

Screencast as a technology enhanced teaching tool at an Open Distance Learning
university in South Africa

by

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DECLARATION

I declare that **SCREENCAST AS A TECHNOLOGY ENHANCED TEACHING TOOL AT AN OPEN DISTANCE LEARNING UNIVERSITY IN SOUTH AFRICA** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

KY Twabu

Date

DEDICATION

I dedicate this work to my late grandparents, my parents Ndodiphela and Nobesuthu Mayekiso (née Magqo), siblings (Babalo and Zamandulo Mayekiso), nieces and nephews for their tireless efforts and educational inspiration to push me to the limit, even in difficult times. Lastly, I dedicate this dissertation to my husband Vuyolwethu and daughter Ubunzulu Imboyothando Twabu, whose immeasurable encouragement has helped me to make this study a reality.

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ABBREVIATIONS

AGSA	Auditor General South Africa
AUE4862	Applied Auditing
CA (SA)	Chartered Accountant South Africa
CAS	College of Accounting Sciences
CD	Compact disk
CEDU	College of Education
CHS	College of Human Sciences
Col	Community of Inquiry framework
COL	Commonwealth of Learning
CPD	Centre for Professional Development
CTA	Certificate in the Theory of Accounting
DE	Distance Education
DHET	Department of Higher Education and Training
DST	Department of Science and Technology
FAC4862_4864	Applied Financial Accounting 1
FAC4862_4864	Applied Financial Accounting 2
ICDE	International Council for Open and Distance Education
ICT	Information and communications technology
MAC4861_4862	Applied Management Accounting
MOOC	Massive Open Online Course
LMS	Learning management system
NeSPA	National e-Skills Plan of Action
ODL	Open distance Learning
ODeL	Open distance e-Learning
PC	Personal computers
PI	Practical inquiry
RPSC	Research Permission Sub-Committee
RSS	Rich Site Summary
SGB	School governing body

SMT	School management team
SVP	Sound, video and photography
TAX4861_4862	Applied Taxation 1 & 2
Unesco	United Nations Educational, Scientific and Cultural Organisation
UNISA	University of South Africa
US	United States of America
USB	Universal Serial Bus

ABSTRACT

The incorporation of information and communications technology into every sphere of life can neither be denied nor remain unnoticed. Be it for education, government, corporate or social purposes, information and communications technology usage has become a norm in the twenty-first century. In academia, which is the focus of this study, the University of South Africa offers screencasts as a technology-enhanced teaching tool in the College of Accounting Sciences. These screencasts form part of an e-learning initiative to improve the success rate among their students in the Certificate in the Theory of Accounting programme.

This phenomenological, qualitative research study employs a case study as a research design tool, employing the community of inquiry framework. Ten lecturer-participants were interviewed in this study. The aim was to determine how screencasts can be used as a technology-enhanced teaching tool at an open distance-learning university in South Africa. Accordingly, this study used semi-structured interviews and document analysis to collect the data. The research data were studied, analysed, explored and validated. The study's findings proved the validity and the practicability of this research. The findings indicate that screencasting at the university is in its beginning phase and that lecturers make use of the learning management system (myUnisa) to upload screencasts. Although making the screencasts is time consuming, lecturers report on the positive feedback received from students concerning the screencasts, but there is no way to track how many students use them. It is important to note that the lecturers experience challenges, as the MyUnisa system is often ineffective. Furthermore, some lecturers are techno-phobes, resulting in those that are technologically informed being overloaded. This study recommends the use of other effective software, screencast training, proper investment in information and communications technology infrastructure and affordable data access for students to stakeholders such as UNISA.

Key concepts: open distance learning, e-learning, screencasts, case study, technology-enhanced teaching, accounting

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CHAPTER 1

ORIENTATION AND BACKGROUND

1.1 INTRODUCTION

Information and communications technology (ICT) influence plays a big role in academia and is the reason for this study. There is no doubt that ICT has taken a robust wave in the global sphere and it brings about a significant amount of change in teaching and learning. However, a major problem is that some lecturers are still lecturing students (who mostly are technologically advanced) using the traditional methods, whereas they should be preparing them for the twenty-first century structures and global spheres that influence the students. Inquiries on the effect of technological innovations in education are mixed, but a few studies among adult students indicate benefits worth investigating (Warschauer & Liaw, 2010:1). ICTs can strengthen teaching and furnish educators with the devices to bolster adaption and make learning open, accessible and efficiently performed (Makura, 2014:43; Unesco, 2012). Educators play a pivotal role in the education system and training framework; they need to look for alternative methods of teaching and learning, for example, that of changing to e-learning.

Sixteen years ago, McCain and Jukes (2001:121) concurred that, if the educational system and training framework is to survive and meet people's high expectations of the twenty-first century, the educational system must reassess the characteristics of a learning association, and the educator must take the characteristics and qualities of new millennium students into consideration. Since the inception of this century, ICT's predominance in all parts of life drove numerous nations, such as Turkey (Cavas, Cavas, Karaoglan & Kisla, 2009:200), the Republic of Korea (Hwang, Yang & Kim, 2010:21) the United Kingdom (UK) (Livingstone, 2012:2), and Malaysia (Kannan, Sharma & Abdullah, 2012:111). This was all to accelerate growth in the utilisation of ICTs in supporting education and training frameworks in these countries.

Bladergroen, Chigona, Bytheway, Cox, Dumas and Van Zyl (2012:24) focus on the transfer and utilisation of technological innovation to upgrade teaching and learning in training, and how many difficulties confront coordination of ICT. In Africa, as a

developing continent attempting to compete universally, colleges in Tanzania were newcomers to such problems and subsequently were studied. According to Lwoga (2012:10), these institutions experienced various difficulties while executing e-learning exercises in their establishments. These difficulties were related to the poor technological framework and the frequently restrictive cost of educationally advanced technologies; attention to and states of mind towards e-learning; the absence of neighbourhood aptitude in educational modules' improvement for e-learning; and the absence of ICT specialised support to e-learning activities (Lwoga, 2012:10).

Throughout recent years, investigation has been done on the impact of ICTs such as personal computers (PCs) on student accomplishments, and how teaching and learning can be enhanced in such a manner (Rebore, 2011:17). Lecturers' ways of dealing with significant relevant pedagogical methods may determine whether ICTs could be coordinated into the teaching and learning process. If lecturers have faith in and cling to conventional techniques for teaching and learning, they may not change the pedagogy to embrace ICT (Bladergroen et al., 2012:23). In its ICT Policy of 2015, Unesco (2015) states that ICT can help fortify democratic and transparent education planning, management arrangement and administration. Correspondence advances can likewise extend access to learning, enhance quality and guarantee inclusion (Unesco, 2015).

Educational technologies can be utilised to enhance the educators' teaching ability and the quality of educational training in Africa. Unesco (2012:2) indicates that ICT alludes to all technological innovations used for enhancement and processing of information and communication. Fu (2013:112) mentions that electronic conveyance systems are broadly utilised as a part of today's training endeavours and extend access to education, in this way making it feasible for learning to happen at whatever time and at any place. Henrie, Halverson and Graham (2015) echo the argument that utilising advanced technological innovation to convey content to students, and empowering them at any time and place, expands learning, yet keeps students occupied with innovation. Educational practices that support more prominent engagement are fundamental if computerised educational advances are viably utilised. These uses of digital educational technologies are more effective, add value and are relevant in distance learning.

Technological innovations that enhance distance learning, as a supplement to traditional face-to-face learning, can address students' issues and help to solve their study problems. Research into distance education has for a long time attempted to explore the utilisation of online innovations to improve student movement and engagement (Lefever & Currant, 2010: 8). A multiple-stage selection-process study comprising data, questionnaires and surveys was done by Pearson, Babson Survey Research Group and Conversion on the utilisation of online networking in advanced education (Seaman & Tinti-Kane, 2013:18). This study revealed that more than 80% of teaching departments in higher learning organisations within the United States of America (US) are utilising web-based social networking, with 70% utilising web-based social networking in any event once per month or more, while 41% utilise media in their teaching (Seaman & Tinti-Kane, 2013:18). Distance Education (DE) scholar Nipper (1989) has portrayed and characterised distance learning considering the prevailing advances utilised for conveyance. The origin of distance learning innovation was by postal correspondence. This was trailed by a second generation, characterised by the broad communications of TV, radio, and film production. Third-generation distance learning presented interactive technological advancements: first sound, then content, video, and after that web and immersive conferencing (Anderson & Dron, 2011:81).

