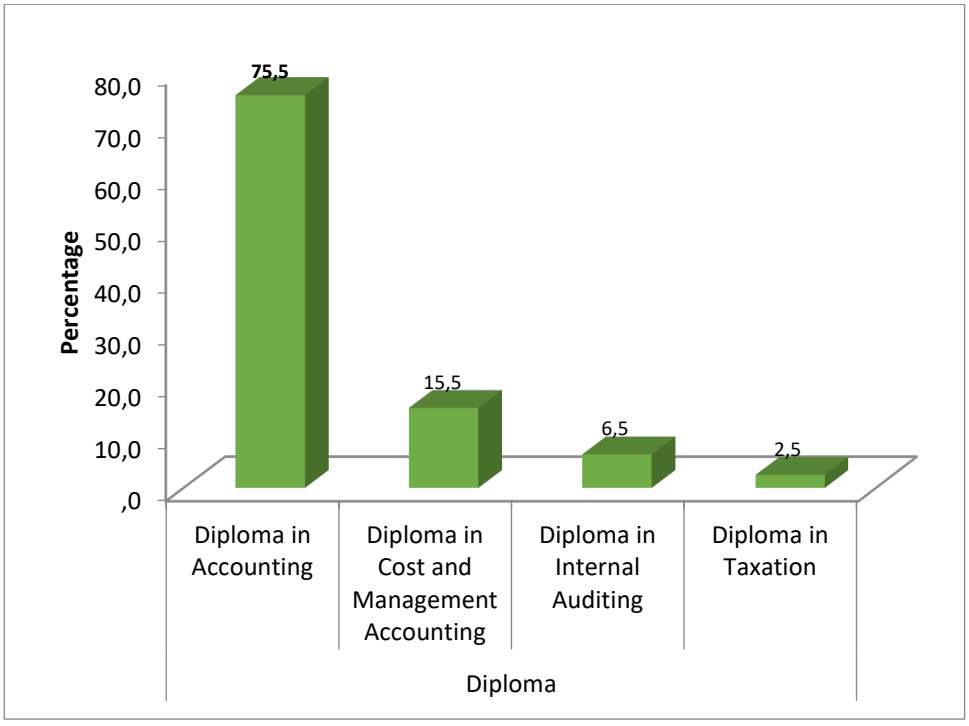


Figure 9 - Diploma programmes for the Accounting cluster

The above figure (Figure 9) shows the different diplomas Financial Accounting III students are studying for, following their relative qualifications. Two hundred ten students (75.5% of respondents) out of 278 belong to the Diploma in Accounting, with the highest respondents. Following the Diploma in Accounting is the Diploma in Cost and Management Accounting with 43 students (15.5 % of respondents).

It makes the Diploma in Cost and Management Accounting the second highest level of respondents in the Diploma programme cohort. The Diploma in Internal Auditing provided 18 respondents (6.5% of respondents), which is the third highest level of response, leaving the Diploma in Taxation providing the fewest responses of 7 students (2.5% of respondents). The results indicate that the Diploma in Accounting provided the most significant answers amongst the accounting cluster. Therefore, the below responses are mostly the opinions of the Diploma in Accounting students. The above table shows the cohorts more likely to participate in online learning and assessment (Akhtar and Saeed 2020).

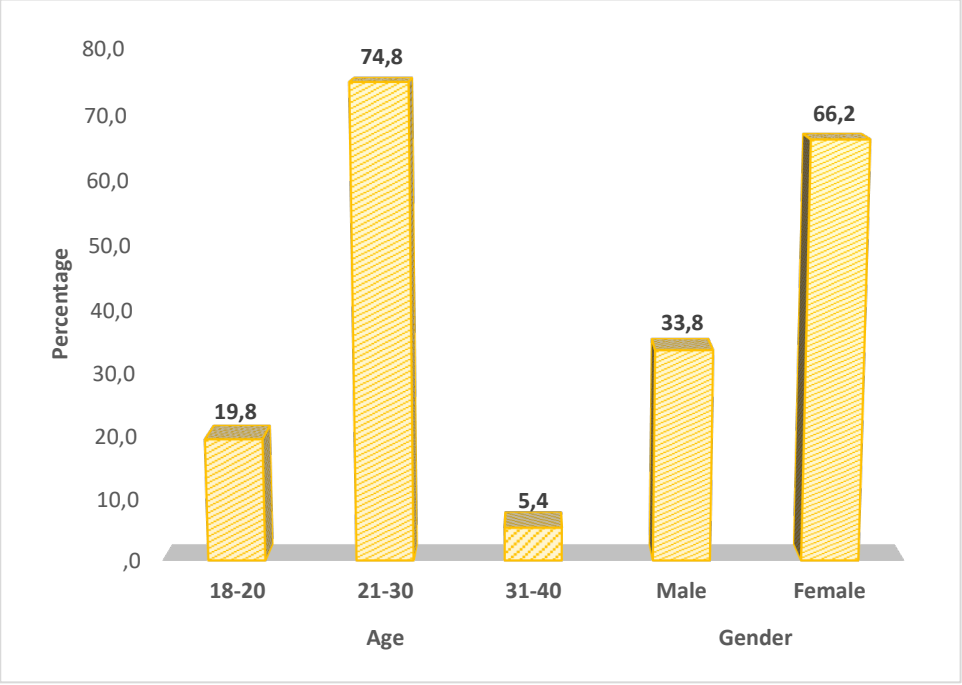


Figure 10 - Age and Gender cohort

Figure 10 above illustrates the difference in age and gender cohorts.

- The age ranges respondents fell into were 18-20, 21-30, and 31-40. The largest age category of 21-30 comprised 74% of the total respondents. The second largest age category was 18-21, which amounted to 19.8% of all respondents. Then the last type of 31-40 only made up 5.4% of the total respondents. Regarding age (Figure 10) shows that a high level of students in Financial Accounting III, ages 21-30, could join the workforce. The above results support the premise that as students' progress and develop with technology, they are more prone to be more user-friendly (Tess 2013).

- Figure 10 illustrates the gender gap between males and females. The number of male responses amounted to 33.8% of the total respondents; significantly, female respondents (66.2%) were almost double the number of male respondents. It shows a 32.4% gap between male and female student respondents. Traditionally, males dominated females as students attending the HEI field; however, the above shows a change in gender domination. It supports the contention that more females are entering the workforce in the 20th century (David 2015).

		N	Mean	Std. Deviation
2.1 I was familiar with technological learning platforms (Moodle and MS Teams) for learning and assessments before Covid-19(23 March 2020).	**Male**	**94**	**2.94**	**1.105**
	Female	184	2.56	1.186
3.2 Using online technological platforms is effective for learning financial accounting	**Male**	**94**	**3.52**	**1.055**
	Female	**184**	**3.17**	**1.050**
3.3 Using online technological platforms is effective for assessments in financial accounting	Male	94	3.55	1.064
	Female	184	3.23	1.109
4.8 I find electronic notes and textbooks used for learning and assessments easy to work with	Male	94	3.63	1.097
	Female	184	3.24	1.236

Table 1 in Annexure D indicated the following:

- Females (M = 2.56) disagreed significantly more than males (M=2.94) that they were familiar with technological learning platforms before COVID, p=.011.
- Males (M = 3.52) agreed significantly more than females (M=3.17) that using online technological platforms is effective for studying Financial Accounting, p=.009.

Figure 11 - Linguistics of students

The above pie chart (Figure 11) indicates whether English is the respondent's first language. DUT, Durban, is an English medium HEI; hence English is the medium of teaching and assessments. Figure 11 shows that 77% of the total Financial Accounting III respondents do not speak or write English as their first or home language. In comparison, only 23% of respondents recognise English as their home language. It indicates that most students do not speak or write in English but rather speak their home language. It shows that students may not grasp accounting concepts due to a language barrier. Decolonisation uses language as a tool to impact the curriculum (Prah, 2017).

4.2.2 Online Experience

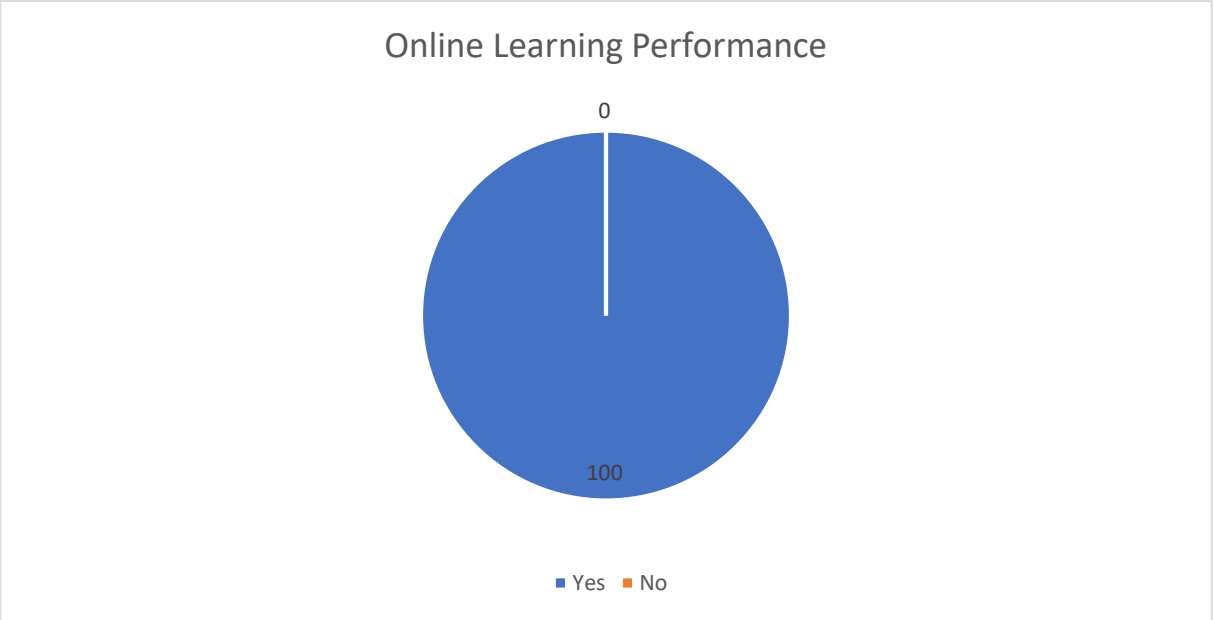


Figure 12 -Learning Platforms (Moodle and MS Teams)

Figure 12 expresses if students use the same online learning platform, i.e., Moodle and MS Teams, for all modules in their chosen qualification. As per figure 13, 100% of respondents have responded with Yes, which shows that the current online learning systems used by students are not discipline-specific. It reflects that students use the same method and system of learning for all subjects and all content matter, regardless of the discipline or learning outputs. Therefore, it does not support the findings of (Aljukhadar, Senecal and Nantel 2014). (Aljukhadar, Senecal and Nantel 2014) advise that the technology should fit the task at hand, yet all disciplines use the same technology despite having different learning outcomes and needs.

4.3 SECTION B: Descriptive Analysis of Research Instrument

4.3.1 Likert Scale

Analysis and interpretation of quantitative results show standard deviation and mean value scores regarding this study's independent variables. Mean, standard deviation, ranges, and

variables' cases provide information regarding chosen variables (Emery Sr, 2016:54; cited He and Sun, 2014). This section begins with understanding the mean values and standard deviation using 5-Likert scale statements of 'strongly disagree' to 'strongly agree'. Next, the researcher used the table below to assist with understanding the strength of frequency distribution and mean score values:

4.3.2 Narrative Based on the strength of Mean Score Values

Mean score value	Strength of mean score values
5	Very strong (strong agreement)
4	Strong (agreement)
3	Moderate (neutral)
2	Weak (disagreement)
1	Very weak (strong disagreement)

4.4 Research Question One

How effectively does the online curriculum support all Financial Accounting III students' learning?

The world's day-to-day activities presented constant changes due to the Covid-19 pandemic. Hence, education and how a student learns have also been affected (Daniel 2020). Both 4.4.1 and 4.4.2 below explore the readiness and effectiveness of online learning systems.

4.4.1 Readiness for online learning

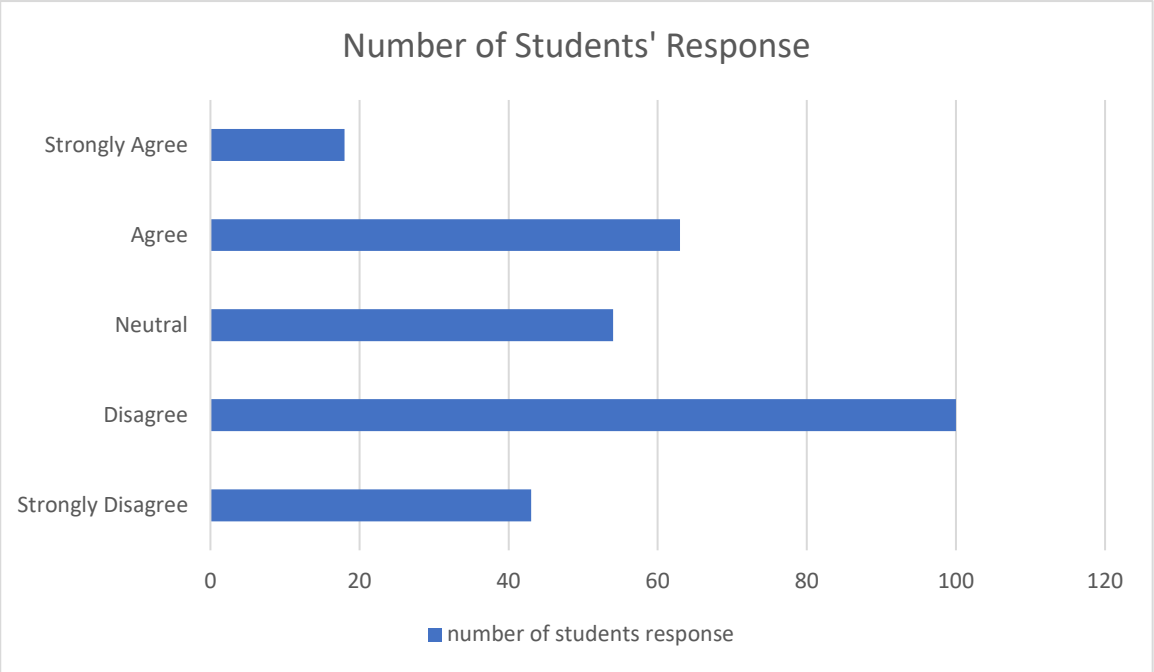


Figure 13 - Exposure to Technological Learning Platforms

Figure 13 reflects students' responses to their exposure to online learning platforms before Covid-19. 43 students out of 278 students (15.5% of total respondents) chose 'strongly disagree', while 100 accounting students (36% of total respondents) selected 'disagree'. It shows that 143 students of the 278 respondents were not exposed to online learning platforms before Covid-19 in 2020, while 54 students chose 'neutral'. Furthermore, 63 accounting students selected 'agree' and 18 strongly agree. It showed that only 81 students out of 278 (29%) respondents had exposure to online learning systems. Thus, the responses showed that most students only engaged with online learning platforms at a higher education institution (HEI). It supports the contention that online learning can be effective if students experience the technological platform in the correct way (Calvo *et al.* 2010). The highest responses indicated a combination of 'strongly disagree' and 'disagree' (51.5%, meaning lack of exposure to learning platforms before Covid-19. Considering Figure 13, the Fourth industrial revolution (4IR) in the 21st century, students should be exposed to online learning technologies as early as primary school (Buelow, Barry and Rich 2018).

As per Annexure D, table 2, there is a weak positive correlation between age and familiarity with online platforms before COVID (rho = .119, p=.047); and remote (home or residence) being a conducive place to study (rho = .157, p=.009). In each case, older students showed more agreement than younger students.

Table 4.2 below shows these frequencies (%) with results from the following analysis.

Table 4.2 - Summary of Frequencies

Item	Responses as Frequency (%)					n	Mean (SD)	t	df	p-value
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree					
I was familiar with technological learning platforms (Moodle and MS Teams) for learning and assessments before Covid-19 (23 March 2020).	43 (15.5)	100 (36.0)	54 (19.4)	63 (22.7)	18 (6.5)	278	2.69 (1.171)	-4.456	277	<.001*
I have adequate computer skills to be able to use technological learning platforms effectively and efficiently	5 (1.8)	8 (2.9)	63 (22.7)	127 (45.7)	75 (27.0)	278	3.93 (0.878)	17.685	277	<.001*
I have basic computer knowledge (how to put a computer on and off, primary Microsoft office usage)	7 (2.5)	6 (2.2)	19 (6.8)	119 (42.8)	127 (45.7)	278	4.27 (0.876)	24.157	277	<.001*

Indicates significance at 95% level

One-sample t-test (Table 4.2) tests for significant agreement/disagreement with the statements. A p-value of .000 is very small and reported as p<.001. Thus,

- 'I was familiar with technological learning platforms (Moodle and MS Teams) for learning and assessments before Covid-19(23 March 2020)' showed a mean score of 2.69, indicating a significant disagreement.

- ‘I have adequate computer skills to be able to use technological learning platforms effectively and efficiently, with a mean score of 3.93 indicating a significant disagreement
- ‘I have basic computer knowledge (how to put a computer on and off, basic Microsoft office usage)’ with a mean score of 4.27 indicated a significant disagreement.

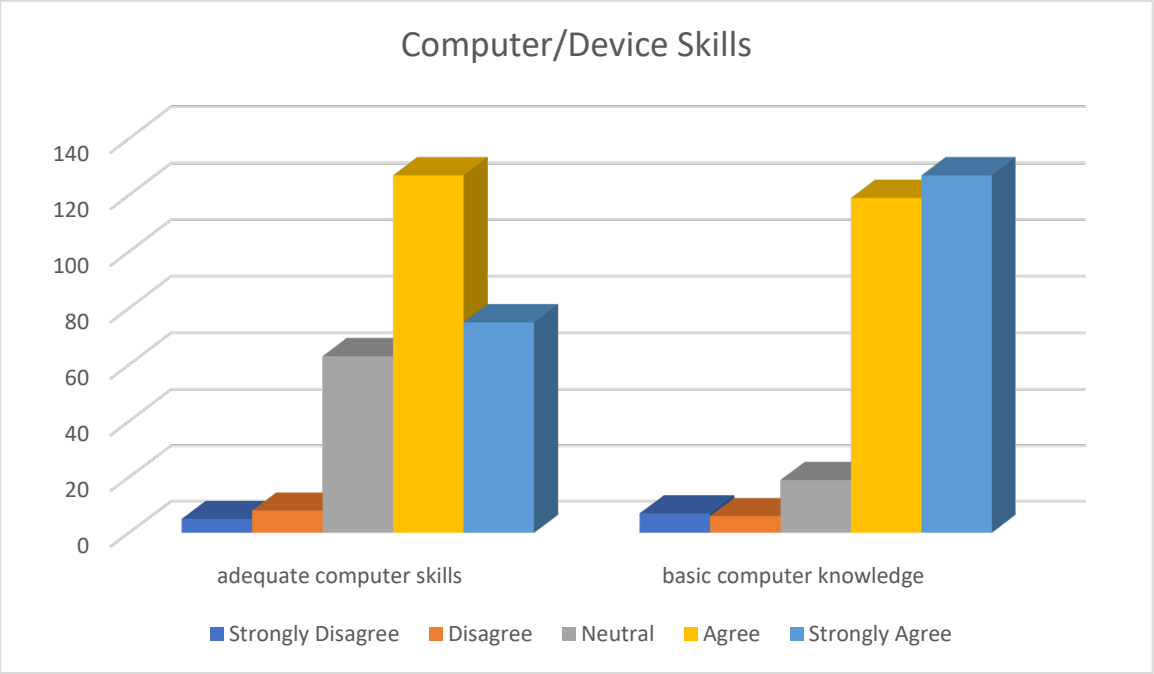


Figure 14 -Computer/ Device Skills

Figure 14 illustrates the relationship between adequate computer/device skills to use online learning platforms and basic knowledge of the operation of a computer/device. One hundred twenty-seven accounting students responded with ‘agree’ (46%), and 75 accounting students responded with ‘strongly agree’, amounting to 27%. It shows that most students have the learning skills to navigate online learning platforms. In addition, 119 accounting (43%) students responded with ‘agree’, and 127 (46%) accounting students strongly agreed’ on whether they had basic skills to operate a device/computer. It shows that students are very comfortable with using their devices (mobile phones, laptops, tablets, etc.). Further, the above shows that students can improve their navigation and competency in online learning platforms.

4.4.2 The effectiveness of online learning systems

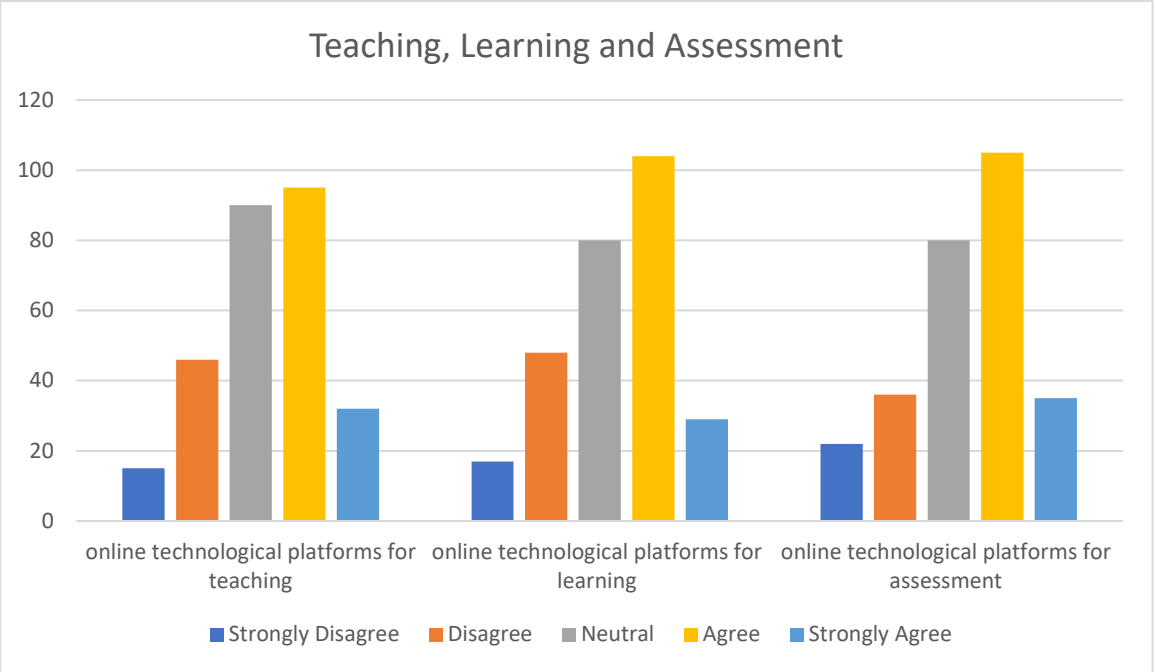


Figure 15 - Teaching, Learning and Assessment

Figure 15 depicts a relationship between online technological teaching, learning and Assessment platforms. The researcher asked accounting students if using technological platforms effectively taught Financial Accounting III. The 90 accounting students (32%) remained neutral, and 95 accounting students (34%) agreed. It indicates that respondents are comfortable with using technological platforms to learn. However, the flexibility of accessing lectures and course material could be influential (Alruwais, Wills and Wald 2018).

When the researcher asked accounting students if online technological platforms were effective for learning Financial Accounting III. 80 (29%) students responded with 'neutral', and 104 (37%) accounting students responded with 'agree'. 'Agree' indicates that accounting students are satisfied with learning using online technological platforms. With technology leading many day-to-day tasks, education or learning is no different. Learning through a technology platform is now becoming part of everyday life. Therefore students are more likely to want to know online (Mukhtar *et al.* 2020).

The researcher asked accounting how effective online technological platforms were for assessments. Thus 80 accounting students responded with 'neutral' while 104 accounting students with 'agree'. It shows that accounting students are content with online assessments and willing to continue with them. However, the security risk, quality and preparedness of the student may question (Baldwin and Trespalacios 2017). The chart above shows accounting students' have 'neutral' to 'agreed' feedback on the effectiveness of online technological platforms used for teaching, learning and Assessment.

Thus, as per annexure D, Table 3;

- There is a significant difference in agreement that using technological systems is effective in teaching Financial Accounting, F (3; 274) = 3.688, p=.012. In addition, post hoc analysis using Tukey's test shows that Diploma of Accounting students agrees significantly more than Diploma in Cost and Management Accounting students, p=.016.
- There is a significant difference in agreement that using technological; systems is effective in the teaching of financial accounting, F (3; 274) = 2.840, p=.038. Test analysis using Games-Howell shows that Diploma of Internal Auditing students agree significantly more than Diploma in Cost and Management Accounting students, p=.012.
- There is a significant difference in agreement that using technological; systems is effective in the teaching of financial accounting, F (3; 274) = 2.671, p=.048. Post hoc analysis using Tukey's test shows that Diploma of Accounting students agree significantly more than Diploma in Cost and Management Accounting students, p=.033.
- There is a significant difference in agreement that using technological; systems is effective in the teaching of financial accounting, F (3; 274) = 5.387, p=.001. Test analysis using Games-Howell shows that Diploma of Taxation students agree significantly more than Diploma in Cost and Management Accounting students, p=.025.

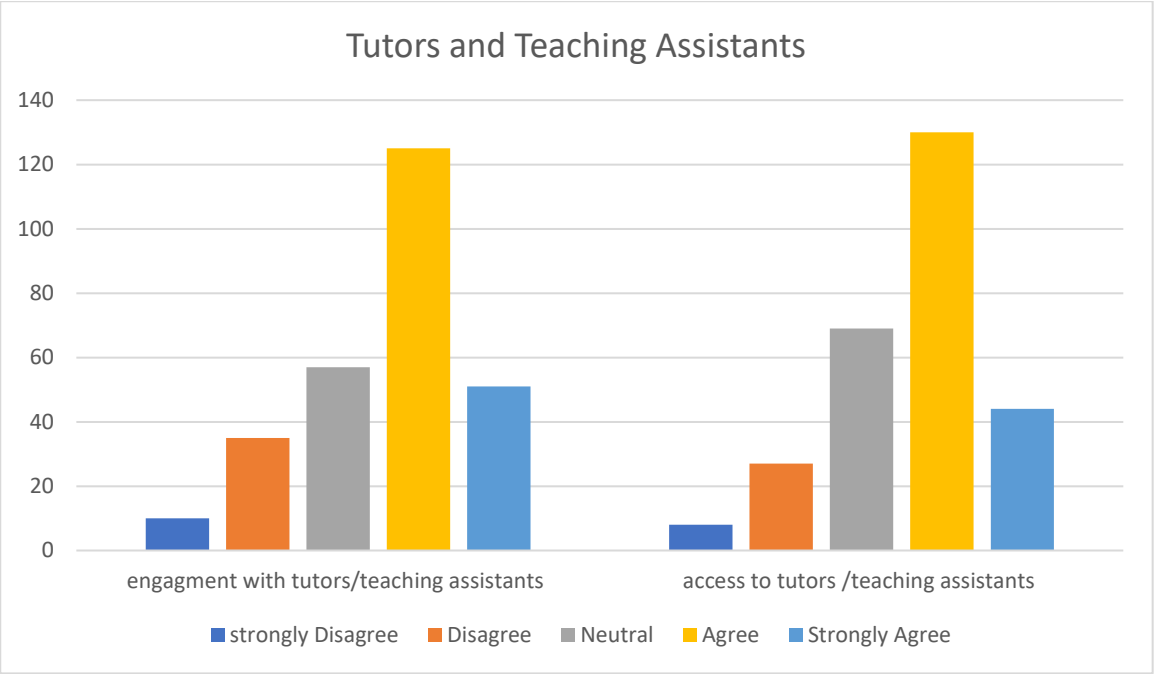


Figure 16 -Tutorials/ Teaching Assistants

Figure 16 shows the relationship between accounting students with tutors and teaching assistants. The researcher asked accounting students if online technological platforms are effective for engagements with tutors or teaching assistants. So, 170 accounting students responded with 'agreed' and 'Strongly Agreed'. Agree reflected the highest response of 45%. It indicates that students engage easily with their tutors via a technological platform. It is encouraging as students have no issue using technological platforms (Khan *et al.* 2017).

The researcher also asked accounting students if online technological platforms effectively access tutors and teaching assistants. One hundred thirty accounting students responded with 'agree'. It was the highest response from 46.8% of the total cohort. Thus, students have easy access to teaching assistants and tutors via a technological platform, reflecting that the current learning platforms for engagement and access are sufficient (Delaney, Kummer and Singh 2019). The above showed that accounting students agree that online technological platforms are adequate for access to tutors and teaching assistants. Using online platforms eliminates the limitations of venue restrictions for tutorials. In addition, access to tutors is much simpler, as contact is simply through the technological platform, accessible on several devices, including a smartphone.