Intuitive interactive advanced technology and distance learning drove the presentation of screencasts, as they can be portrayed as a computerised recording of a PC screen, in which sound portrayal depicts and clarifies the data on the screen display (Jordan, Loch, Lowe, Mestel & Wilkins, 2012; Udell, 2005). Screencasts are best used in online distance learning institutions, as they are easily accessible via any digital device and can be stored on a learning management system (LMS). Any consolidation of these media requires cautious thought, so that the key affordances of the media are completely exploited and reinforce the destinations of the learning exercises in an all-encompassing and educationally significant way (Blaschke, 2014). Since these screencasts can be regarded as relevant for distance learning, the link between screencasts and distance education will form part of this study's' background and will be discussed next.

1.2 BACKGROUND TO THE STUDY

Screencasts and distance learning form part of this study's background. It is therefore appropriate to explain their relation to each other by providing their definitions early in the study. In defining Open Distance Learning (ODL), the International Council for Open and Distance Education (ICDE) (2013) states that "open" indicates straightforward entry, with minimal obstructions to higher education. "Distance learning" in today's practice incorporates online learning, e-learning, flexible learning and blended learning. The last is ordinarily by data and correspondence innovations, and where such are not accessible, by traditional means (for example, correspondence, radio and television). Additionally, Kelly (2009) depicts a screencast as an advanced digital video recording that catches moves displayed on a PC screen. There is a thorough clarification of these concepts in section 1.11.

For some time, distance learning has been criticised in the feedback received for the deficiency of individual contact among students and between students and lecturers, which was believed to be an indispensable part of the enlightening instructive procedure (King, 2009:1648). In an attempt to overcome such distance learning barriers, lecturers are eager to learn and introduce means of ICT utilisation to enhance their teaching activities and exercises, which incorporate the engagement of students (Vota, 2011:38). Students should be exposed to ICT incorporations such as screencasts as a method to supplement and support teaching and learning performances. This is done to prepare students for the future, as ICT use acquaints students with future ICT use in the post-school innovation-based data economy (Tire & Mlitwa, 2008:142). Technological innovations make it feasible for lecturers, students and different stakeholders to interact at any time and from anywhere on the planet. In this way, it forms a fundamental part of the aptitude base of students, who will need to contend in a knowledge-driven globalised society (UNISA, 2008a:05).

As indicated by South Africa's Department of Higher Education and Training (DHET) White Paper (2013), the Department of Science and Technology's (DST) Ten-Year Innovation plan level of economic growth envisaged by South Africa, education requires ceaseless advances in technological innovation and the production of new

knowledge and learning. This demonstrates that not only do education and training create space; they also require development as far as ICT is concerned. ICT technological innovation has become an essential with regard to supporting teaching and learning to improve students' prospects in a technological era (Bingimlas, 2009:235; Papaioannou & Charalambous, 2011:350). Unsynchronised technologies, such as wikis, online journals, interpersonal interaction offices and e-portfolios, offer new potential outcomes for supporting creative innovative learning in distance learning. These different choices are utilised to encourage flexible online learning connectivity for students' studies (UNISA, 2008a:05).

Trends such as podcasts, online courses such as massive open online courses (MOOCs) and online seminars such as webinars have been consolidated to make it appealing and plausible for lecturers, trainers and instructional designers to produce video learning objects that are short video units instead of lengthy video programmes (Fadde, 2008:1). As is the case with these trends, screencasts have appealed to lecturers as they are typically short video units. The learning object approach is that the videos can be utilised as a part of various routes amid various periods of direction and, further, that distinctive teachers might have the capacity to utilise these video recordings in various courses (Fadde, 2008: 1). The expanding utilisation of ICTs in support of teaching and learning has made it feasible for more providers to connect with students that are not in the same place at the same time and able to reach students 'at a distance' (CHE, 2014:39).

In addition to the increasing use of ICT support in teaching and learning, there is a supply of free and restricted screencast software such as Jing, ScreenFlow, and Camtasia. This software in general is user-friendly, even though some kinds of software, such as Camtasia, require licences to produce the screencast effectively. Camtasia also requires lessons in addition to the licences, as they expire after the thirty-day trial run expires.

Screencasts may be instrumental in addressing how diverse students are because students learn differently (Kanter, 2007; Wakefield, Frawley, Dyson, Tyler & Litchfield, 2011). Screencasts are also instrumental in exhibiting procedural information (Feinstein 2010; Williams, 2010). This motivated this research study to investigate how

useful and effective screencasting can be in teaching and learning. This study's findings will help determine how screencasts can be used as a technology-enhanced teaching and learning tool in Open Distance Learning (ODL).

At the ODL university that this study is based on (the University of South Africa: UNISA), the LMS is called myUnisa, which is a Sakai-based platform. MyUnisa is used for tuition and administration with a specific end goal: to create and upgrade scholastic cooperation and enhance correspondence between UNISA and its students (Venter, Van Rensburg & Davis, 2012). Most of the electronic teaching and learning tools such as podcasts, videos, pdf files and screencasts are uploaded on myUnisa.

Universities such as UNISA, the University of Northwest in South Africa and the University of Delaware in the USA use the SAKAI LMS. However, over the continent, Moodle and Blackboard/WebCT were used – a great deal and utilised more extensively (Unwin, Kleessen, Hollow, Williams, Oloo, Alwala, Mutimucuo, Eduardo & Muianga, 2010:7). Coates, James and Baldwin (2005:19) depict an LMS as an enterprise-wide and web-based system. Students can get to these electronic documents through any computerised gadget of their choice: for example, personal computers, mobile phones or iPads. Various higher learning institutions use various LMSs. Lonn and Teasley (2009:693) found that the intuitive apparatuses to access an LMS were not utilised as vigorously, or were not rated as favourably, as those tools that simply delivered learning materials from lecturers to students. All these activities are carried out electronically, and they influence and support ICT integration in teaching and learning.

ICT integration in higher learning institutions, as well as the use of screencasts, is a form of online or e-learning, m-learning, and it can be used as part of the LMS, therefore defining these concepts is meaningful. When e-learning is mentioned, a variety of definitions are introduced. Rosenberg (2001:28) alludes to e-learning as the utilisation of web advances to convey a wide cluster of arrangements that improve information and execution, while Nichols (2007:2) defines e-learning as pedagogy empowered by technology. Since “e-learning is *dependent* on the pedagogy”, it is obvious that technology will not be effective, nor will it add value, if the pedagogy is not sound, instead “e-learning will be an exercise in frustration” (Nichols, 2007:2-3).

Mobile learning (m-learning) affords students the opportunity to learn and acquire the knowledge they require at their own speed and their own time (Sarrab, Elgame & Aldabbas, 2012:33). Archibald, Brown, Haag and Hahn (2011:3) state that m-learning can be depicted as the utilisation of handheld registering gadgets to provide access to learning substance and information data resources. Haag (2011:3) adds that cell phones empower access to support and prepare materials at the need of the moment. M-learning can be seen as the characteristic expansion of e-learning. It can possibly increase the ways pertaining to *when*, *where* and *how* students learn and perform in all parts of their lives. Among the many advantages of m-learning are its potential to enhance students' efficiency by making information and learning accessible whenever it is needed and in any place, empowering students to take an interest in learning exercises without having to conform to the conventional place and time limitations (Sarrab et al., 2012: 33).

Among the reasons that influenced this study was a trip to Berlin in Germany in December 2015, where I attended an Online Educa Conference. During the conference, e-learning and m-learning were discussed and explored in general terms. This conference covered designing longevity and education technology in a society in which all the best e-learning programmes are produced. The conference specialised in sessions aiming to teach practical video skills and the requisite knowledge to anyone interested in using videos in their practice, through practical workshops and laboratories and discussions about the latest in video pedagogy. It was during this conference that several students recommended the following:

- Use more audiovisual materials and mobile devices for regular information.
- Design interesting lessons and assessments, use effective strategies and give more online homework.
- Share lesson materials on online platforms such as Blackboard or websites and find ways to integrate mobile lessons.
- Develop applications and digital resources (Online Educa, 2015).

Based on the above recommendations, and as the research evidently shows, it is clear that lecturers and students realise that the utilisation of technology innovations is an

incentive for the improvement of the teaching and learning process (Ford, Burns, Mitch & Gomez, 2012). I set out to investigate whether lecturers and students comprehend the value of utilising innovative technologies such as screencasts at UNISA. Regular studies are carried out at institutions by a variety of individuals who try to investigate the technological incorporations in their surroundings. One such case was investigated in this research and will be discussed below.