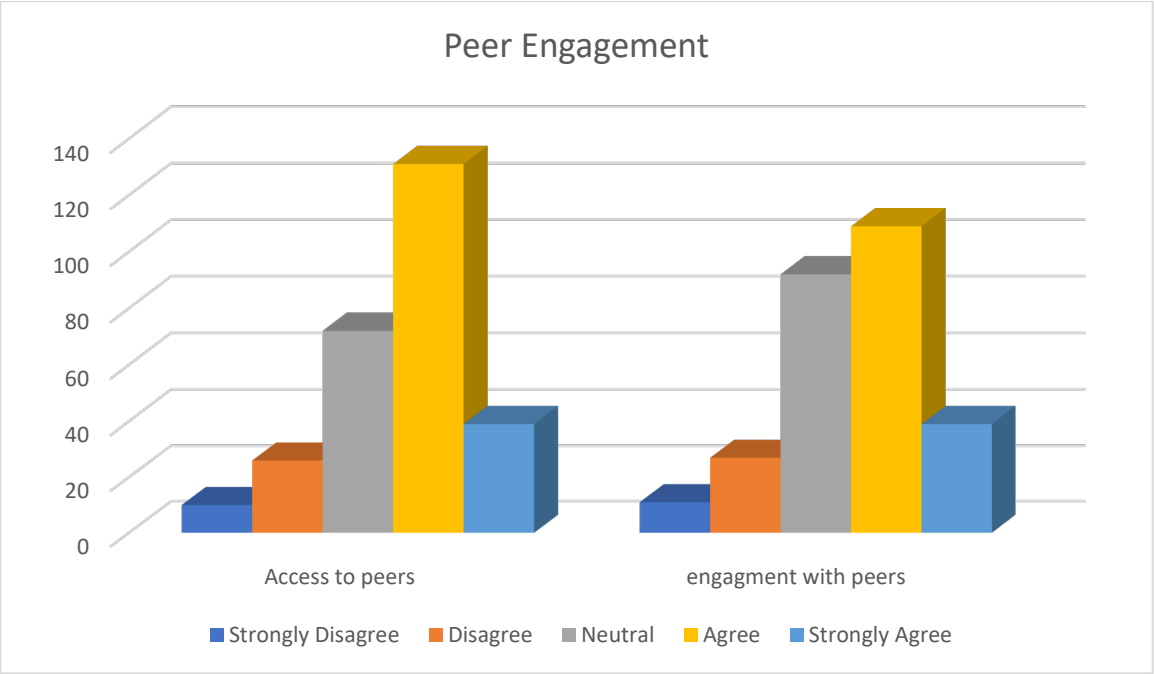


Figure 17 - Peer Engagement

The above (Figure 17) showed the relationship between peers and online technological platforms. The researcher asked accounting students if online technological platforms are an effective means to access their peers. Hence, 72 respondents responded with 'neutral', and 131 responded with 'agree' 47.1%. It indicates that most students gain access to their peers through online technological platforms. Students gain access to their peers through technological platforms as COVID restrictions pre-empt physical gatherings or meetings, and the findings indicate that current technological platforms are sufficient (Nor and Kasim 2015).

The researcher asked accounting students if online technological platforms effectively engage and exchange information or ideas with their peers. The highest responses were 92 accounting students responding with 'neutral' and 109 with 'agree'. The highest percentage of 39.2% was 'agreed'. Accounting students gain access to and engage with their peers through online technological platforms (Kintu and Zhu 2016).

Table 4.3 - One-Sample Statistic Table

	N	Mean	Std. Deviation	Std. Error Mean
3.1 Using online technological platforms is effective for teaching financial accounting	278	3.30	1.048	.063
3.2 Using online technological platforms is effective for learning financial accounting	278	3.29	1.063	.064
3.3 Using online technological platforms is effective for assessments in financial accounting	278	3.34	1.102	.066
3.4 Online engagement with teaching assistants/ tutors is effective	278	3.62	1.036	.062
3.5 Using online platforms to access teaching assistants/tutors is effective	278	3.63	.959	.058
3.6 Using online platforms(such as Moodle and MsTeams) to gain access to my peers (i.e. fellow students) is effective	278	3.59	.964	.058
3.7 Engaging and exchanging information or ideas with my peers is effective with Moodle and MS Teams	278	3.50	.983	.059

Table 4.3 showed significant results expressed as follows

- 'Online engagement with teaching assistants/ tutors is effective' showed a mean score of 3.62, indicating considerable disagreement.
- 'Using online platforms to access teaching assistants/tutors is effective' showed a mean score of 3.63, which indicates a significant disagreement
- 'Using online platforms(such as Moodle and MsTeams) to gain access to my peers (i.e. fellow students) is effective' showed a mean score of 3.59, which indicates a significant disagreement

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
3.1 Using online technological platforms is effective for teaching financial accounting	4.750	277	.000	.299	.17	.42
3.2 Using online technological platforms is effective for learning financial accounting	4.514	277	.000	.288	.16	.41
3.3 Using online technological platforms is effective for assessments in financial accounting	5.169	277	.000	.342	.21	.47
3.4 Online engagement with teaching assistants/ tutors is effective	9.953	277	.000	.619	.50	.74
3.5 Using online platforms to access teaching assistants/tutors is effective	10.943	277	.000	.629	.52	.74
3.6 Using online platforms(such as Moodle and MsTeams) to gain access to my peers (i.e. fellow students) is effective	10.141	277	.000	.586	.47	.70
3.7 Engaging and exchanging information or ideas with my peers is effective with Moodle and MS Teams	8.422	277	.000	.496	.38	.61

Table 4.3 presented the statistical analysis of the mean utilising a one-sample t-test for the effectiveness of online learning systems exhibiting a p-value less than (< 0.05) for 7 out of 7 statements. Therefore, these results using the Likert scale 5-point rating revealed a

significant disagreement ($p < 0.05$) that student readiness for online learning systems, as reported below in descending order:

- Using online platforms to access teaching assistants/tutors is effective with significant disagreement (M = 3.36, SD 0.959), t (10.943) = 0.058 p = 0.000;
- Using online platforms (such as Moodle and MsTeams) to gain access to my peers (i.e. fellow students) is effective with significant disagreement (M = 3.59, SD 0.964), t (10.141) = 0.058 p = 0.000;
- Online engagement with teaching assistants/ tutors is effective with significant disagreement or (M = 3.62, SD 1.036), t (9.953) = 0.062 p = 0.000;
- Engaging and exchanging information or ideas with my peers is effective with Moodle and MS Teams with significant disagreement or (M = 3.50, SD 0.983), t (8.422) = 0.059 p = 0.000;
- Using online technological platforms is effective for assessments in financial accounting with significant disagreement (M = 3.34, SD 1.102), t (5.169) = 0.066 p = 0.000;
- Using online technological platforms is effective for teaching financial accounting with significant disagreement (M = 3.30, SD 1.048), t (4.750) = 0.063 p = 0.000;
- Using online technological platforms is effective for learning financial accounting with significant disagreement (M = 3.29, SD 1.063), t (4.514) = 0.064 p = 0.000;

Respectively, the results exhibited high t-value dimensions suggesting statistically significant results in the p-value. Thus, these results have shown a substantial disagreement with the student effectiveness of online learning systems. Student's surroundings for e.g. a desk or workspace should be taken into account when participating in an online classroom (Eder 2020).

4.5 Research Question Two

What are the challenges experienced by Financial Accounting III students in terms of the change to online curriculum delivery?

Students in HEIs did not have much time to prepare for the change, and many challenges and issues arose due to the emergency created by the Covid-19 pandemic (Ellis, Steadman, and Mao, 2020). Thus, Table 4.5.1. And 4.5.2 revealed the challenges and issues faced by Financial Accounting III students due to the change in HEI.

4.5.1 Challenges affecting Financial Accounting III students.

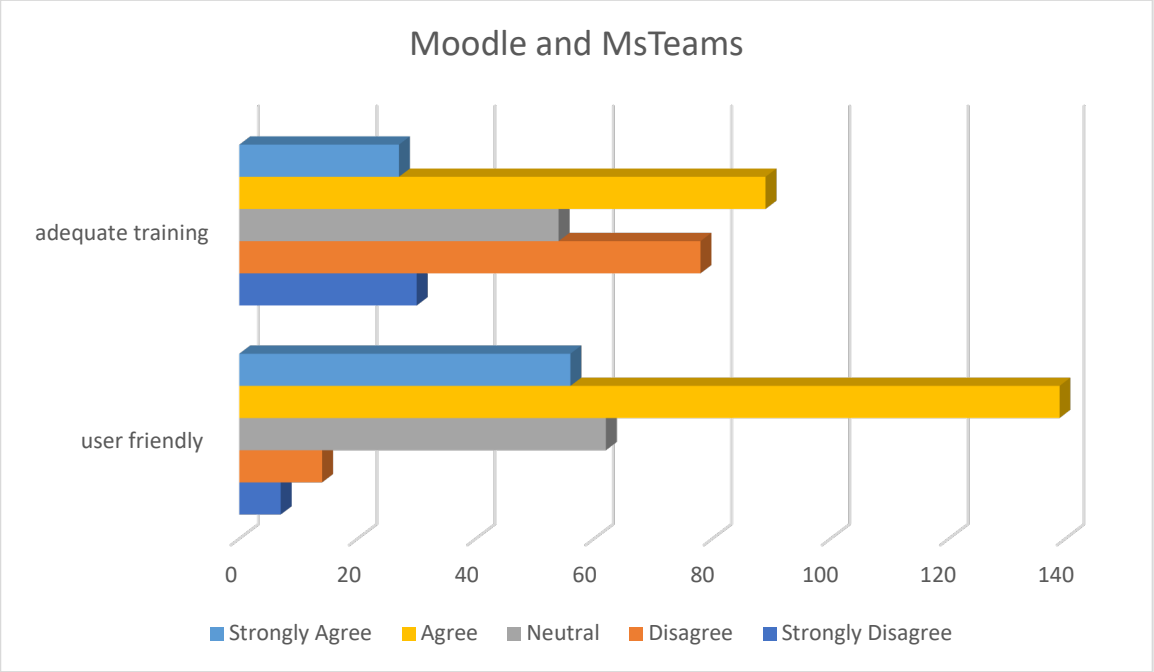


Figure 18 - Using Moodle and MS Teams

Figure 18 represents accounting students' relationship with the current online technological platforms used within Financial Accounting III. The researcher asked accounting students if using and navigating Moodle and MS Teams was easy. A very high number of 139 accounting students (50% of respondents) said that they agreed, indicating that Moodle and MS Teams are platforms which are easy to use and navigate. The researcher also asked accounting students if they had adequate Moodle and MS Teams training. The responses spread across the board from 'strongly disagree' to 'strongly agree', with the highest response of 89 (32%) respondents for 'agree', followed by 78 (28%) respondents for 'disagree'.

It indicates that not all Financial Accounting III students adjusted promptly. In addition, there was no guarantee that all students would attend training on using the technological platforms. It further implies that students may not have had adequate training, yet they learned how to use the system on their own as it was user-friendly (Eder 2020).

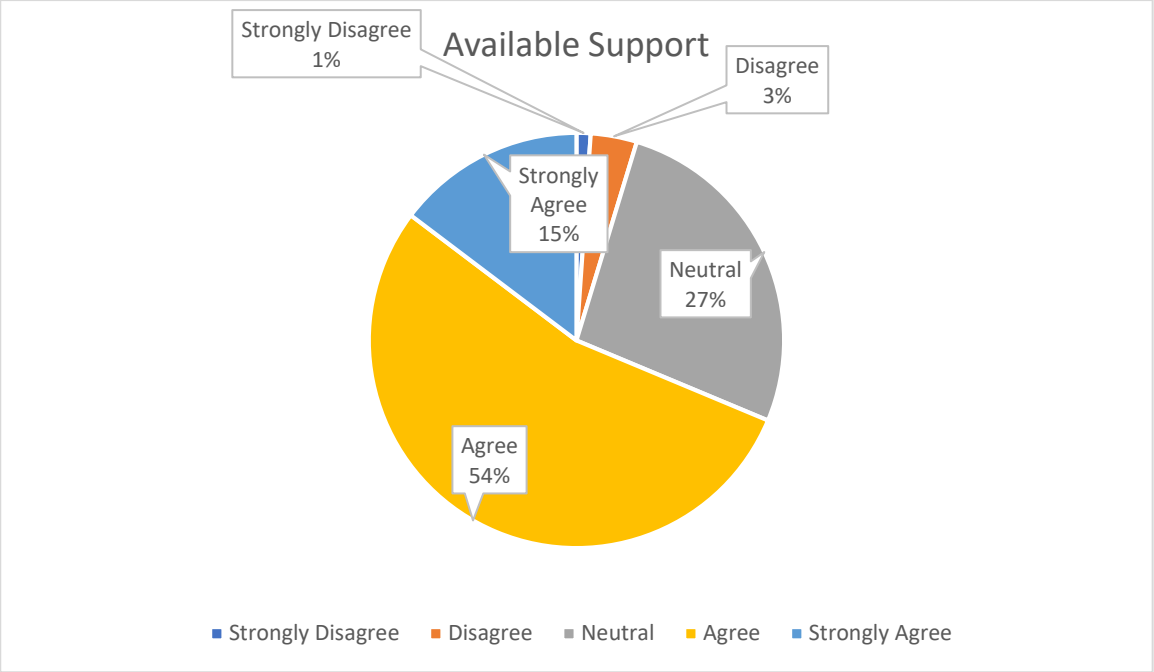


Figure 19 - Learning Management System Support

Figure 19 shows the level of agreement accounting students had with the: Support for Moodle and MS Teams is available to me at DUT, Durban. The highest level of response was favourable, with 54% with 'agree' and 14.7% with 'strongly agree'. 27% responded with 'neutral', while a mere 1.1% indicated 'strongly disagree' and 3.6% 'disagree'. It demonstrates that most accounting students know there is support for online platforms (Moodle and MS Teams). It further suggests that DUT provides support for students aware of the available support. Support for students when using an online system provided by the HEI is significant, as no student should be left behind due to a lack of exposure (Antonivska 2020).

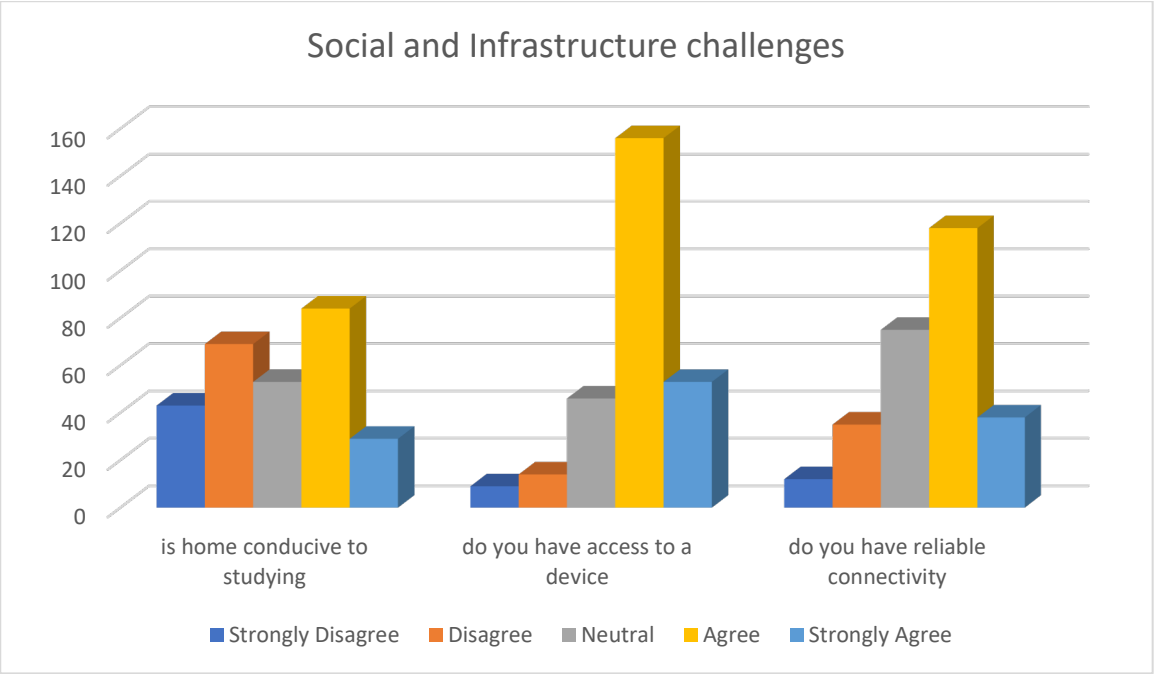


Figure 20 - Social and Infrastructure challenges

The above bar chart (Figure 22) depicts the relationship between social and structural challenges that accounting students face in response to the question: “Is home conducive to studying remotely?”

- The respondents were across all statements. However, the highest response was 84 accounting students selecting (30%) ‘Agree’, yet the second highest was 69 (25%) of accounting students disagreeing. It shows that students’ home circumstances vary greatly and that students come from different backgrounds and families. A student needs all the tools in the right environment to succeed; some students have an ambient climate while others do not (Talebian, Mohammadi and Rezvanfar 2014).
- The second question was: Do all accounting students have access to a device that will support all learning and assessment applications? A high peak of 156 accounting students (56%) agreed they had access to a reliable device. Technology and mobile devices are so standard in the 21st century that they have become cheaper as so many products are on the market. Most students have devices supporting their online technological learning platforms (Serhan 2020).

- The third question was: “Do you have reliable connectivity?” Most accounting students responded in the range of ‘neutral’, 75 respondents (30%) and ‘agree’, 118 respondents (42%). It shows that most students have access to connectivity or a network. Furthermore, it reflects that students have the essential tools to use technological learning platforms (Brasche and Harrington 2012).

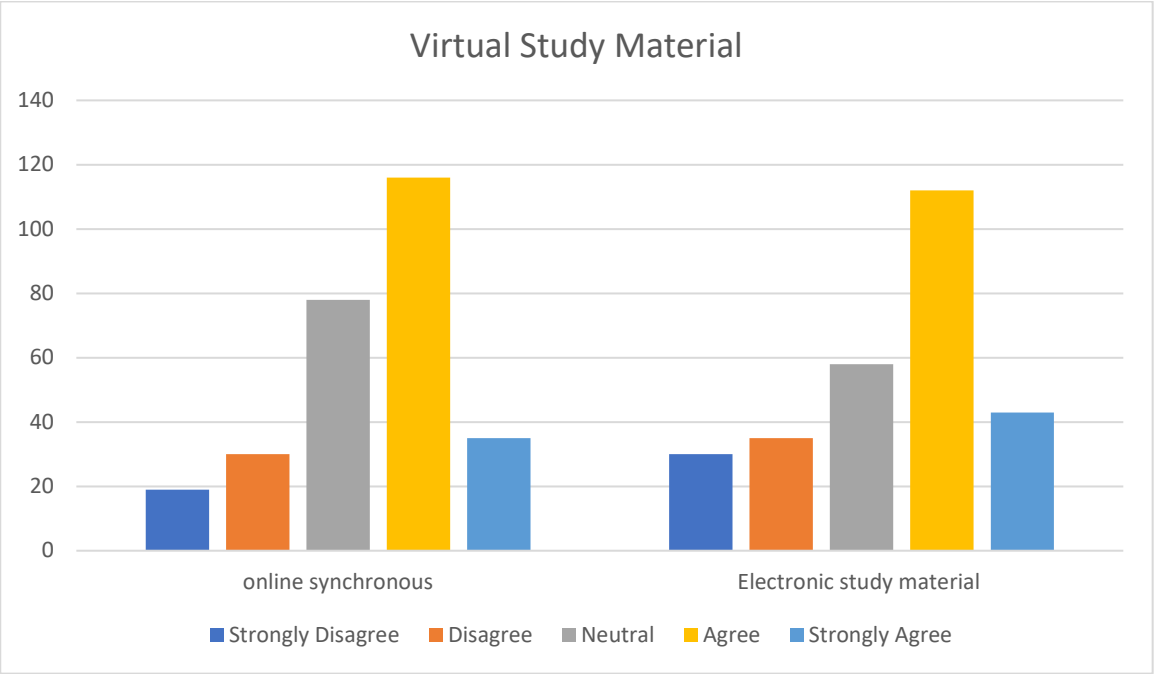


Figure 21 -Virtual Study Material

Figure 21 illustrates accounting students’ responses to virtual study materials on Moodle and MSTeams.

- The first question was whether online synchronous (live virtual) lectures and classrooms are suitable for Financial Accounting III. The highest level of response ranged between ‘neutral’ and ‘agree’. Thus, 116 accounting students responded (42%) with ‘agree’. It shows that Financial Accounting III students are satisfied with online interaction between themselves and online, live lecturers.
- The second question: ‘Do you find electronic study material useful?’ had a high ‘agree’ response of 112 respondents (40%), showing that students prefer using and finding ways of navigating all virtual study material. The change in course delivery

and the methods of interaction with course material had been adjusted, which students found helpful and easy to navigate (Chugh, Ledger and Shields 2017).

4.5.2 Factor loading

The researcher applied factor analysis with ProMax rotation to the seven items measuring the effectiveness of online systems. As per table 4.4, the study yielded a value of .849 for the Kaiser-Meyer-Olkin Measure of Sampling Adequacy statistic (KMO) and a significant Bartlett's test, thus confirming that reliable extraction has taken place. In addition, one factor, accounting for 60.89% of the variance, was extracted. This test strengthens the validity and reliability of this study.

Table 4.4 Factor loadings

	Factor
	1
3.6 Using online platforms (such as Moodle and MS Teams) to gain access to my peers (i.e., fellow students) is effective	.859
3.5 Using online platforms to access teaching assistants/tutors is effective	.843
3.1 Using online technological platforms is effective for teaching Financial Accounting	.800
3.2 Using online technological platforms is effective for learning Financial Accounting	.794
3.4 Online engagement with teaching assistants/ tutors is effective	.758
3.3 Using online technological platforms is effective for assessments in Financial Accounting	.731
3.7 Engaging and exchanging information or ideas with my peers is effective with Moodle and MS Teams	.659

As per table 4.4, this result confirms that construct validity, including convergent and discriminant validity, has been attained. Furthermore, a Cronbach's alpha value of .914 indicates that a composite measure formed by taking the average of the scores from the seven items is reliable. Table 4.4 shows the following analysis:

- Analysis of this composite measure shows significant agreement that, overall. Online learning systems (Moodle and MS Teams) are effective, $M = 3.47$, $p<.001$.

Table 4.5 - One-Sample Test for Challenges Affecting Financial Accounting III Students

					95% Confidence Interval of the Difference	
Challenges facing students	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Lower**	**Upper**
4.1 Moodle and MS Teams are easy to use for both learning and assessments	14.803	277	**.000**	.802	.70	.91
4.2 I was appropriately and adequately trained before Covid-19 on how to use Moodle and MS Teams.	.251	277	.802	.018	-.12	.16
4.3 Learning Management Systems support for Moodle and MS Team is available to me at DUT.	16.626	277	**.000**	.777	.68	.87
4.4 My home is conducive to studying remotely.	-.618	277	.537	-.047	-.20	.10
4.5 I have access to a device or devices which support my learning and assessment applications.	15.214	277	**.000**	.827	.72	.93
4.6 I have access to reliable connectivity (internet access) for learning and assessments.	7.948	277	**.000**	.486	.37	.61
4.7 Online synchronous (live virtual) lectures and classrooms are suited to financial accounting three modules.	6.669	277	**.000**	.424	.30	.55
4.8 I find electronic notes and textbooks used for learning and assessments easy to work with	5.135	277	**.000**	.371	.23	.51

Table 4.5 reflects the significant results. The above statements all indicate a vital agreement. However, two are considerable disagreement statements, 4.2 and 4.4. The two statements, which reflect a significant disagreement, show the issues students have been exposed to in Financial Accounting III. The researcher has highlighted the level of preparedness to adapt to curriculum delivery change and the level of home or residence conducive to learning. The above two statements (4.2 and 4.4) indicate factors which HEI influences. The HEI can improve the level of preparedness and home or residence conduciveness. The below is a summary of statements which reflected a p-value of 0.000 in descending order.

- Learning Management Systems support for Moodle and MS Team is available to me at DUT with significant disagreement, t = 16.626; p = 0.000.
- I have access to a device or devices which support my learning and assessment applications with significant disagreement, t = 15.214; p = 0.000.
- Moodle and MS Teams are easy to use for both learning and assessments with significant disagreement, t = 14.803; p = 0.000.
- I have access to reliable connectivity (internet access) for learning and assessments with significant disagreement, t = 7.948; p = 0.000.
- Online synchronous (live virtual) lectures and classrooms are suited to financial accounting three modules with significant disagreement, t = 6.669; p = 0.000.
- I find electronic notes and textbooks used for learning and assessments easy to work with, with significant disagreement, t = 5.135; p = 0.000.

Respectively, the results exhibited high t-value dimensions suggesting statistically significant results in the p-value. Thus, these results have shown a substantial disagreement with the student challenges faced using online learning systems. Student's feedback of challenges face with using online systems has indicated where improvements can be made. Improvements through interventions such as training and navigating online systems for assessments and access to module material (Ivanytska and Kern 2016).

4.6 Research Question Three

What must be done to enhance online curriculum delivery to promote Financial Accounting III students' learning and performance?

The change in curriculum delivery was rapid. Many students and academic staff did not have a choice but to now teach and learn through an online platform (Iglesias-Pradas *et al.* 2021). 4.6.1, 4.6.2 and 4.6.3 explores the preferred ways and scenarios in Financial Accounting III students wish to experience all TL&A in the future.

4.6.1 Preferred Scenarios for lecturers and assessments

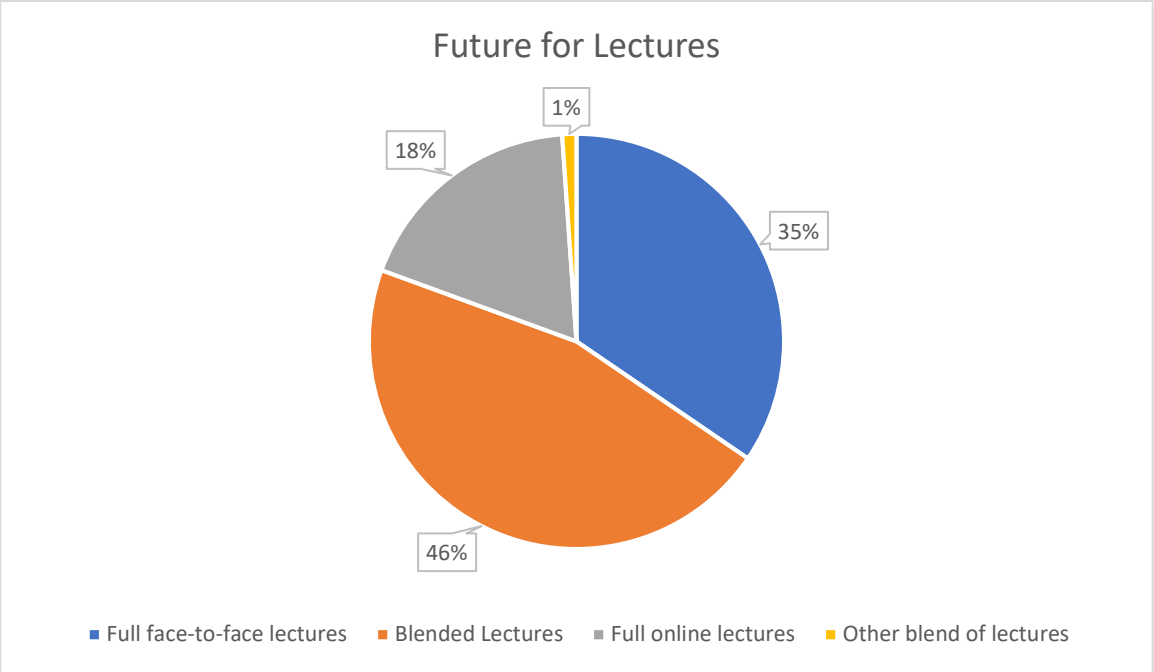


Figure 22 -The future of accounting lectures

Figure 22 shows the responses from 278 accounting students concerning the future of Financial Accounting III lectures. The question queried what students would prefer, with regards to the type of lectures they would receive, if Covid-19 were a non-influential factor. Interestingly, 46% of students opted for a blended approach. The second highest response was 35% for face-to-face lectures. While the third was 18% with fully online classes, and only 1% of accounting students preferred 'other blends' of courses. It indicates that accounting students prefer to have lessons in a blended approach yet lean toward face-to-face classes. The 1% who did respond with 'other blend' expressed that a mix of face-to-face lectures with online tutorials would be desirable to them. These also indicated that a lack of effort during classes had affected their study habits.