1.3 PROBLEM FORMULATION

With research indicating the importance of using technology integration in education by all stakeholders, it is clear that the world is investigating all kinds of technologies to enhance teaching and learning. The College of Accounting Sciences (CAS) at UNISA is one such college, which has embarked on screencast exploration. CAS has more than 6000 students enrolled for the Postgraduate Diploma in Accounting, also referred to as the Theory of Accounting (CTA). The CTA programme forms part of a course leading to the Chartered Accountant South Africa (CA (SA)) programme. Lectures are presented monthly in the Durban and Pretoria regions of UNISA, where students gather in an auditorium. This is often insufficient and costly, as the CTA students are spread over various geographical areas of the country. It is important to note that these students lack physical face-to-face contact and communication, which results in low pass rates in the programme. The students' underperformance in the CTA programme led to collaboration between the Auditor General South Africa (AGSA), the College of Accounting, and UNISA's Sound Video and Photography (SVP) directorate. This collaboration was able to effect educational technology integration in the form of screencasts to enhance teaching and learning in ODL, and aimed to alleviate the low success rate of CTA students.

Screencasts are short video clips used worldwide and are easily downloadable; which is favourable with regard to bandwidth with relatively small file sizes, depending on the lecturers' need. Due to UNISA's bandwidth issues, lecturers are advised to keep to the maximum of five megabytes per screencast. Even though these screencast characteristics are used worldwide, the implementation of screencasts in Africa is still in its intermediate phase. MyUnisa only allows 20 megabytes (MB) maximum uploads.

This provided even more reason to explore and experiment with ideas regarding using new technologies in a beneficial way, irrespective of the circumstances and the geographical areas. Morris and Chikwa (2013:25-29) note that there is a requirement for further experiments to determine the effect of screencasting innovation on students' learning experiences. It is an indisputable fact that African countries are lagging behind when it comes to implementing technologies in higher learning institutions (Kandiri, 2014: 21). Based on the above discussions, it is evident that there is a gap in the studies that explore ways in which screencasts can be used as a technology-enhanced teaching and learning tool in ODL. This study was done to contribute to knowledge in this regard.

1.4 RESEARCH QUESTIONS

With the above perspectives and discourse in mind and understanding of the aim of this study, the main research question of this study is the following:

- How can screencasts be used as a technology-enhanced teaching and learning tool in open distance learning?

The sub-questions are as follows:

- What are the primary purposes for using screencasts as a technology-enhanced tool?
- What challenges do lecturers experience in using screencasts as a technology-enhanced teaching tool?
- What recommendations can be made regarding the effective utilisation of screencasts as a technology-enhanced teaching and learning tool?

1.5 AIM OF THE RESEARCH

Considering the above research questions, the aim of this study was to determine how screencasts as a technology-enhanced teaching and learning tool can be used in ODL. Following the main aim, the following sub-aims were investigated:

- To determine the primary purposes for using screencasts as a technology-enhanced tool.
- To determine the challenges lecturers experience in using screencasts as a technology-enhanced teaching tool.
- To make recommendations regarding the effective utilisation of screencasts as a technology-enhanced teaching and learning tool.

1.6 THEORETICAL FRAMEWORK

The Community of Inquiry Framework (CoI) was employed by this study as its theoretical framework. Since CoI has turned out to be progressively well known as a tool for conceptualising accessible learning procedures (Garrison & Arbaugh, 2007:157–158), it was found appropriate for the study on screencasts used as a technology-enhanced teaching and learning tool. CoI also includes the three interconnected presences, which Garrison and Arbaugh (2007:158) list as the social, teaching and cognitive presences respectively.

The CoI framework, which will be discussed in Chapter 2, will serve “as an orientation for gathering facts” (Bless & Higgins-Smith, in Terre Blanche, Durrheim & Painter, 2006:20), as this theory specifies the types of facts to be observed systematically. This research aimed to employ and gather facts about the ICT related theory.

1.7 RESEARCH DESIGN

This study’s methodology included both a literature review and empirical research, which will be briefly discussed next.

1.7.1 Literature study

Neuman (2006:111) and McMillan and Schumacher (2006:7) give valid reasons why one should conduct a literature review that will relate to the study and provide guidance so that the researcher can follow it and apply it to his/her own study. A literature review, according to these authors, outlines the direction of research by

defining and limiting the research problem, demonstrating an understanding of the knowledge framework and establishing credibility. In addition, it maintains a strategic distance from unexpected and unnecessary replication, demonstrates earlier research, and connects the present study to it. The literature review demonstrates the history of knowledge within the environment and equips the researcher, who learns from experienced researchers and adds fresh perspectives.

Accordingly, the literature disciplined and kept this study within the context and boundaries associated with the use of screencasts. The basis and the level of knowledge about the topic at hand were not only beneficial for the research study but for everyone within the traditional and ODL higher learning institutions, with the hope of exploring both the advantages and the disadvantages of using screencasts. This study explored a theoretical framework, related studies on the use of ICTs supporting teaching and learning and the relevant literature on ICT policies and screencasts. The literature review will be dealt with in Chapter 2.

1.7.2 Empirical research

This study employs a qualitative approach within an interpretive paradigm, as it focuses on people's shared social experiences (McMillan & Schumacher, 2006:315). Since by definition it appears that there is a close link between an interpretivist paradigm and a qualitative approach, it follows that both of these should be discussed as a way of bringing out their differing qualities. A qualitative research approach is based on non-numerical data acquired in normal settings by means of observations and interviews, with the objective of getting an understanding of the phenomenon under study and discovering the meaning behind it (Baumgartner & Hensley, 2006: G-6). In turn, according to Thomas Kuhn, a paradigm is defined as a system of interrelated ontological, epistemological and methodological assumptions, which form "an integrated cluster of substantive concepts, variables and problems attached with corresponding methodological approaches and tools" (Kuhn, 1962:32). Therefore, as a qualitative research approach is used to gather a broader array of information, an interpretive paradigm as the lens of this study seeks to view the world through the eyes of the participant, whose view on the reality of the world is subjective and based on own experience (McQueen, 2002:16). This study aims to collect data through

inductive, qualitative methods, which may include interviews, dialogues, record analysis and investigation, and investigating it from the research participant's point of view (Lester, 1999:1).

Merriam (1998:11-18) refers to five kinds of qualitative research: generic, ethnographic, phenomenology, grounded theory and case studies. This study employed a phenomenological case-study investigation, as the attention of this study was focused on the embodiment or structure of an experience or phenomenon (Merriam, 1998:15), which in this case is to determine the use of screencasts as a technology-enhanced teaching and learning tool in ODL. A case study can be portrayed as an in-depth examination of an association or organisation, a venture, or a subject (McMillan & Schumacher, 2010:344; Naidu, 2007:9). The case in this case study is that of the CTA lecturers involved in producing screencasts. Since this study employs an interpretive paradigm as the lens of the study, it explores the participants' deep understandings by asking interview questions and listening carefully to their responses (Terre Blanche et al., 2006:273-274). The study used interviews, member checks and document analysis as its research methods.

1.8 RESEARCH METHODS

The research methods employed in this study assisted with the authentication of this study. This study aimed to reveal detailed information, starting from how participants were chosen, how information was gathered and how data were analysed. These aspects will be discussed next.

1.8.1 Selection of participants

The selection of participants for this study was based on their knowledge, relevance and familiarity of screencasts, since these lecturers and the college have implemented screencasts as a technology-enhanced teaching and learning tool in ODL. Even though UNISA is an ODL institution, the College of Accounting Sciences (CAS) is a college that is situated on the main campus of the university. The participants, who throughout the study will be referred to as lecturer-participants due to the nature of

their involvement in the study, also have offices on the main campus. The rationale for choosing the school of accountancy in this college in this study is that, through their collaboration with SVP as well as the AGSA funding, they were able to implement screencast utilisation from 2014 onwards.

Although this study's audience is not only limited to the College of Accounting Sciences (CAS) at UNISA, the selected lecturer-participants were from this mentioned college. This study concentrated on CAS because CAS had embarked on a screencast implementation project for its CTA programme in 2014. Ten CAS lecturers from the School of Accountancy were selected as the lecturer-participants. This school consists of four departments, namely the Department of Auditing, Financial Accounting Management, Accounting and Taxation. The College of Accounting consists of two schools, namely: the School of Accountancy and the School of Applied Accountancy.

Chilisa and Preece (2005:170) describe purposive sampling as "being selected from a group of participants". In this study, I applied purposive sampling by identifying a targeted type of participant (Terre Blanche et al., 2006:304). These participants were ten lecturers responsible for CTA students because of their "knowledge as well as other stakeholders' knowledge in this area of interest" (Chilisa & Preece, 2005:170). Further elaboration on the selection of participants will be discussed in Chapter 3 (section 3.4.2).

1.8.2 Data collection

This study employed semi-structured interviews, which will be discussed in Chapter 4, to allow freedom and openness while getting core answers. It was also fitting that the participants were interviewed, as interviews are physical forms of interacting with people (Terre Blanche et al., 2006:297). Importantly, the interviews were chosen to obtain an understanding of and insight into how the CAS lecturers use screencasts (Chilisa & Preece, 2005:151). I analysed the lecturers' interviews and the themes from the interviews in Chapter 4 (section 4.3). The lecturers' interviews were conducted in the comfort of their offices at UNISA.

In addition, I analysed the relevant documents pertaining to this study (see Chapter 4,

section 4.3). These documents included myUnisa screencast activities (see section 4.3.1) and the UNISA Strategic Plan (2016-2030) which will be dealt with in Chapter 4 (see section 4.3.2). The MyUnisa screencast activities (2014-2017) contains discussion on students' feedback on myUnisa regarding screencasts on the five CTA programme modules.

Further elaboration on data collection will be discussed in Chapter 3 (section 3.4.2). The data were then triangulated through document analysis to see how they supported lecturers' perceptions expressed during the interviews.

1.8.3 Data analysis

Cohen, Manion & Morrison (2007:461) mention that qualitative data analysis incorporates sorting out, representing and clarifying the information; therefore this involves understanding information on participants' views on the phenomenon under study, the meanings of the environment, taking note of examples, topics, classifications and regularities. This statement was helpful with regard to organising and analysing information after I had transcribed the raw data from audiotaped interviews. After undertaking the document analysis, I looked at the screencasts on myUnisa, according to the different documents, which are based on and only reflect the five modules that are dealt with in the CTA programme. The modules that underpin this study are: Applied Auditing, Applied Financial Accounting 1, Applied Financial Accounting 2, Applied Management Accounting and Applied Taxation. It was deemed useful to utilise an inductive examination which, according to McMillan and Schumacher (2001:462), implies that categories and patterns appear out of the data as opposed to being forced onto the data preceding data accumulation. I did not anticipate answers, but was instead interested in data that would represent the appropriate responses from the lecturers. Applied inductive thinking was used, as it enabled me to investigate, as well as construct, general conclusions observed from individual cases (McMillan & Schumacher, 2001:41).

The research data analysis was done through coding, categorisation and thematic analysis (McMillan & Schumacher, 2010:370-377). Further elaboration on data analysis will be discussed in Chapter 3 (section 3.4.2).

1.9 ETHICAL MEASURES

This study comprises qualitative research, and there are ethical considerations that must be observed. Ethical clearance was obtained from both the College of Education and the College of Accounting Sciences at UNISA. This was done as I am a registered student in the College of Education and the lecturers who had undergone interviews were from the College of Accounting Sciences. Permission was also obtained to use CAS lecturers and documents from the university. The lecturer-participants were asked to complete informed consent forms. Accordingly, they were guaranteed confidentiality, anonymity, privacy, empowerment, caring and reasonableness in the course of this study, as delineated by McMillan and Schumacher (2006:334). I ensured that the lecturer-participants were aware of their commitment to and investment in the study.

1.10 TRUSTWORTHINESS

I aimed to ensure that this study was of a high quality and added value to ICT integration in higher education, both locally and globally. Lincoln and Guba (in Johnson & Turner, 2003:300) indicate that trustworthiness pertains to the way in which the inquirer can convince the readers that the discoveries in the review merit focusing on, and that the exploration is of a high calibre. Therefore, the work must be substantial and solid. According to Lincoln and Guba (in Billups, 2014:4): credibility (truth), dependability (consistency), transferability (applicability), and confirmability (neutrality) are the four elements that encompass the original trustworthiness framework. These strategies are critical for researchers with regard to designing ways for expanding the thoroughness of their qualitative research studies and, furthermore, as a way of evaluating the value of qualitative research's findings (Krefting, 1991:215). The aim was to enable my ability to establish rigour, which in qualitative terms is the most ideal approach for building up a belief or trust in the discoveries or consequences of the study under investigation. Rigour is valuable for establishing steadiness in the review techniques after some time, and gives an exact portrayal of the accurate representation of the population studied (Thomas & Magilvy, 2011:151). Silverman (2004:283) mentions that the two essential ideas to remember while doing research are: validity and reliability, as the objectivity and credibility of the research study hinge on them.

More detailed information on trustworthiness is provided in Chapter 3, section 3.5.1.

1.11 CLARIFICATION OF CONCEPTS

The following key terms need clarification in the context of this study:

- **Open distance learning (ODL)**

There are a variety of definitions of ODL by different organisations that relate to the policies and procedures of organisations or institutions. Since this study focuses on ODL and ICT as well as on teaching and learning, the definitions in this study all fit the purpose of this specific study.

The International Council for Open and Distance Education (ICDE) (2013) states that "open" shows straightforward entry, with minimal obstructions to higher education. "Distance learning" in today's practice incorporates online learning, e-learning, flexible learning and blended learning. The latter concept is ordinarily characterised by data and correspondence innovations, and where such are not accessible, by traditional means (for example, correspondence, radio and television).

UNISA's Open Distance Learning policy document (UNISA, 2008a:2) describes 'ODL' as a multi-dimensional concept aimed at bridging the time, geographical, economic, social, and educational and communication distance between student and institution, student and academic, student and courseware and student and peers. ODL focuses on removing barriers to accessing learning, and promoting the flexibility of learning provision, student-centredness, supporting students and constructing learning programmes with the expectation that students can succeed.

- **Learning management system**

A learning management system (LMS) can be described as a collection of e-learning tools available through a shared administrative interface, such as Sakai, Blackboard, WebCT, or Moodle (Nichols, 2007:4). Because of this review, Nichols (2007:4)

additionally explains that an LMS is the stage on which online courses or online segments of courses are collected and made accessible. It also offers the means of bridging the gap through interaction between the educator and the student, as well as among students themselves (Moore, Dickson-Deane & Galyen, 2010). Lecturers can upload their teaching and learning tools, such as podcasts, videos, pdf documents, announcements, and screencasts on the LMS. The students get an opportunity to share ideas with each other and in addition engage about their challenges with lecturers. Students can likewise upload their assignments on the Sakai LMS that the university in this study uses. The Sakai Project begun in January 2004 as a group or community source programming advancement push to configurate, fabricate and convey a joint effort and learning condition for advanced education (Ganjalizadeh & Molina, 2008:1).

- **Screencast**

Kelly (2009) describes a screencast as an advanced digital video recording that catches motion that is displayed on a PC screen. Screencasts are beneficial for demonstrating the utilisation of various items such as software applications or website features, accounting or taxation figures, as well as specific operating systems. Screencasts additionally frequently contain voice-over portrayal (Kelly, 2009). These introductions are recorded by means of any screen-catching programming recorded on an amplifier for sound and video recording purposes. Camtasia programming, which can be a desktop customer or online administration, catches and synchronises the video and sound documents and packs the finished motion picture into an arrangement that can be shared (Kelly, 2009).

- **Online learning**

Before discussing online learning, it is fitting that one differentiates between how online and e-learning are defined. Some of these definitions emerge through the clashing perspectives of different definitions, and others by basically contrasting characterising qualities and other existing terms (Moore, et al., 2011:130). As indicated by Grasley (2014), e-learning will be learning in which the association between student and educator on online connections, whether synchronous or asynchronous, remains

connected electronically online. A student may take a course without being in a physical classroom with the educator. They may be in the same building; however, the learning and the correspondence is done online. For an offline component, a student may write a reaction on paper, yet there is dependability on an online connection (Grasley, 2014).

It is important to note that online learning is e-learning with a required presence of a computerised form. When students access the learning materials, they need to keep their end goal in mind. In effect, online learning refers to network-enabled teaching and learning that enables the student to have expanded communication with content, the lecturer and other students (Commonwealth of Learning, 2015:3). With regard to online learning, it will be beneficial to determine how to allude to training that is encouraged and facilitated only through digital technology, usually the internet. The term “online learning” is additionally used to depict the online element of a contact or distance education course and is used occasionally to allude to USB, CD-ROM or DVD-based courses as well as web-based courses (Nichols, 2007:4). The use of online technologies to deliver content at a distance is sometimes used interchangeably with online learning or web-based teaching (MacDonald, Stodel, Thompson, Muirhead, Hinton, Carson & Banit, 2009). So the terms such as "e-learning," "distance learning," "web-based learning" and "online learning" are often used interchangeably (Littlefield, 2017).