Table 4.6 - Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	28.327[a]	9	.001	.005		
Likelihood Ratio	35.196	9	.000	.000		
Fisher's Exact Test	31.173			.000		
Linear-by-Linear Association	.807[b]	1	.369	.399	.201	.031
N of Valid Cases	278					

There is a significant relationship between diploma courses and lecturing format preference, Fisher's exact = 31.173, p<.001. A considerable number of Diploma in Accounting students prefer full online lectures; Diploma in Cost and Management Accounting students prefer complete face-to-face or another blend, and Diploma in Internal Auditing students prefer some other blend.

There is a significant relationship between diploma programs and lecturing style preference, Fisher's exact = 31.173, p<.001. A considerable number of Diploma in Accounting students prefer full online lectures; Diploma in Cost and Management Accounting students prefer complete face-to-face or another blend, and Diploma in Internal Auditing students prefer some other blend. Students have shown their acceptance of online learning and prefer blended learning; however, they also lean towards a high level of face-to-face learning. It

indicates that students are evolving from traditional learning systems to blended or merging face-to-face and online learning systems (Kintu and Zhu 2016).

Table 4.7 - Preferred method of Teaching and Learning

	Observed N	Expected N	Residual
Full face-to-face lecturers (4 hours a week)	**96**	**69.5**	**26.5**
Blended lectures of 2 hours face-to-face and 2 hours online each week	**128**	**69.5**	**58.5**
Full online lectures (4 hours a week)	51	69.5	-18.5
Some other blend of lectures	3	69.5	-66.5

Table 4.7 shows a significant proportion of the students indicated that they would prefer either full face-to-face lectures (96 students – 34.5%) or blended lecturers (128 – 46%). These results indicate students' preference in their experience with teaching and learning, and Assessment.

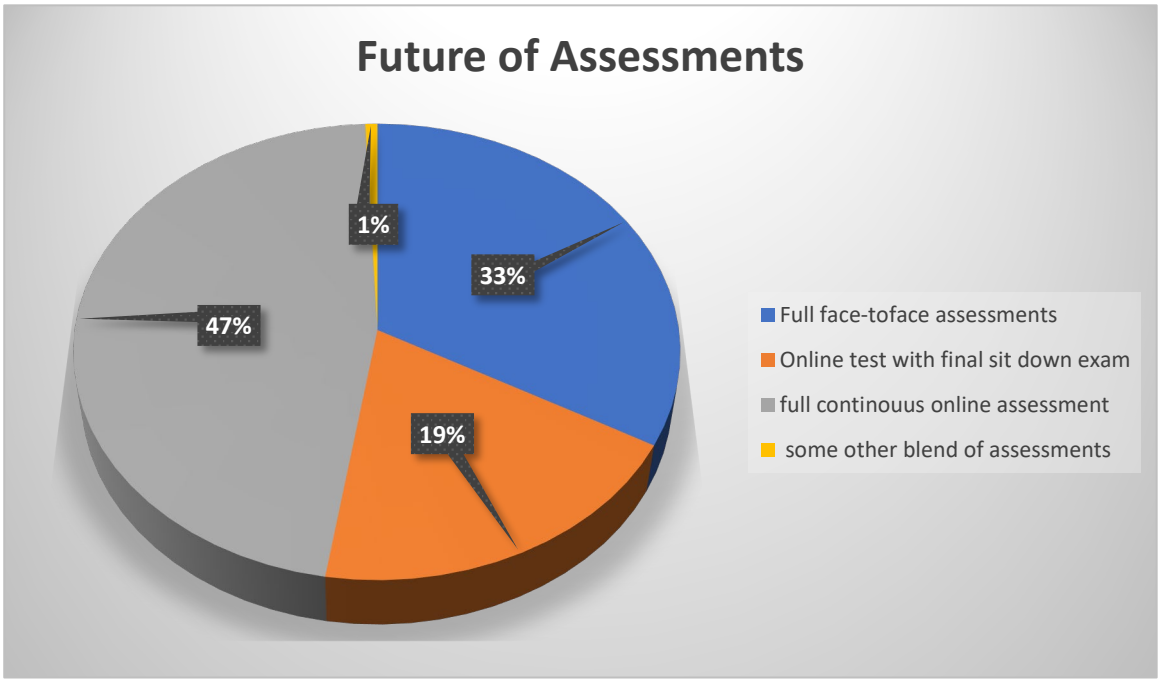


Figure 23 - Future of Assessment

The above illustration (Figure 23) shows the Financial Accounting III students' responses on how they would prefer to be tested/assessed in the future. The options that accounting students chose were as follows: Full face-to-face assessment (test and examination), online test with a final sit-down examination, continuous online Assessment, and some other blend. The highest response was 47% which represents full continuous Assessment. The second highest response of 33% was for complete face-to-face Assessments, followed by 19%, which represented online tests and a final sit-down exam. Finally, the 1% who responded to some other blended learning stated the following: the available time should determine which way is the best approach.

The two highest categories of the above question showed that students prefer continuous online and face-to-face assessments. These forms of Assessment are quite the opposite of each other. One preference shows the use of online pedagogy, while the other shows an appreciation for traditional pedagogy. As institutions change their approaches to LT&A, they can interchange both methods as long as academic staff allow all learning outcomes to be measurable (Baldwin and Trespalacios 2017).

Table 4.8 - Preferred method of Assessment

	Observed N	Expected N	Residual
Complete face-to-face assessments (tests and examinations) only	**92**	**69.5**	**22.5**
Online tests with a final sit-down examination in person on campus (a physical examination session)	54	69.5	-15.5
Complete continuous online assessments only	**130**	**69.5**	**60.5**
Some other blends of Assessment	2	69.5	-67.5
Total	278		

Table 4.8 shows that 92 students (33.1%) prefer face-to-face assessment only or full continuous online Assessment only (130 students – 46.8%). These results indicate the blend of online and face-to-face assessments.

4.6.2 Practices to improve learning

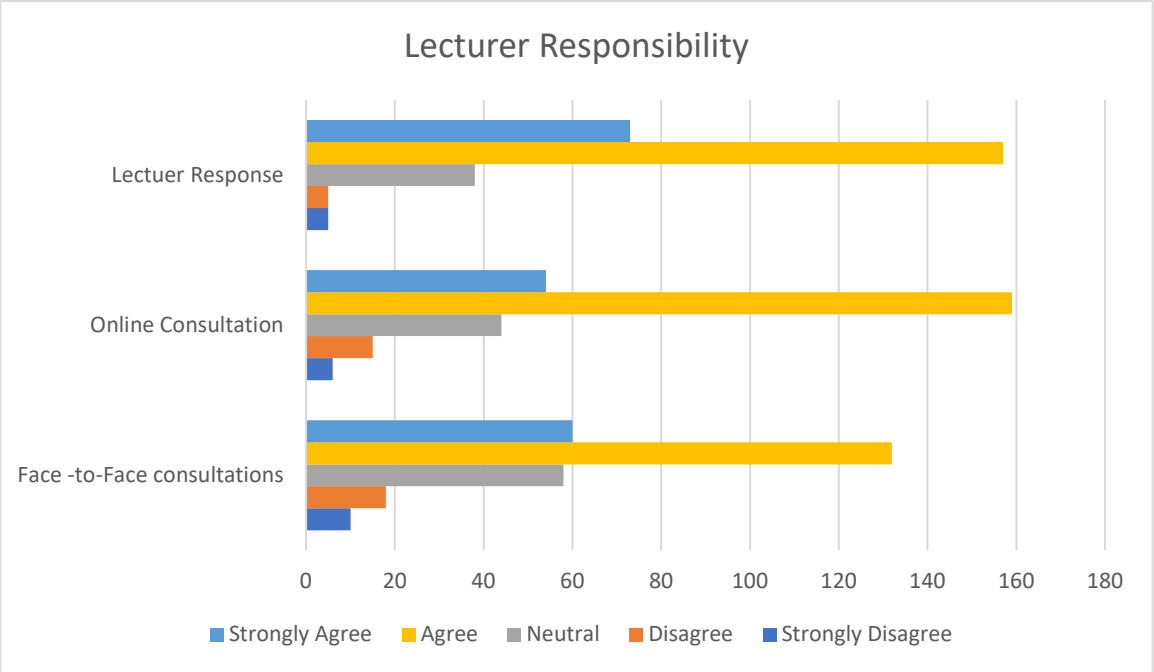


Figure 24 - Lecturers' Responsibility

Figure 24 represents the student's recommendations on strategies for improving academic practices.

- The first question of whether they would prefer Face-to-Face consultations had a very high response of 132 students agreeing (47%).
- 159 (57%) students agreed with the second question of whether students prefer online consultations. It shows that accounting students agree with either face-to-face or online consultations. The need of a student is to have a consultation period. Whether the consultation is online or face-to-face, students will be content.
- The third question was whether lecturers should improve on their response turnover time. Thus, 156 students responded (56%) with agreed. It shows students want feedback promptly. The turnover time from academic staff is to be improved to satisfy students and their queries with useful and directive information. It indicates that accounting students want more scheduled structured time with lectures (Arbaugh 2000).

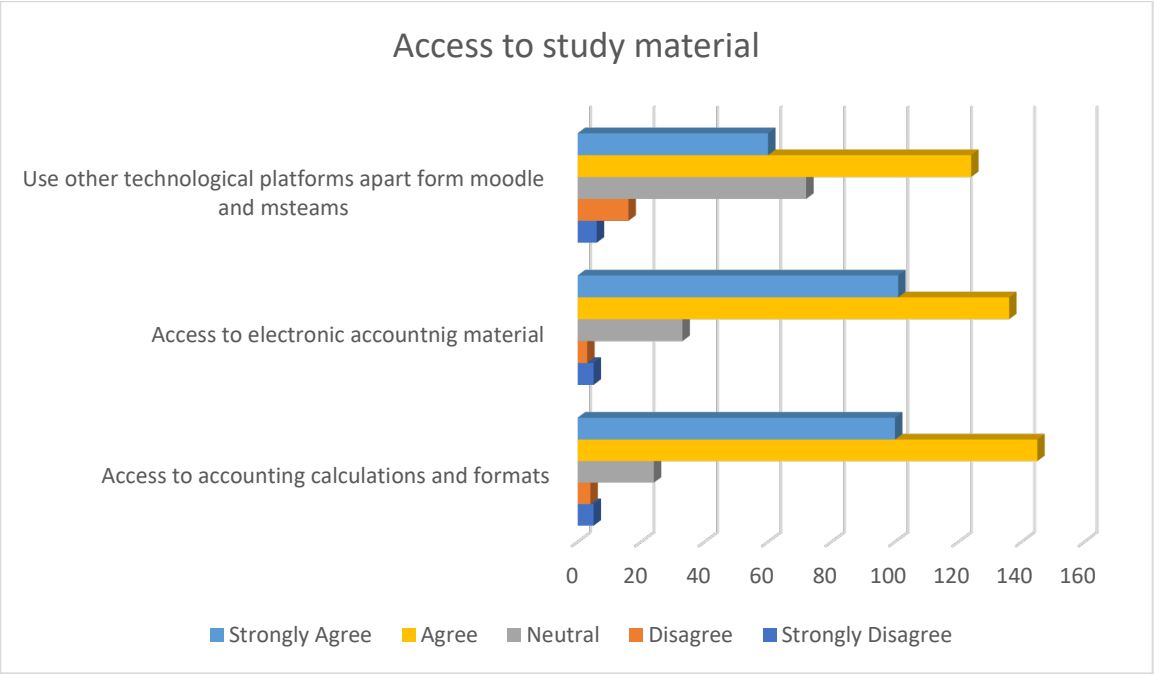


Figure 25 - Access to study material

The above bar chart (Figure 25) shows whether accounting students can access study material from the institution and outside parties such as YouTube, Google, etc.

The researcher asked accounting students if they had access to calculations and accounting formats. Very high respondents ranged between 'agree' and 'strongly agree'. It is strong evidence that most students do have access to calculations and formats for the accounting discipline.

The second question was: Do you have access to electronic accounting material? Again, 136 (49%) respondents responded with 'agreed', and 101 (36%) responded with 'strongly agree'. Accounting students can access notes, material, recordings, formats, and calculations.

The final question was regarding the use of other, more appropriate technological platforms apart from Moodle and MS Teams for Financial Accounting III". 72 (26%) respondents responded with 'neutral', 124 (45%) with 'agreed' and 60 (22%) with 'strongly agreed. Students want a more discipline-specific technological platform for learning. The high

percentage of agreeing points to students having access to material but still wanting it to be improved and taught on a discipline-specific platform (Traxler 2018).

Table 4.9 - One- Sample - Practices to improve online learning

Practices to improve online learning	One-Sample test			
	t	df	Sig. (2-tailed)	Mean Difference
7.1 Face-to-face consultations with lecturers at an allocated time	13.116	277	.000	.770
7.2 An online consultation with a lecturer at an allocated time	16.659	277	.000	.863
7.3 Improved response time from lecturers	21.692	277	.000	1.036
7.4 Being able to access links to different examples regarding accounting calculations and formats	24.984	277	.000	1.191
7.5 Being able to access electronic accounting material and online links	23.978	277	.000	1.169
7.6 Using other, more appropriate, technological platforms, apart from Moodle and MS Teams, for Financial Accounting 3	14.030	277	.000	.777

Table 4.9 presented the statistical analysis of the mean utilising a one-sample t-test for practices to improve online learning exhibiting a p-value less than (< 0.05) for 6 out of 6 statements. Therefore, these results using the Likert scale 5-point rating revealed a significant disagreement ($p < 0.05$) for practices to improve online learning, as reported below in descending order:

- Being able to access links to different examples regarding accounting calculations and formats with significant disagreement, $t = 24.984$; $p = 0.000$.
- Being able to access electronic accounting material and online links with significant disagreement, $t = 23.978$; $p = 0.000$.