- **E-learning**

The Commonwealth of Learning (COL) (2015:2) refers to “eLearning” as an umbrella term that alludes to the utilisation of any computerised gadget for educating and adapting, particularly for the conveyance of or gaining access to content. In this way e-Learning can occur anywhere if the advanced gadget utilised by students to get learning materials is connected to wi-fi or a digital network – either a local area network (LAN) or the Internet (or even to a mobile phone network if a tablet is utilised as a terminal or get-to gadget). E-learning includes formal and non-formal learning at all levels, and uses the nearby system or the internet, intranet or extranet for the conveyance of content and communication between students and educators, and among students and the content (Shelly, Cashman, Gunter & Gunter, 2012:289). It is

important to understand that terms such as "e-learning," "distance learning," "web-based learning" and "online learning" represent concepts with subtle, yet consequential differences (Tsai & Machado, 2002).

- **Information communication technology (ICT)**

In 1945, the United Nations Educational, Scientific and Cultural Organisation (Unesco) conceived ways of establishing beneficial conditions for discourse among civic establishments, societies and people groups, considering commonly shared values. It is through this exchange that the world can accomplish global visions of sustainable development encompassing observance of human rights, mutual respect and the alleviation of poverty, all of which are at the heart of Unesco's mission and activities. Unesco (2008:11) defines ICT as the diverse sets of tools and resources used to communicate, create, disseminate, store and manage information. Various technologies such as tablets, mobile cellphones, personal computers and videos are used. These ICTs keep evolving and are continuously improved with additional features as times and technologies evolve. Mishra, Kumarand and Tripathi (2010:1) mention that ICT is changing procedures of teaching and learning by adding components of essentialness to learning conditions. This is fitting for education and differs depending on the organisation and industry. New technologies make it possible for complicated collaborative activities of teaching and learning to exist, by partitioning them in space and time, with consistent availability between them (Mishra et al., 2010:1)

- **Teaching and learning**

Teaching and learning through ICT support and integration means and boosts the use of ICT equipment, such as the screencasts through social networks and myUnisa, to acquire knowledge and interact with other students or with the lecturers. The ICT combination incorporates web-based learning, distance learning, electronic learning, mobile learning, online learning, and computer-based learning (Mouyabi, 2012). Du Plessis, Conley and Du Plessis (2007:2) state that educating is a human duty to enable people to learn, while learning can be viewed as a deep-rooted procedure entailing

aptitude securing and expanded fluency. The aim in the context of this study is an investigation into lecturers' use of screencasts as an additional teaching and learning tool.

1.12 DIVISION OF CHAPTERS

This study consists of five chapters, which will be outlined below.

Chapter 1

This chapter deals with ICT, ODL, teaching, learning, and the background of the study. The main purpose of this chapter is to introduce the research to the reader. The background focuses on ICTs supporting teaching and learning, which also relates to the screencasts and what inspired this research in this regard. This led to stating the problem formulation and the research questions. The main question was backed up by its follow-up sub-questions. Based on the research questions, the aim and objectives were formulated. Col is mentioned as this study's theoretical framework, which led to the research design of the study comprising a literature review and empirical research that employed a qualitative research approach. The research methods such as interviews and document analysis were mentioned. Following that was the discussion of ethical measures, trustworthiness, clarification of concepts and division of chapters.

Chapter 2

This chapter provides a review of the relevant literature and discusses the theoretical framework used for this study. The chapter deals with the Community of Inquiry (Col) Framework as the study's lens. The connections and interrelations between LMSs, mobile learning, podcasts and screencasts were also investigated. A discussion of the primary purposes for which screencasts may be used, as documented in the literature, was then provided. The challenges regarding the utilisation of screencasts were also discussed. The relationship between ODL, teaching and learning, policies and ICTs, and how they can be used in educational settings where a learning theory is used for effective teaching and learning were dealt with in Chapter 2.

Chapter 3

This chapter addresses various sections that describe the rationale for gathering, storing and analysing data. It includes the research design, which elaborates on the research paradigm. Following that is the research methods, including how the lecturer-participants were selected, and the data collection method, which was done by means of document analysis for triangulation purposes, semi-structured interviews and member checks. It is explained in this chapter how the lecturer-participants were selected and by which sampling method. This is followed by the data analysis; trustworthiness and finally concludes by discussing ethical considerations. This chapter further gives valid reasons as to why empirical investigation in this study was deemed necessary.

Chapter 4

This chapter presents the profiling of the lecturer-participants, the discussion of themes and subthemes which resulted from the research questions. Document analysis as well as the summary of findings is discussed in this chapter. The discussed data was collected from ten lecturer-participants through face-to-face interviews, while documents analysed were those of myUnisa screencast activities 2014–2017 and UNISA Strategic Plan 2016–2030. I compared certain themes and also synthesised the findings after the transcriptions and the document analysis had been done. The data gathering was performed in the comfort of the lecturer-participants' offices, to improve the validity of the study. This chapter revealed and summarised all the findings derived from the responses of the lecturer-participants.

Chapter 5

The final chapter deals with the summaries of the entire study, including the introduction, literature and summary of empirical study, synthesis of the research findings, conclusions in relation to the research questions, limitations, recommendations and suggestions for further research. To close, this study made relevant recommendations for UNISA and other universities across the globe concerning technological innovations supporting teaching and learning.

1.13 CONCLUSION

The main purpose of this chapter was to provide an overview of this study. The chapter dealt with the introduction of ICT ODL, teaching, learning, and further links the other related learning theory, which relate to the background of the study. The background focused on what relates to the cause of the screencasts and what inspired me to do research in this regard. This led to stating the real problem. The main question was followed by sub-questions to achieve the purpose of this study.

From the research questions, the aim and objectives (from the sub-questions) were formulated in terms of the investigative research design paradigms and methodology that this study employed to find answers to the stated research questions and achieve its aims. Following that the ethical measures, trustworthiness, clarification of concepts, division of chapters as well as the conclusion were discussed. The next chapter deals with the literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The preceding chapter dealt with a synopsis and the background of various aspects relating to this research study. This chapter begins with the discussion of the Community of Inquiry (CoI) Framework as the study's main lens. Distance education theorists face a conundrum regarding how to apply the current theories to new situations and where applicable, develop new theories (Garrison, 2000).

This chapter further discusses LMS, mobile learning, podcasts and screencasts and different connections between them to find associations between fields, thoughts, and ideas (Siemens, 2008). Screencasts afford the means of connecting with the students and lecturers sharing ideas and content. This chapter aims to provide a holistic overview of screencasts. In addition, a discussion of the basic roles for which screencasts can be utilised as reported in the literature is then provided. The challenges regarding the utilisation of screencasts will be researched to give an overview and a broader understanding of this study. Accordingly, the relationship between ODL, teaching and learning and ICTs and how they can be used in educational settings will be discussed. The theoretical framework for this study will be discussed below.

2.2 THEORETICAL FRAMEWORK

This section gives an exploration of the chosen theory for this study. This is the ground base of the development of this research. Bless and Higgins-Smith (in Terre Blanche et al., 2006: 20), put it that the theory serves "as an introduction for social occasion truths since it determines the sorts of certainties to be deliberately watched." The theory that supports this research relates to, and is significant for, emerging ICT technologies such as screencasts. I am of the opinion that this theory conveys the strength and pedagogical weight of the study. The theory that this study employs and here discusses is the Community of Inquiry Framework (CoI).

2.3 COMMUNITY OF INQUIRY FRAMEWORK (COI)

As new technologies such as digital devices, virtual simulated classrooms, cloud computing and digital collaboration supporting teaching and learning systems have evolved over the past 40 to 50 years (Mouyabi, 2012), instructors have proposed theories that both depict and guide these new learning conditions (Foroughi, 2015:11).

Garrison, Anderson & Archer (2000) developed the CoI framework to accomplish an abnormal state of learning in online dialogues (Maddix, Estep & Lowe, 2012:109). The CoI framework is built on socio-constructivist approaches to teaching and learning (Garrison, Anderson & Archer., 2000). As stated by Garrison et al. (2000), a community of students, from an instructive viewpoint, is made up of educators and students interfacing with the specific reasons for encouraging, building, and approving comprehension, and of creating abilities that will provoke additional learning. Such a community emboldens and energises intellectual freedom as well as social interdependence. This is ideal with regard to online conditions, and additionally online distance learning institutions, as most students only access the online stages for certain reasons. CoI has since turned out to be progressively prevalent as a vehicle for conceptualising the online learning process (Garrison & Arbaugh, 2007:157-158). Considering the inception of John Dewey's (1938) thought of practical inquiry (Swan & Ice, 2010), CoI remains social constructivist in nature, and one cannot mention the CoI framework without discussing social constructivism.

Social constructivism has had a considerable impact concerning knowledge sharing of learning, whether online or offline, which makes it suitable for both distance and contact lessons, as inspired by Vygotsky's social constructivist theory of learning (Vygotsky, 1978:84). According to the social constructivists (Vygotsky, 1978:90; Huang, 2002:33; Chan, 2006:6), learning involves social interaction or a dialogue with other people or environments. Whether online or offline, this relates to the nature of CoI, as CoI involves engagement of the students and the lecturers in, for instance, UNISA's myUnisa. Through the myUnisa platform, students get to interact with others and their lecturers using screencasts and other module-related information, without having to meet face to face. Such activities create comfort for students and lecturers, as

important information is shared and disseminated. (Rae, Roberts & Taylor, 2006:521). Vygotsky (1978:84) further states that cognitive development stems from social interactions, culture and background, surroundings and historical events from guided learning development as children.

As the Col framework is an online learning strategy model (Garrison et al., 2000:89) it acknowledges viable web-based online learning, particularly higher-order learning. According to Swan, Garrison and Richardson (2009:5), Col is required in the development of community and educational environment. Such development is not a minor challenge in the online environment and Col is additionally reflected in numerous community-based learning that highlights the relationship between learning and the regular experiences of community life (Nam, 2014:15). Garrison and Arbaugh (2007) state that community is fundamental and basic for higher learning, and that this kind of quest can be experienced most effectively inside a Community of Inquiry, where educators and students are secured as actual people who are considering insightful scholarly issues (Lambert & Fisher, 2013:2).

The Col framework holds that social community and learning community are the two essential dimensions that comprise an educational setting (Rockinson-Szapkiw, Wendt, Wighting & Nisbet, 2016:19). Employing the Col framework will help students to comprehend the idea of community in online discussions. Initially planned with asynchronous text-based discussions in mind, the Col framework has been used to conceptualise community in numerous online discussions (DeNoyelles, Zydney & Chen, 2014:154). As the Col framework emphasises critical thinking and collaboration, learning depends on instructive involvement in online and blended learning situations (Kucuk & Sahin, 2013:143). Such coordinated efforts could be between a mentor and a mentee; together these two build up a cooperative association to explore an instructive issue such as screencast implementation in higher learning (Stenbom, Jansson & Hulkko, 2016:38)

A decade of research has provided empirical findings as a description of the nature of their interactions, as well as the dynamic balance of the Col system over time (Garrison, 2011:28). The view has been expressed that there is developing proof that the Col system accounts for a great part of the multifaceted nature of the teaching and

learning exchange (Garrison & Arbaugh, 2007:166). Garrison (2011:28) reports that the Col framework was first proposed to impose order on the complexities of studying and understanding computer referencing and online learning. He concludes that it has since been utilised to study blended learning and has also been expanded to e-learning. From its inception, it was meant to be a generic model generated from the literature and experiences of the authors in higher education generally (Garrison et al., 2000).

The significance of the Col framework in this study will be shown through its provision of insight into the investigations and the research questions and aims. Since students have the capacity to create and offer data and to work together on the web at any place through Web 2.0 devices, they can look for, create, and offer learning in any setting, whenever it is suitable for them (Foroughi, 2015:12). This enables learning adaptability and openness. As indicated by Anderson and Dron (2011:81), accessibility and availability of technologies to bolster distinctive models of learning strongly influences what sorts of model ought to be created. What is more, the Col framework provides experiences during which students can assume responsibility and take control of their learning through arranging significance, diagnosing misguided judgements, and testing acknowledged convictions – all basic elements for profound and important learning results (Garrison & Anderson, 2003:22).

The Col framework consists of three interdependent presences, namely (a) the cognitive presence, (b) the social presence, and (c) the teaching presence (Maddix et al., 2012:109). The Col framework epitomises a process of creating a deep and meaningful collaborative and constructivist learning experience (Garrison et al., 2000). These elements are essential, as they connect with each other and assume an important part in enhancing teaching and learning in online discussions and online situations. Each of these presences is influential in its own way and each has its classification. The figure below indicates how the three presences overlap in the Col framework.

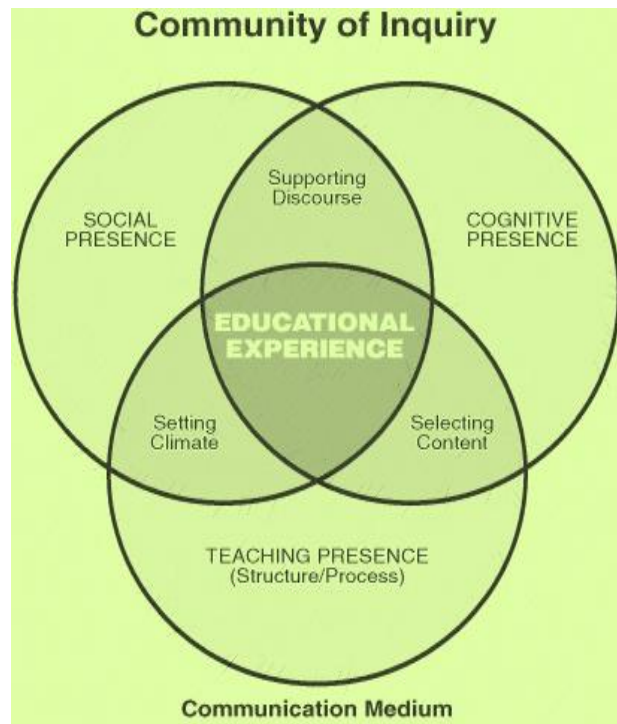


Figure 2.1: Community of inquiry framework (Garrison, Anderson, & Archer 2000)

As the Col framework has three presences as illustrated above, they will each be discussed next.

2.3.1 Social presence

Garrison and Arbaugh (2007:159) mention that the social presence in online learning has been portrayed as the capacity of students to venture outside themselves socially and emotionally. In the process, they are seen as genuine individuals in intervened communication. This strengthens the online community of learning, creates a sense of self-learning and interdependence and promotes the sharing of ideas between students and lecturers. Garcia, Brown and Elbeltagi (2013:254) mention that learning happens when students work together, share sentiments and critique each other by means of dialogue. This concurs with Kop and Hill (2008:1), who state that the significance of this theory is its relevance because of its socio-innovative environment. This theory enables lecturers and students to connect and shape systems such as learning groups and platforms for getting to, sharing, considering and circulating current knowledge information.

Diaz, Swan, Ice and Kupczynski (2010:23) define socialisation as how much both learners and lecturers, by sharing thoughts and remarks on the screencasts, feel affectively associated with each other. It is viewed as acknowledged through expression, open correspondence, and gathering union. Students have the freedom inside a Col to venture beyond their safe spaces – genuine and social (Rourke, Anderson, Garrison & Archer, 1999, in Stodel, Thompson & Macdonald, 2006). Furthermore, they have the ability to address each other and share thoughts and data (Irwin & Berge, 2006). Since the LMS is unlike social networks such as Facebook, being only restricted to the students who are registered and enrolled to a particular course, students feel at home and see the other individual in the correspondence as a genuine physical individual (Kreijns, Kirschner, Jochems & Buuren, 2007:180).

For viable, effective learning communities to develop, students need to feel safe, invited, and upheld in the online course (Maddix, 2012:34). In this case the social presence is inspired by lessons that lecturers upload on myUnisa, which also determine student participation. Maintenance of the LMS, the usefulness and the facilitation of what is transmitted concerning the courses for which students enrolled, also determine the social presence. Garrison and Arbaugh (2007:160) infer that, although the social presence alone will not guarantee the improvement of critical talk in online learning, it will be difficult to create discussions without the establishment of the social presence. Since UNISA is LMS and ODL based, Maddix (2012:35) adds that the part that the social presence plays in online courses is essential in online learning communities to reduce transactional distance. Student satisfaction is higher when a lecturer who is dynamic presents the online course. This enhances students' chances of obtaining information and is also a reflection of the real significance of the cognitive presence. Furthermore, it creates a feeling of being at home and persuades students to pursue their studies enthusiastically.

2.3.2 Cognitive presence

Since the social presence is motivated by content upload, management and engagement, the cognitive presence helps to improve the cognitive abilities of the

student. The cognitive presence (revealed through the practical inquiry process) can potentially assess the quality of critical enquiry, providing the means to evaluate the systematic progression of thinking over time (Garrison et al., 2000). Since the cognitive presence reflects higher-order learning, as well as the obtaining and application of knowledge (Garrison, Anderson & Archer, 2001:7), the idea is that the ICT addition to teaching and learning follows what is reflected by the cognitive presence. Concerning screencasts accessible via myUnisa, it is hoped that students can build and affirm significance through supported discourse in a community of learning (Garrison et al., 2001:11).