- Improved response time from lecturers with significant disagreement, t = 21.692; p = 0.000. An online consultation with a lecturer at an allocated time with significant disagreement, t = 16.659; p = 0.000;
- Using other, more appropriate, technological platforms, apart from Moodle and MS Teams, for Financial Accounting III with significant disagreement, t =14.030; p = 0.000;
- Face-to-face consultations with lecturers at an allocated time with significant disagreement, t = 13.116; p = 0.000;

4.6.3 Impact of the shift to online learning platforms

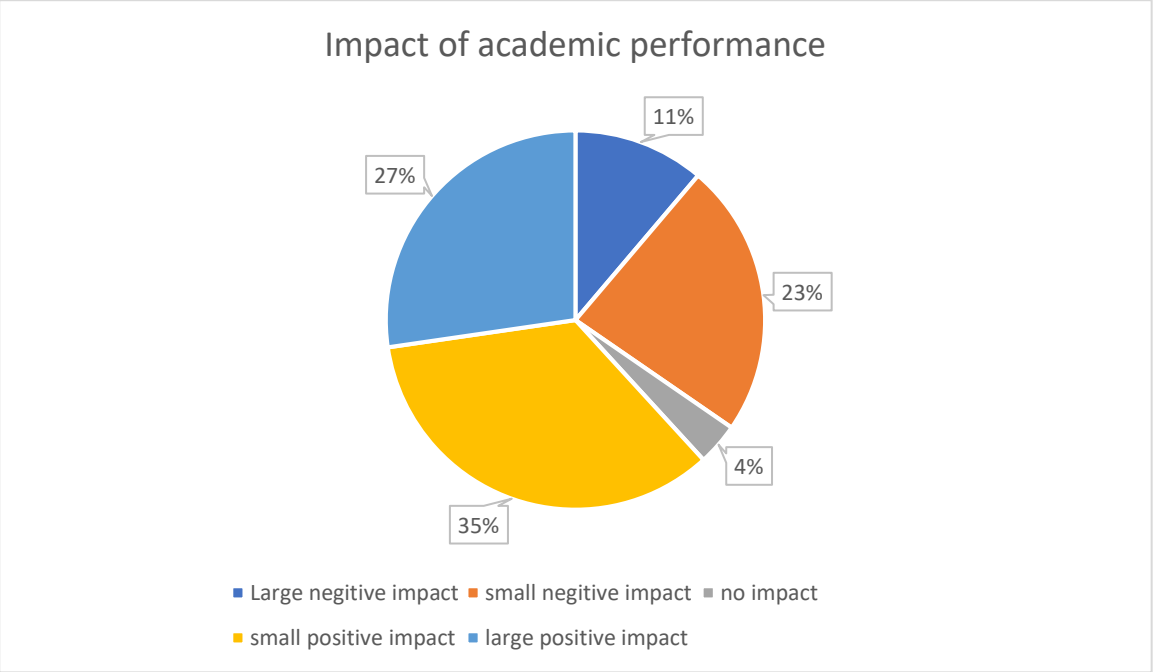


Figure 26 - Online teaching and learning impacting academic performance

The above figure (Figure 26) illustrates the impact of the change from physical to online learning on accounting students' performance. The highest response was 48%, representing a small positive impact. The second highest of 32% is a slightly negative impact. It demonstrates that some students feel that they benefit from an online system while others do not benefit from the system. The interaction between the instructional staff (sender), the channel of communication (online learning platform) and the student (receiver) has had a positive impact on student learning (Yli-Panula, Jeronen and Lemmetty 2020).

4.7 Open-ended question

The researcher asked accounting students for suggestions on improving their technological teaching and learning for Financial Accounting III. In the responses analysed, the following trends appeared:

4.7.1 WORD CLOUD

The researcher created a word cloud picture of words produced from a transcription analysed and used. As the term appears more frequently, the word becomes larger.

Word Cloud of All Themes

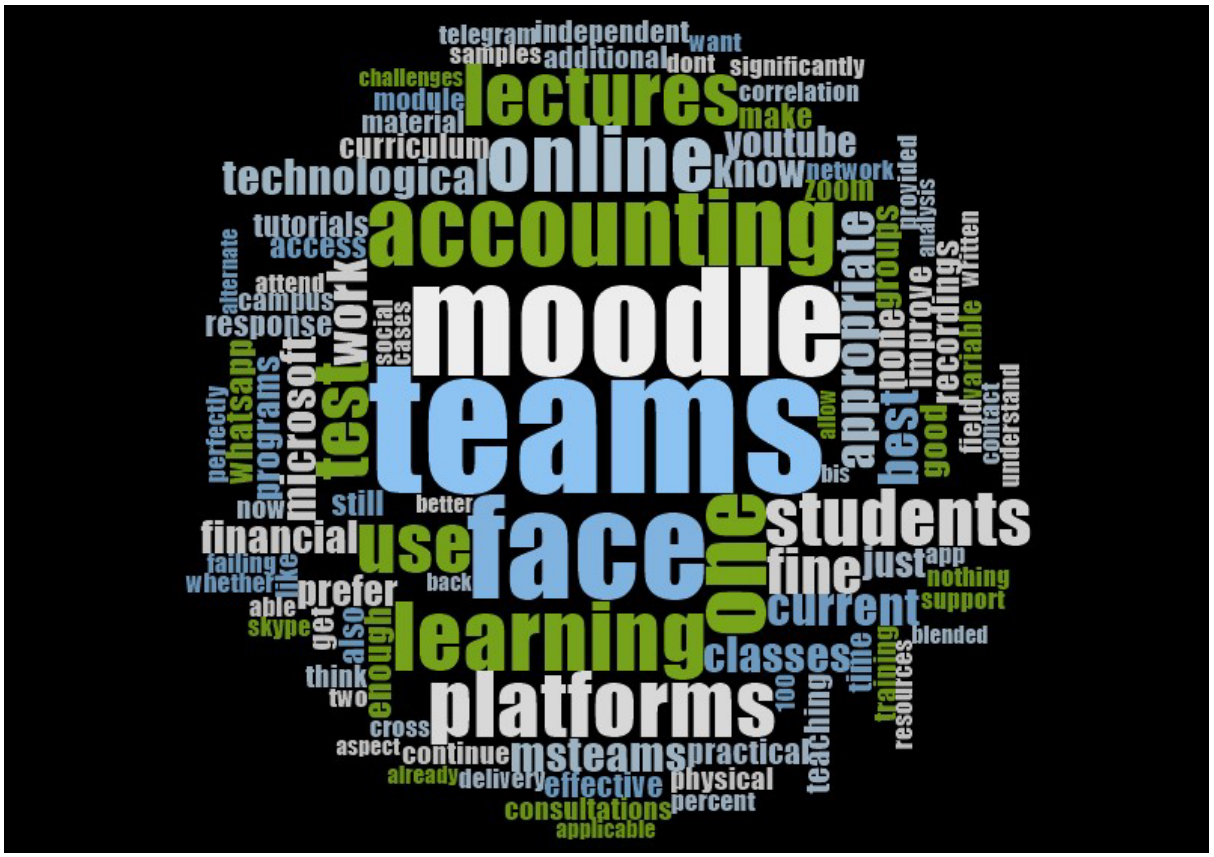


Figure 27 - Word Cloud for Question 9 (open-ended question)

Fundamentally, a word cloud can outline word frequency by the size of the word (Ramsden and Bate, 2008:1). The word cloud above shows the top 6 most frequent words. These word

lists include Moodle, teams, face-to-face, accounting, platforms, and online. It would support the analysis of themes within this study.

4.7.2 Treemap

Tree maps show the final components in a structure in an effective and compressed display. These constituents display as nodes, and the relationships are links from parent nodes (left-hand side) to child nodes (right-hand side) (Wijk and Watering,1999).

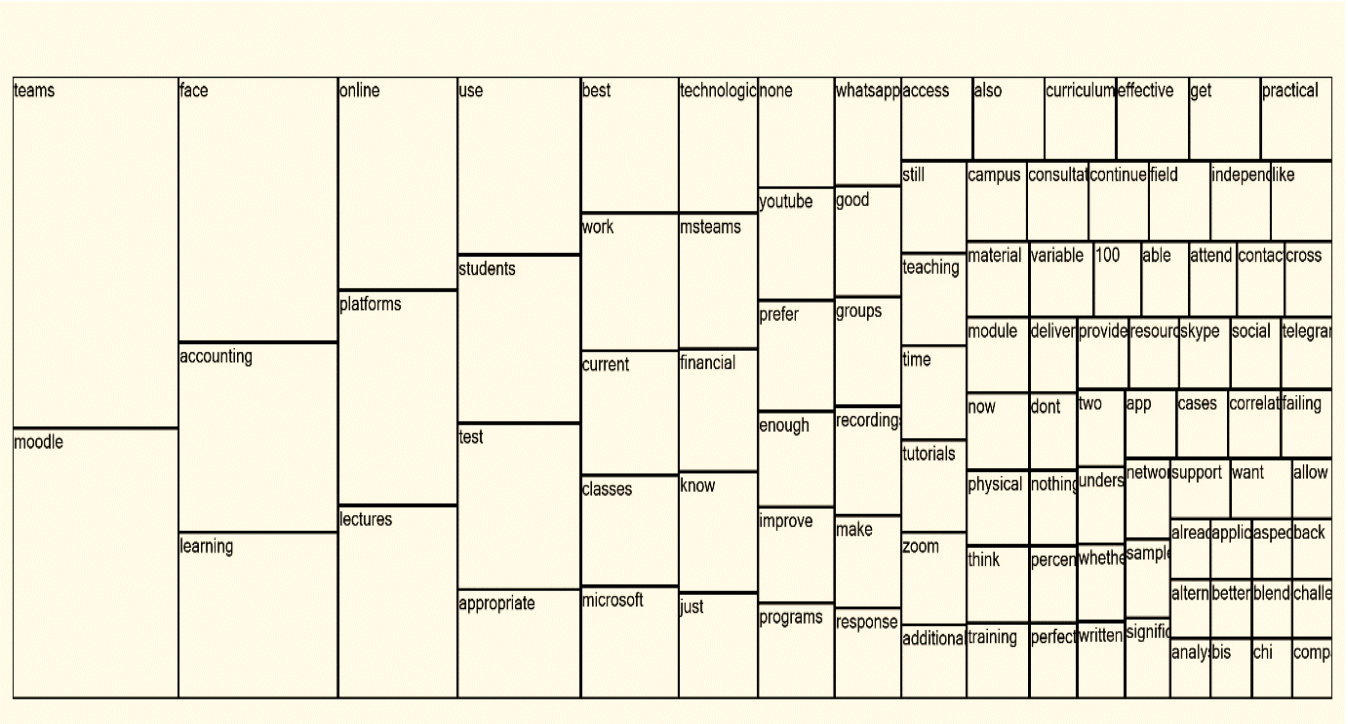


Figure 28 - Tree Map for Question 9 (open-ended question)

The above tree map shows the quantitative data's relationship from the parent nodes (Moodle and MS Teams) to the child nodes (participate, contact, allow, social, etc.). It shows the dimensional relationship between the technological systems, the delivery method, stakeholders within the system and students' experience

4.8 Application of theoretical framework to the research findings.

4.8.1 Task Technology Fit

Task technology fit is the use of specific technology for a particular task. The main job for many HEIs within South Africa during the Covid-19 pandemic was the competition of TL&A of the curriculum. Inputs and output of individuals attempting to complete the task of TL&A needed to be aligned (Yuce, Abubakar and Ilkan 2019). The alignment of users, with the correct technology selection, must fit. Users will likely reuse the technology if this fit is achieved (Yadegaridehkordi, Iahad and Ahmad 2014). Figure 13 indicates that 278 (100%) of respondents use the same technological platforms of all disciplines across the HEI. The two platforms were Moodle and MS Teams. While Figure 16 indicates that 34% of students responded with agreed and 32% responded with neutral, supporting the satisfaction of students with the technology used to complete the task. Figure 23 showed students found both Moodle and MS Teams appropriate and convenient not just for learning but also for assessments. It indicates that even though the technology used to complete the curriculum was not discipline specific to financial accounting, students still found the online systems used to be adequate for delivering the curriculum from March 2020 to July 2022.

4.8.2 Social Constructivism using the scaffolding approach

Many aspects of human society only exist through social agreement. The acknowledgement of social contracts for students within the community may bring to light elements that they experience daily, such as peer engagement, the ability to operate a smart device or computer or even access to supportive infrastructure (Hodson and Hodson 1998). A form of social constructivism is the theory of scaffolding, whereby students build on existing knowledge obtained from the past and develops and gains more experience within the subject content (Kim and Hannafin 2011). Figure 14 indicates that before Covid-19 majority of students, 51% (143 out of 278 respondents), were not exposed to any form of technological platforms yet were expected to transit from face-to-face TLA to online TLA. Figure 17 and 18 shows the relationship between tutors and students and peer engagement. The idea of tutorials and peer engagement is only relevant because of a social agreement between students and a tutor-to-student relationship. Thus, 46 8% (Figure 17) of students

agreed that the two platforms (Moe and MSTeams) were sufficient for contact and communication between tutors and students. In addition, 47 1% (Figure 18) indicated that peer engagement through technological platforms (Moodle and MSTeams) was satisfactory.

Figure 21 shows students' social and infrastructure challenges and supports which are available to them. 30% of respondents indicated their home or residents was conducive to study, 56% of students stated that they had access to a smart device, and 42% of respondents had access to a reliable source of connectivity. Therefore, Figure 21 suggests that the social and infrastructure available are working. However, there can be an improvement in homes or residential conduciveness and connectivity costs. Thus, the conclusion of social scaffolding is achieved in some respects yet not in others. The institution did not gradually ease many students into using technological platforms for TL&A. Students had to change due to an emergency and were not allowed to scaffold naturally.

CHAPTER FIVE
CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The researcher presented the findings of this study in the previous chapter. This chapter begins with an overview of the study, conclusions, and recommendations. Next, the analysis chapter focused on demographic data on the wants and shortfalls of Financial Accounting III students at Durban University of Technology, Durban, regarding online delivery of the Financial Accounting III module. Further, the study discusses students' needs. Next, it approaches how the Financial Accounting III module is delivered, interaction with instructors, the effectiveness of online delivery, and challenges faced by students experiencing online curriculum delivery of Financial Accounting III. Finally, the researcher states the limitations in administrating this study and possible future research. This chapter concludes with a summary of the contribution to further research.

5.2 Summary of the study

During the 21st century, the Fourth Industrial Revolution (4IR) has developed all aspects of typical day-to-day life. Education is no exception to the change that 4IR brings, with daily changes and technology rapidly growing in South Africa; however, students have faced many challenges arising from the shift (Martin *et al.* 2019). Students have different needs and feelings regarding the way the curriculum is delivered. This study explored online curriculum delivery which includes online technology, online teaching, online technological platforms and online engagement. The theoretical framework included in this study; Task Fit Technology, states one size does not fit all, which indicates the relationship between the task and the technology used to complete the task differs from user to user. This must be taken into account when choosing a technological fit. Many students feel the change was extremely rapid and that preparation for the change did not consider if a student would be left behind. Instead, it focused on the continuity of lessons with time loss as the primary concern. (Aguilera-Hermida 2020). The theoretical framework used in this study; Social Constructivism indicates the social and economic needs of students and how they adopt to

learning course material. The use of technological platforms should allow a student to scaffold their material knowledge. During the global pandemic, Covid-19, all HEI rapidly put into place online systems which covered all disciplines as an immediate response, as time was a factor in the change in curriculum delivery. Economic and government structures became the main reasons students struggle to keep up with online learning systems. Many students find even the simple task of obtaining connectivity and data an issue (Basdav 2016). Students have, however, benefited from online delivery systems, especially continuous assessments. According to the findings, blended or hybrid methods have been the most popular methods of TL&A for students. However, this raised issues regarding the quality of assessments and the proportion of Financial Accounting III online and face-to-face (Dhawan 2020). As the restrictions of the COVID-19 pandemic lift, there is an opportunity to correct the balance between traditional and online learning systems. Students want the curriculum not just to reflect International Financial Reporting Standards (IFRS) but to be done in a modern way with easy access to material and alternate resources guided by expert opinions, as well as to have the industry-influenced accounting systems as part of the curriculum where the technology fits the task (Goodhue, Lewis and Thompson 2012). Students feel that this gap most challenge them in the workforce.

5.3 Achievement of the research objectives and proposed model

This study set forth to determine the impact of online delivery on the accounting curriculum for Financial Accounting III students at DUT. The findings discussed the effectiveness of online delivery on students' learning, experience and challenges faced, and how to improve the current method they are learning. Furthermore, the researcher completed a survey exploring students' motivation, approach, and access to the Financial Accounting III module at DUT. Finally, the researcher provided conclusions in this regard for each research objective.

5.3.1 Objective 1: To determine the perceived effectiveness of the online delivery of the curriculum to support student learning.

This study found that respondents who experienced both face-to-face and online learning methods favoured the traditional face-to-face experience of TL&A. However, many students

preferred online teaching, learning and assessment (TLA), especially concerning evaluations. Respondents perceived that online delivery was effective to a limited extent. Students support students who use online systems; however, they prefer a traditional setting. Respondents strongly supported online methods for tutorials and assessment but wanted delivery of the curriculum face-to-face.

On the other hand, most respondents claimed that they enjoyed engaging with their peers, tutors and teaching assistants using the online learning system. Students found that as much as online learning systems are user-friendly, students did not receive enough online training and development, which created challenges in their initial utilisation of these online learning systems. Respondents did acknowledge that support for the online learning platforms in use (Moodle and MS Teams) was available to them. Still, the response rate and effectiveness of the permission were inadequate. A significant percentage (30%) of respondents acknowledged that their home environments were conducive to learning. Access to components (such as devices and connectivity) required to be effective within an online system was satisfactory. As per Table 4.3 of one sample test, the p-values for all 7 statements revealed $p = 0.000$ which was a significant disagreement that the online technology, platforms, and engagement (online curriculum delivery) was effective. However, this varied from household to household. Nevertheless, most students benefit from the flexibility and material of an online learning system. Thus, a hybrid teaching method was the most popular for the effectiveness of the accounting curriculum. The research question has been answered in Chapter 4.

5.3.2 Objective 2: To identify challenges experienced by students because of changing to online curriculum delivery.

The second research objective of this study was to identify challenges experienced by students when changing from face-to-face to online methods of TLA delivery. Respondents' challenges when changing to online curriculum delivery varied across all aspects of teaching, learning and assessments. The most significant challenge was to keep abreast of the different TLA changes for these FA three students. The paradigm shift from traditional to online learning due to Covid-19 was a real challenge. Using an online environment where learning, the main objective, was a significant method change of curriculum delivery.

Engagement with online learning platforms, academic staff and peers significantly impacted the student's ability to grasp concepts of the material presented to them. Students enjoyed easy access to peers and academic staff; however, they found the turnaround time of feedback from academic staff to be poor. As per Table 4.5 of one sample test, 6 out of 8 statements revealed a p value of p = 0.000 which was a significant disagreement that students had the appropriate level of preparedness for online classes, and conducive home connectivity, data etc. The infrastructure available to students was efficient for them to attend classes and write assessments. This infrastructure efficiency was achieved due to the flexibility of the online systems such as Moodle and MS Teams. Students would download or watch lectures asynchronously when data or Wi-Fi was accessible. Respondents showed that using the online learning system was not an issue as it was user-friendly; however, they were not well trained or sufficiently prepared to use the Moodle and MS Teams systems to their full potential. The research question has been answered in Chapter 4.

5.3.3 Objective 3: To establish online learning practices that are perceived to improve students' learning.

The study's findings reflect students' perceptions of how to improve online learning practices. Respondents perceived that online learning systems do work; however, only if all components, such as students and academic staff, are aligned. Academic staff should clarify their expectation from students concerning all TL&A activities. Academic staff should also be aware of the level of training and elements of the online learning systems to which a student is exposed. This level of understanding is vital for a smooth flow of information from academic staff to students. The blended learning system is the most popular, as students want an element of face-to-face TL&A. A combination of face-to-face classes and online tutorials was prevalent amongst respondents (46%). Respondents have shown support for continuous assessment, whether in contract or online. Respondents (47% for face-to-face consultations and 57% for online or virtual consultations) proposed that this would aid and support students significantly if lecturers conducted consultations. As per Table 4.9 of one sample test, all 6 statements have a p-value of 0.000 which revealed a significant disagreement that there were other established online practices to help students with online TLA. Respondents indicated both online and face-to-face consultations to be helpful.

However, they expressed the need for other sources of technological material such as accounting formats, calculations, and e-books. Respondents (48%) said that the impact on their academic performance since changing to an online curriculum was either slightly positive or negative. The research question has been answered in Chapter 4.

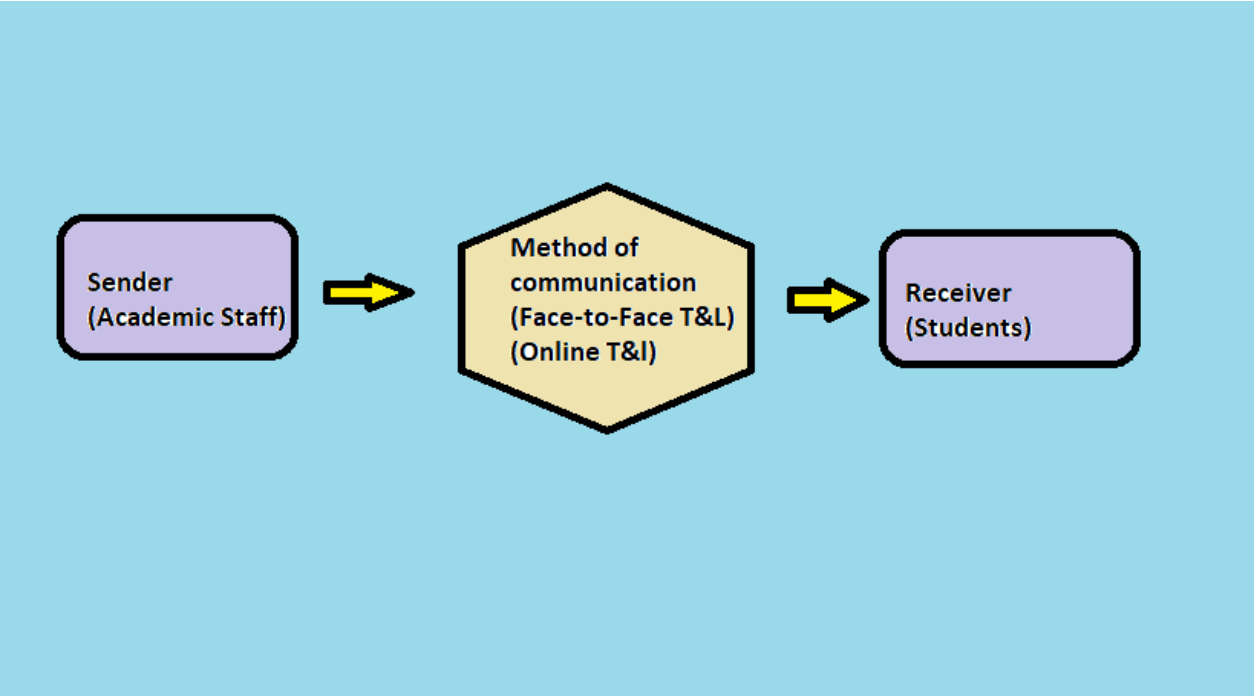
1.9.1 Summary of achievement of objective

The impact, effects, and challenges of online accounting curriculum delivery on the Financial Accounting III students for the Financial Accounting III module were explored, and the findings may be concluded as follows:

- Students found they were not adequately prepared for the transition of curriculum delivery, mainly from a lack of exposure
- Students were found to have basic computer skills and were ready for the change in curriculum delivery
- Many challenges were faced by students, mostly home or resident's conduciveness for TL&A
- Students would prefer a form of blended TL&A. This included the methods of lecturers and formats for assessments

5.3.4 Application of Model in relation to the research findings.

Three core components within the learning environment have a specific task or role to play.



Source: Researcher (Joshua, 2022)

Figure 29 - Stakeholders within the Learning Environment

These three core components of Figure 29 are the receiver, the method of communication and the sender. These stakeholders are individuals or a specific group in the learning environment to gain knowledge of a particular material/topic (Luo, Zhang and Qi 2017). The first component, the information receiver, is often referred to as the learner, student, or pupil. The second core component is the method of communication. The form of communication refers to the transfer of knowledge or a message from sender to receiver. Finally, the third component is the sender, which can be seen as the academic staff in the learning environment. In the learning environment, this may refer to online teaching and learning or face-to-face teaching and learning (Yli-Panula, Jeronen and Lemmetty 2020). These stakeholders are within the learning environment to transfer and send out information/knowledge of specific material/topics. (Rienties *et al.* 2016).

Figure 29 is a conceptual model of the relationship between the three core components (academics, T&L approaches, and students). Literature has shown that a relationship exists

between these variables. The study will examine whether these relationships are similar or dissimilar among third-year Financial Accounting students at the institution.

This Model has been adapted from a communications module. The communications model states three components for communication to be effective. The components consist of a sender, a means or medium of communication and a receiver (Yli-Panula, Jeronen and Lemmetty 2020). The concept of stakeholders within the learning environment refers to the components which create the environment.

When this concept is put into the HEI learning environment, it can be adapted to a sender, which is seen as academic staff, the medium, which is seen as the method of TL&A (face-to-face or online technological platforms) and the receiver, also seen as students (Rienties *et al.* 2016). For example, Figure 23 indicates that 46 % of students feel the medium they prefer to experience teaching and learning is a form of blended learning and 35% of students prefer face-to-face teaching and learning.

5.4 Recommendations

Based on the findings of this study, the researcher makes the following recommendations:

- Students prefer an aspect of both online and face-to-face delivery of the curriculum; however, it is evident that students want face-to-face TL&A. Therefore, having a combination of face-to-face teaching while keeping tutorials online is recommended.
- Devices such as tablets or laptops are to be loaned, and student data is provided for their studies. No student should be left behind due to social and economic limitations.
- An online accounting system or platform which is discipline-specific be adopted for accounting purposes as this should support students in the world of work.
- Academic staff should set face-to-face or online consultation times for students.
- For assessments to be face-to-face and online components (split of assessments, e.g., four assessments in total, two face-to-face and two using online technological platforms), and continuous assessment of remaining in place.
- The level of preparedness to adapt to curriculum delivery change and the level of home or residence conducive to learning have been highlighted. These are both

areas which may be improved by the institution, such as opening residents and hosting training and consultation periods for students.

5.5 Limitations

This study does have some limitations, as follows.

The sample was limited to only Financial Accounting III students at DUT, KZN. Although this is representative of the entire accounting sector at DUT, the findings shed light on understanding the impact of online accounting curriculum delivery on the Financial Accounting III students. Furthermore, the statistical analysis used was only descriptive and inferential, which supported the study's aim.

5.6 Areas for future research

This study has contributed to research on the impact of online delivery on Financial Accounting III students at DUT, Durban, primarily focusing on the effectiveness, challenges, and improvements of online learning systems. As the nature of research always gives rise to further questions, further investigation is recommended on:

- South Africa's utilisation of accounting learning systems for curriculum delivery,
- Review new accounting-specific online systems
- The use of online learning systems to their full potential if these are used
- Develop an online learning system which is specific to the financial accounting discipline

5.7 Contribution of the study

This study contributes to the literature in the field of accounting education and the relative importance of online TL&A systems in HEIs in South Africa. Few studies have been conducted in South Africa concerning this topic. Therefore, it is suggested that this study's findings could add value by assisting accounting academics, HEI and online system developers. The feedback is obtained from students using online curriculum delivery

methods in HEI. Their contribution significantly improves the quality of academic online technological platforms within the accounting field.

5.8 Conclusion

This study's conclusion discussed the literature concerning the l findings. It also provided recommendations on the impact online accounting curriculum delivery had on the Financial Accounting III students. This study overall found that students do not want limitations to TL&A. These students are generally technologically advanced compared to previous generations and have different ways of approaching learning and assessments. Therefore, an accounting discipline-specific programme for the online curriculum is vital as it directs students on what the industry expects of them. The exposure to discipline-specific programs allows for the most modern learning and assessment methods within the Fourth Industrial Revolution (4IR). This study variable was purely on Financial Accounting III students only so that a more profound understanding could be explored from a student-centeredness perspective. Students want to engage with academics, peers and academic support staff (tutors and teaching assistants), but the lack of feedback and turnover in responses was demotivating. In conclusion, the aim and the objectives of the study were achieved. The recommendations in this chapter represent some of the actions that can improve the learning experience for students with online accounting curriculum delivery at DUT.

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ANNEXURES

Annexure A – Gatekeepers Permission

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

20th August 2021
Ms Kim M Joshua
c/o Department of Financial Accounting
Faculty of Accounting and Informatics
Durban University of Technology

Dear Ms Joshua

PERMISSION TO CONDUCT RESEARCH AT THE DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research and Innovation Committee (IRIC) has granted **Full Permission** for you to conduct your research "The impact of online delivery of the Financial Accounting three curriculum: A student perspective at Durban University of Technology, Durban" at the Durban University of Technology.

The DUT may impose any other condition it deems appropriate in the circumstances having regard to nature and extent of access to and use of information requested.