The cognitive presence has been conceptualised in terms of the practical inquiry (PI) model (Garrison et al., 2001). The practical inquiry model is regarded as important in this regard and presents a clear picture of the knowledge-building processes occurring in online discussions (Schrire, 2004:491). Garrison et al (2001) mention that the PI model consists of four stages, with the first stage entailing triggering an event, where an issue is recognised for further research; the second stage is exploration, where students investigate issues, both exclusively and overall through basic reflection and talk. The third stage is integration, where students discover what is important in the issues studied, while searching for a viable explanation. Lastly, there is the resolution phase, where the selection and testing process apply to help decide on the most viable solution (Garrison & Arbaugh, in Alavi & Taghizadeh, 2013).

MyUnisa furnishes students with a safe online learning environment as they have their own login details to obtain the information on myUnisa. Students must be registered for the course they access online. The student has the private selective utilisation of the information (unlike in social media spaces like Twitter or Facebook where the information is displayed in public). This acknowledgement of the mutual and private lives of students is a significant idea with regard to understanding the formation and support of the cognitive presence for educational purposes (Garrison et al., 2000). This guarantees the students' security when assessed and while participating in discussions. Students are urged to ask more questions and have discussions in view of what they have seen on the screencasts uploaded by lecturers. The cognitive presence, therefore, encourages students to engage vigorously and critically with their peers to understand what they are learning. When students are clear about what they

have learnt, it is not difficult to relate to the teaching presence, which will be discussed in the next paragraph. The effectiveness of the cognitive presence is enhanced and backed up by the preparation, packaging and delivery of the teaching presence to the student.

2.3.3 Teaching presence

How students are taught determines whether they will grasp the content cognitively. Consequently, teaching should focus on the cognitive domain. What every other presence did was to inspire and get ready for learning in conjunction with the teaching presence. This situation confirms the overlapping of the three presences in the Col. The teaching presence is the fundamental component that unites all the components by framing and supporting the community (Anderson, Rourke, Garrison & Archer, 2001:5). Importantly, the teaching presence involves the outline, help and bearing of intellectual and social procedures, with the end goal of acknowledging important and instructively beneficial learning results. This implies that the teaching presence assumes an important part of both the social and cognitive presences, ensuring that the learning results are powerful and attended to (Garrison & Arbaugh, 2007:163).

According to Akyol and Garrison (2013:57), it has been established that the teaching presence is a solid indicator of student satisfaction, perceived learning, and a sense of community. The teaching presence can be revealed in the new technologies if they are designed educationally and cognitively. However, Harris, Lubbes, Knowles and Harris (2014) hold that the way towards designing an online course is for the most part more demanding and tedious than arranging an identical course for face-to-face (F2F) teaching. An example would be planning an auditing module screencast presentation. The lecturer must research the course design properly, base the course on how it should be structured, making sure that the learning outcomes would be proper for the specific module level and the students. The lecturer cannot upload the course content without ensuring that it is well structured and based on the relevant known curriculum. The lecturer should ensure that such uploaded well-structured curriculum-based content creates an easy flow and interaction among students.

Since “all participants could contribute to the teaching presence” (Garrison, 2011:62), both students and lecturers may be actively influential and not only wait at the receiving end. This improves teaching and learning, as students could teach lecturers how to make use of innovative technologies and vice versa. This relates to the university’s focus on the notion of student centredness. UNISA’s Open Distance Learning policy document (UNISA, 2008a) states the importance of modern ODL teaching and learning, as it allows for and strives to provide learning programmes and a flexible learning environment for the students, with the expectation that students can succeed (UNISA, 2008a:2). The flexibility of online learning removes the idea that students are distant from their colleagues and lecturers for any learning facilitation they require. They will also develop cognitively and socially; the teaching presence will be spread (Garrison, 2011:62). This communicates the idea that the university is committed to students’ success through technologies such as screencasts, wherever the students are. As an ODL university, aspiring to be true to the commitments of its mission statement, “UNISA unambiguously and unequivocally subscribes to responsive student-centredness” (Open Distance e-Learning context UNISA Strategic Plan, 2016–2030). With UNISA’s commitment to recognising, cultivating and promoting the interests and views of students, especially their lived experiences and prior learning, in order to achieve academic access and success in an Open Distance e-Learning context, the UNISA Strategic Plan (2016–2030), strengthens the relations between ODL, LMS and screencasts.

It was appropriate to use the CoI framework as the lens of this study because of its characteristic elements. Since the study is about screencasts, community of inquiry and its elements act as an umbrella over all the evolving methodologies of distance education, such as screencasts and all other ICT support of teaching and learning. This lifts the viable methods for teaching through technological interventions such as screencasts. A detailed discussion of screencasts follows in the next paragraph.

2.4 SCREENCASTS

The three presences examined above are an ideal connection and linkage to the utilisation of screencasts as they are not only relevant for lectures, but also allow both

students and lectures to benefit considerably. As mobile, video and streaming technologies become more prominent and are increasingly accessible to educators who teach online, it will no longer be enough for educators to simply write the words or say the words; educators will need to show the words to their students (Ackerman, 2012:92). The following discussion will constitute an in-depth discussion of screencasts, podcasts, LMS and mobile learning, with specific reference to higher education.

2.4.1 Utilisation of screencasts

As indicated previously, screencasts are recordings of computer screen activity, frequently containing sound portrayal. They are alluded to as video podcasts or just videos, or even as scrasts (verbally shortening the word screencast to one syllable). Screencasts can be utilised in the creation of “sophisticated, information-rich multimedia presentations” (Ruffini, 2012) and can be incorporated in academic modules and numerous learning exercises. Ruffini (2012) further adds that screencasts are a viable educational arrangement, useful for tutorials, demonstrations, digital storytelling, and narrated Microsoft PowerPoint presentations.

Screencast production requires both technological skills and the ability to present oneself, conveying a lesson clearly in both written and audio forms without the use of physical gestures (Croft, Duaha & Loch, 2013:1046). Importantly, screencasting can save a significant amount of time for lecturers by not expecting them to rehash illustrations, models, and examples of various situations (Mullamphy, Higgins, Belward & Ward, 2010). Students commented on the adaptability offered by the screencast, that it was a helpful apparatus in combination with lectures and for doing revision (Warfvinge, 2012).

Notess (2005:44) mentions that screencasting is “more like movie-making than radio” and a “short demonstration video file with audio commentary”. Notess (2005:44) further indicates that it is interesting to see the real mouse clicks and the screen changes alongside the analysis. Mohorovičić (2012) asserts that screencasts can address students' issues better, and are clearer, than composed guidelines. Screencasts likewise enable the students to learn in a more self-coordinated way, one that suits the

individual student's style and speed of learning and that provides a powerful method for learning. Students can be shown how to carry out a predefined task and practice or be instructed on a given theme (McGovern, 2010). Furthermore, screencasts can be accessed anywhere and are used across the globe. The next section will provide an overview of how universities around the globe have used screencasts.

2.4.2 The use of screencasts around the globe

This section relates how screencasts have been used around the globe. It concerns ICT-supported teaching and learning; reflecting on the developed countries and determining how they have implemented various innovative technologies can help to motivate the developing countries. This also applies to screencasts. The role and use of ICTs supporting teaching and learning, including screencasts, is growing in the twenty-first century across the globe (Noor-Ul-Amin, 2013). Countries such as the Republic of Korea invest in ICT innovations, to develop an educated and lifelong learning society and to ensure national competitiveness. In addition, the ICTs introduced are aimed at demonstrating techniques for the future preparation of the information society (Dae, Yang & Hyeonjin, 2010:29), as well as staying competitive in the world.

Screencast integration as a teaching and learning material adds value to the idea of ICT supporting teaching and learning in education. Knowledge upgrading is done by giving an accumulation of learning and instruction materials that make lessons more appealing, outwardly or aurally animating, to accommodate individual learning styles and to urge students to do their utmost best (Sankey, Birch & Gardiner, 2010:853).

It appears that the mathematics educators who frequently use screencasts have found that screencasts are “flexible, portable, asynchronous library education” (Betty, 2008:296). Ahmad, Doheny, Faherty and Harding (2015:12), at an Irish institute of higher education, conducted a qualitative study which revealed that the utilisation of screencasts in their mathematics modules was beneficial. Their qualitative study findings demonstrated that a dominant percentage of students (88.4%) utilised the screencasts for numerous purposes and saw the recordings as a helpful apparatus that improved their knowledge (Ahmad et al., 2015:12).