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

Kindest regards.
Yours sincerely

_____
DR LINDA ZIKHONA LINGANISO
DIRECTOR: RESEARCH AND POSTGRADUATE SUPPORT DIRECTORATE

Annexure B – Sample of Questionnaire

SECTION A: BIOGRAPHICAL INFORMATION

Note: This study is ***ANONYMOUS***. A secure data base will capture your submission in order to maintain your anonymity.

INSTRUCTIONS TO RESPONDENTS:
Select the response that best applies to you

Section A: Biographic Information

1 Which of the following diplomas are you registered for?

Diploma in Accounting	Diploma in Cost and Management Accounting	Diploma in Internal Auditing	Diploma in Taxation

2 Your age category:

18 – 20 years	21 – 30 years	31 – 40 years	41years +

3 Your gender:

Male	Female

4 Is English your first language?

Yes	No

Section B: Online experience

Technological platforms for learning Financial Accounting 3

1 Do you use the same online learning platforms (MS Teams and Moodle) for all courses?

Yes	No

Readiness for online learning

2 Indicate your agreement or disagreement with the following statements:

		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
2.1	I was familiar with technological learning platforms (Moodle and MS Teams) for learning and assessments **before** Covid-19 (23 March 2020).					
2.2	I have adequate computer skills to be able to use technological learning platforms effectively and efficiently					
2.3	I have basic computer knowledge (how to put a computer on and off, basic Microsoft office usage)					

The effectiveness of online learning systems

3 Indicate your agreement or disagreement with the following statements:

		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
3.1	Using online technological platforms is effective for teaching financial accounting					
3.2	Using online technological platforms is effective for learning financial accounting					
3.3	Using online technological platforms is effective for assessments in financial accounting					
3.4	Online engagement with teaching assistants/ tutors is effective					
3.5	Using online platforms to access teaching assistants/tutors is effective					
3.6	Using online platforms(such as Moodle and MsTeams) to gain access to my peers (i.e. fellow students) is effective					
3.7	Engaging and exchanging information or ideas with my peers is effective with Moodle and MS Teams					

Challenges affecting financial accounting 3 students

4 Indicate your agreement or disagreement with the following statements:

		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
4.1	Moodle and MS Teams are easy to use for both learning and assessments.					
4.2	I was appropriately and adequately trained **prior to Covid-19** on how to use Moodle and MS Teams.					
4.3	Learning Management Systems support for Moodle and MS Team is available to me at DUT.					
4.4	My home is conducive to studying remotely.					
4.5	I have access to a device or devices which support my learning and assessment applications.					
4.6	I have access to reliable connectivity (internet access) for learning and assessments.					
4.7	Online synchronous (live virtual) lectures and classroom are suited to financial accounting 3 modules.					
4.8	I find electronic notes and text books used for learning and assessments easy to work with					

Factors to enhance online curriculum delivery for Financial Accounting 3

5 Which of the following scenarios would you like to see happening in the future regarding lectures, if it were possible and no COVID restrictions were necessary? (Select ONE option only) and give a reason for your answer.

Full face-to-face lecturers (4hours a week)	Blended lectures of 2 hours face-to-face and 2 hours online each week	Full online lectures (4 hours a week)	Some other blend of lectures

Reason: ……

5.1 If you selected 'some other blend of lectures', please detail which blend you would prefer.

_____

_____

6 Which form of assessment would you like to see happening in the future regarding lectures, if it were possible and no COVID restrictions were necessary? (Select ONE option only) and give a reason for your answer.

Full face-to-face assessments (tests and examination) only	Online tests with a final sit down examination in person on campus (a physical examination session)	Full continuous online assessments only	Some other blend of assessment

Reason: ……..

6.1 If you selected 'some other blend of assessment', please detail which blend you would prefer and give a reason for your answer.

_____

_____

7 Indicate your agreement or disagreement that the following practices may result in improved student learning if it remains an online process.

		Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
7.1	Face-to-face consultations with lecturers at an allocated time					

7.2	An online consultation with a lecturer at an allocated time					
7.3	Improved response time from lecturers					
7.4	Being able to access links to different 'examples' regarding accounting calculations and formats					
7.5	Being able to access electronic accounting material and online links					
7.6	Using other, more appropriate, technological platforms, apart from Moodle and MS Teams, for Financial Accounting 3					

8 Indicate the level of impact that the move to online teaching and learning has had on your academic performance:

Large negative impact	Small negative impact	No impact	Small positive impact	Large positive impact

9 What technological platform(s), if any, would you consider to be more appropriate for teaching and learning in the financial accounting field?

_____

_____

Thank you for your time and have a blessed day!!!

As this survey was converted to an E-Survey below is the link to the E-Survey
https://docs.google.com/forms/d/e/1FAIpQLScve4Vym0rUdlab5_E7d_q7LClulInUKN1Yhrm2ndeEWSo5DQ/viewform?usp=sf_link

Annexure C – Certificate of Ethical Training

TRREE

Zertifikat
Certificat
Certificado
Certificate

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants

Clinical Trials Centre
The University of Hong Kong

Certificat de formation - Training Certificate

Ce document atteste que - this document certifies that

Kim Mary Joshua

a complété avec succès - has successfully completed

Introduction to Research Ethics

du programme de formation TRREE en évaluation éthique de la recherche
of the TRREE training programme in research ethics evaluation

Release Date: 2021/08/11

Professeur Dominique Sprumont
Coordinateur TRREE Coordinator

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[REV : 20170310]

Annexure D – Additional Tables for Reference

1. The Correlation between gender and Online Learning Platforms

Table 1

	t-test for Equality of Means						
						95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
2.1 I was familiar with technological learning platforms (Moodle and MS Teams) for learning and assessments before Covid-19(23 March 2020).	2.561	276	.011	.376	.147	.087	.666
3.2 Using online technological platforms is effective for learning financial accounting	2.646	276	.009	.353	.133	.090	.615
3.3 Using online technological platforms is effective for assessments in financial accounting	2.304	276	.022	.319	.139	.047	.592
4.8 I find electronic notes and text books used for learning and assessments easy to work with	2.573	276	.011	.389	.151	.091	.686

2. The Correlation between age and Online Learning Platforms

Age – Spearman's correlation will be applied for these since age is an ordinal variable.

Table 2

Correlations

		2.1 I was familiar with technological learning platforms (Moodle and MS Teams) for learning and assessments before Covid-19(23 March 2020).	4.4 My home is conducive to studying remotely.
Spearman's rho 2. Your age category:	Correlation Coefficient	.119*	.157**
	Sig. (2-tailed)	.047	.009
	N	278	278

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

3. The Correlation between and within groups on the effectiveness of online learning platforms

Table 3

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
3.1 Using online technological platforms is effective for teaching financial accounting	Between Groups	11.807	3	3.936	3.688	.012
	Within Groups	292.412	274	1.067		
	Total	304.219	277			
3.6 Using online platforms(such as Moodle and MsTeams) to gain access to my peers (i.e. fellow students) is effective	Between Groups	7.763	3	2.588	2.840	.038
	Within Groups	249.665	274	.911		
	Total	257.428	277			
4.1 Moodle and MS Teams are easy to use for both learning and assessments	Between Groups	6.426	3	2.142	2.671	.048
	Within Groups	219.693	274	.802		
	Total	226.119	277			
7.2 An online consultation with a lecturer at an allocated time	Between Groups	11.519	3	3.840	5.387	.001
	Within Groups	195.287	274	.713		
	Total	206.806	277			

Annexure E – FREC Clearance

Faculty Research Office
Durban University of Technology
17 August 2021

Student: Kim Mary Joshua
Student Number: 21116030
Degree: M.ACC: Accounting
Email: 21116030@dut4life.ac.za
Supervisor: Dr Anrusha Bhana
Supervisor email: anrushab@dut.ac.za

Dear Miss Joshua
I am pleased to inform you that the Faculty Research Ethics Committee (FREC) following feedback from two reviewers, has granted preliminary permission for you to conduct your research 'The impact of online delivery of the Financial Accounting three curriculum: A student perspective at Durban University of Technology, Durban'.

When ethics approval is granted:
You are required to present the letter at your research site(s) for permission to gather data. Please also note that your research instruments must be accompanied by the letter of information and the letter of consent for each participant, as per your research proposal.

This ethics clearance is valid from the date of provisional approval on this letter for one year. A student must apply for recertification 3 months before the date of this expiry.

Recertification is required every year until after corrections are made, after examination, and the thesis is submitted to the Faculty Registrar.

A summary of your key research findings must be submitted to the FRC on completion of your studies.

Kindest regards.

Yours sincerely

Dr Mogiveny Rajkoomar

FREC Chair
Faculty of Accounting and Informatics
Durban University of Technology
Ritson Campus
Durban, South Africa
4001

Annexure F – Letter of information and Consent

Letter of information and Consent

LETTER OF INFORMATION

Dear Participant

I hope you are well and safe wishes, thank you for taking the time
to participate in this study.
You are invited to take part in the study titled: "The impact of online delivery of the Financial Accounting three curriculum: A student perspective at Durban University of Technology, Durban"

Principal Investigator/s/researcher: Kim Mary Joshua; Lecturer: Department of Financial Accounting at the Durban University of Technology (DUT); Master's Student: Department of Financial Accounting (DUT). Qualifications: B. Tech: Cost and Management Accounting (DUT)

Co-Investigator/s/supervisor/s: Dr Anrusha Bhana, PhD in Man. Science (DUT).

Brief Introduction and Purpose of the Study:

This study is promoted by the emergency change in the current manner which students are learning today due to the COVID-19 pandemic. The rapid change has left many questions particularly in the way in which Higher Institutions of Education practice teaching, learning and assessment in the 21st century. This study will be conducted in the Durban University of Technology, Durban, Ritson Campus. This Institution of Higher Education (DUT) consists of 6 faculties and one of these faculties is Accounting and Informatics. This study will focus on the accounting cluster (which consist of 3 departments) final year students. The objective of the study is to identify the effectiveness and challenges faces by students using the current virtual technologies used in the teaching, learning and assessment of financial accounting. To explore 3rd year students' perceptions towards accounting technologies in learning of financial accounting which will possibly benefit the learning of financial accounting. The study will use a quantitative questionnaire in a census study to understand the applicability of accounting technology in Financial Accounting course curriculum. This study will be focusing on the third year students as they are at an exist level and will now form part of the working force of South Africa and contribute towards the economy and the accounting industry.

Outline of the Procedures: A quantitative method will be used for the study. A self-administrated questionnaire containing closed-ended questions will be employed**.** The questionnaire will be administered to students who are registered for Financial Accounting 3 (Module one and Module two) which are part of the Diploma programme. A census approach study has been chosen for this study. Close-end questions will allow respondents to answer the 5- Likert scale questionnaire. The letter of information has ensured that the respondents are aware of the purpose of the study, so they have given consent to participate the study.

Risks or Discomforts to the Participant: There are no risks or discomfort to the participants. If any of the questions are found to be offensive or sensitive in nature, the participant may choose not to answer the question. The questionnaires will be done anonymously; hence, there would be no fear of retribution (See confidentiality section).

Benefits: The researcher will present this study at a conference, publish journal articles and it will be placed in the DUT library.

Reason/s why the Participant May Be Withdrawn from the Study: Participation in the study is voluntary and they are free to withdraw or terminate at any time.

Remuneration: Participants will not be subjected to any remuneration for taking part in the study.

Costs of the Study: Participants will not be expected to cover any costs relating to the study.

Confidentiality: The data obtained from participants will be kept confidential and only the researcher will have access to it. In addition, participant anonymity will be ensured by not revealing data that can potentially be traced back to them.

Research-related Injury: There will be no injury that is research related.

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

Please contact the researcher (Kim Joshua – 073 345 4068), my supervisor (Dr A. Bhana – 031-373 5628 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.

CONSENT

Statement of Agreement to Participate in the Research Study.

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

Full Name of Participant	**Date**	**Time**	**Signature**

I**, K.M Joshua** herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher	**Date**	**Signature**
Full Name of Witness (If applicable)	**Date**	**Signature**
Legal Guardian (If applicable)	**Date**	**Signature**

Please note the following:

Research details must be provided in a clear, simple and culturally appropriate manner and prospective participants should be helped to arrive at an informed decision by use of appropriate language (grade 10 level- use Flesch Reading Ease Scores on Microsoft Word), selecting of a non-threatening environment for interaction and the availability of peer counselling (Department of Health, 2004)

If the potential participant is unable to read/illiterate, then a right thumbprint is required and an impartial witness, who is literate and knows the participant e.g. parent, sibling, friend, pastor, etc. should verify in writing, duly signed that informed verbal consent was obtained (Department of Health, 2004).

If anyone makes a mistake completing this document e.g. a wrong date or spelling mistake, a new document has to be completed. The incomplete original document has to be kept in the participant's file and not thrown away, and copies thereof must be issued to the participant.

References:

Department of Health: 2004. *Ethics in Health Research: Principles, Structures and Processes*
http://www.doh.gov.za/docs/factsheets/guidelines/ethnics/

Department of Health. 2006. *South African Good Clinical Practice Guidelines*. 2nd Ed. Available at: http://www.nhrec.org.za/?page_id=14

Annexure G – Editors Certificate

209 Chester House,
Chester Road,
Rondebosch, 7700
Cape Town, South Africa.

Triedstone Consulting RC: 2020/429060/07

* Copyediting * Data Analysis * Market/Social Research * Digital Marketing

29 September 2022.

Editing Certificate

We certify that the thesis titled: ***The impact of online delivery on the Financial Accounting three Curriculum: A student perspective at Durban University of Technology (DUT)*** was proofread and edited for grammar, spelling, punctuation, and overall academic writing integrity. The editors ensured no alterations to the author's original intended meanings during the review. Furthermore, the editors tracked all recommendations and amendments with the Microsoft Word "Track Changes" feature. Therefore, the author had the option to accept or reject each change.

Thank you for the opportunity.

Sincerely,

Joseph Olusegun Adebayo, PhD.
Executive Director

Annexure H – Turnitin Report

The impact of online delivery on the Financial Accounting three curriculum: A student perspective at Durban University of Technology

by Kim Joshua

Submission date: 01-Nov-2022 04:40PM (UTC+0200)
Submission ID: 1919010434
File name: turnitin_2022_-_KIM_JOSHUA_THESIS_31_Oct_2022.docx (1.24M)
Word count: 25575
Character count: 144700

The impact of online delivery on the Financial Accounting three curriculum: A student perspective at Durban University of Technology

ORIGINALITY REPORT

13%	4%	2%	11%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Durban University of Technology Student Paper	8%
2	Submitted to CTI Education Group Student Paper	1%
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