Research demonstrates that screencasts have been incorporated in various institutions around the globe. The School of Chemistry at the University of Southampton (Read & Duckmanton, 2012); the School of Chemistry at the University of Manchester (O'Malley, 2010), the Higher Education Academy Organisation in the United Kingdom (Ruffini, 2012), the Department of Media and Communication at the University of Leicester (Reilly, 2014), the Abant Izzet Baysal University, Bolu, Turkey (Tekinarslan, 2013) are among them. South African universities seem to follow suit, despite technology challenges. Rhodes University's Teaching and Learning with Technology: Reframing traditional understandings and practices (2016) reveals that some of the lecturers have implemented screencasts for their students (Tshuma, 2016). A Faculty Librarian at Stellenbosch University Library and Information Service has also worked with screencasts (Visser, 2013). Furthermore, a lecturer from the University of the Western Cape (UWC) has researched and implemented screencasts (Holgate, 2011).

However, while African countries are also adapting to technology innovations in teaching and learning, screencast implementation is in its infancy phase. In this regard, research is rather on ICTs supporting teaching and learning than on screencasts as such. Throughout the entire African continent, South Africa seems to be the country with the most documented users of screencasts. Hence, Edda Tandi Lwoga of the Muhimbili University of Health and Allied Sciences found that the adoption of e-learning and web 2.0 technologies were in infancy stages in Tanzanian public universities (Lwoga, 2012). This motivates me to acknowledge that Africa needs studies on the use of screencasts being incorporated into technology and supporting teaching and learning in higher education. Concerning African universities showing an interest in and enthusiasm for developing the potential of e-learning and web 2.0 tools, there is some growth, which has a positive influence on the ICTs supporting teaching and learning (Lwoga, 2012).

Several universities around the globe make use of screencasts reference. It is, therefore, worth knowing that there are several software varieties available in the market for screencast, though these are not the focus of this study. The screencasts are different in nature. For example, screencast software such as the Camtasia studio has a trial version and afterwards requires a licence after the trial-run expiry date. Some

screencast software types have lessons to explain their procedure. Table 2.1 summarises a variety of screencast software available on the market, with different characteristics such as usability, flexibility and length. This encouraged this research study to find out how screencasting, as utilised at CAS, can be used in various ways in teaching and learning. This study's findings can help determine how screencasts can be used as a technology-enhanced teaching and learning tool at an ODL institution.

Table 2.1: Summary illustration of screencast software

SOFTWARE NAME	LICENSING/ COST	FLEXIBILITY	USABILITY	REQUIRE- MENTS	MAX VIDEO LENGTH	VIDEO	AUDIO
JING	Requires licensing software but inexpensive	Very little	Great	Uses Macintosh, Vista and Windows	5 minutes	Great quality	Fair
SCREENFLOW	Requires licensing software and affordable	Medium	Great	Windows or Vista	None	Good	Good
CAMTASIA	Requires licensing software and affordable	Great	Great	Uses Macintosh, Vista and Windows	Unlimited	Excellent	Excellent
HYPERCAM 2	Requires licensing software and affordable	Medium	Great	Windows or Vista	None	Good	Good
ADOBE CAPTIVATE/POWER TOOLS	Requires licensing software, expensive	Great	Great	Windows XP or Vista	None	Good	Excellent

Source: Self Compiled

Owing to what the software offers and how it is best characterised, UNISA is using Camtasia Studio as its screencast software. On the basis of its study guide (TechSmith, 2003:2), Camtasia Studio is a professional quality video production software designed to anticipate the needs of the user. Camtasia Recorder can capture the moving action on the user's computer screen and can save it as a computer video file. An added advantage is that only Camtasia Studio offers exact video renderings of desktop activity and good file compression in industry standard formats such as MP4/SWF, WMV, MOV, AVI, M4V (iPod, iPhone), Real Media, and camv (Camtasia for Real Player streaming video). All the file extensions that Camtasia studio can produce give the user flexibility and ability to choose the most appropriate. TechSmith developed the TSCC codec expressly for screen recording (TechSmith 2003:2). Camtasia Studio is fully compliant with the video and audio for Windows specifications. Therefore the user

can pick the TechSmith codec or another video/sound codec for definite dissemination (TechSmith, 2003:2). Since there has been a discussion of screencasts and available and accessible software, the next section will discuss how screencasts influence teaching and learning.

2.4.3 Screencasts and teaching and learning

When employing screencasts, the lecturer must keep the Col framework in mind. It should likewise be remembered that making an instructive screencast that meets the content objectives requires a deliberate, efficient way for the arrangement, preparation and planning of educational content (Ruffini, 2012). This will help uncover the primary motivation behind implementing screencasts, irrespective of whether screencasts will be used in online distance or face-to-face learning.

Screencasts can assist with student learning and provide the necessary information (Warfvinge, 2012). Not only can screencasts enhance the learning results, they have also been observed to be connecting with and compelling in delivering subject content and procedures (Ahmad, et al., 2015). Furthermore, students like short, to-the-point screencasts recorded by a master.

As mentioned by Ellis and Boyd (2014), the current multiplication of distance learning education courses made instructors in innovative education settings determine why some projects are more suitable for distance education than others. In addition, they had to determine whether the required information, skills and abilities in different industries have the capacity to be conveyed utilising contemporary technologies. A screencast, for educators, is a proficient and successful method for depicting a well-ordered process, clarifying a specific idea, or giving a Microsoft (MS) PowerPoint introduction portrayal. Instructors can create compact and concise presentations, and each screencast can be altered (Ruffini, 2012).

As the objective is to provide support for student learning, it is necessary to ask whether a screencast approach is the most suitable and powerful approach to achieve this. Only after reflecting on the latter should screencasts be created (Raftery, 2010:668).

Screencasting enables students to learn by examples, such as viewing a detailed systematic sequence of a screencast video directly related to lesson content (Ruffini, 2012). The student can utilise the screencast more than once.

Lecturers embark on a mission to outline authentic learning experiences that focus on the processes of meaningful learning and inquiry, making use of technology as an enabler of first-person learning experiences (Hung, Lee & Lim, 2013:20). If instructional designers focus on the content and curriculum, they ensure the sustainability and success of educational interventions. Since screencast softwares are engineered with enhancements such as transitions and zoom options, if such enhancements are properly implemented in a screencast to boost the module content, this will definitely help elevate “engagement, as students prepare the knowledge/skills needed for in-class activities” (Hsu, 2018).

According to Mahoney, Macfarlane and Ajjawi (2018), “even though the impact of video feedback on student learning outcomes is yet to be determined, existing research shows that video feedback has a high level of acceptability amongst both staff and students and may help strengthen student-marker relationships”. Since screencasts are in video format, they enable the lecturers to offer visual feedback to their students in an online environment, being highly acceptable to lecturers as well as students. Aron Ghilays’ article on Maths Courses in Higher Education, “Improving learning by screencast technology”, confirmed how worthwhile it is to “add screencast technology to math courses, provided that the entire course is fully covered with relevant video clips, and they are pedagogically and technically high quality” Ghilay (2018).

In a study aimed at evaluating the effectiveness of online screencast video integration through the Quick Response code (QR code) as mobile learning (ml-learning), Yahya, Abas and Yussof (2018) concluded that, “the integration of video screencast by scanning the QR code can be a potential tool to support the use of m-learning, and also support the blended learning”. However, it is worth mentioning that screencasts are also perceived as new forms of feedback and assessment practices, with special attention to their limitations and challenges (Satar, 2018). For several reasons, challenges will emerge with regard to any innovation, including screencasts, and these will be discussed in the following section.

2.4.4 Challenges with respect to the use of screencasts

Even though it is essential to integrate screencasts carefully into the teaching and learning procedure to improve students' dynamic engagement with their learning (Raftery, 2010:674), difficulties will emerge. Such difficulties are not restricted only to screencasts, but include them. Undoubtedly, there is growth in the implementation of the screencasts by several higher learning institutions. There are no studies yet that show whether there would be any critical differences in the learning of students exposed to screencasting innovation and those who are not, to unpack the pedagogical value of the tool experience (Morris & Chikwa, 2013:25-29). Likewise, a large portion of the reviews to date have been concentrating on the utilisation of screencasting innovation as a substitute for lectures, for example in distance learning courses (Ford et al., 2012).

Notwithstanding the fact that there are numerous advantages of technology-incorporated teaching and learning, I acknowledge that there are issues such as a lack of technological understanding, connections and networks as well as students' inability to access information. It is evident that the above major problems concerning technological intervention and integration into teaching and learning, with specific reference to developing countries, pose real challenges. As mentioned earlier in the study's problem statement, the bandwidth issues form a part of the challenges in implementing technologies such as screencasts in teaching and learning. Next, a few examples of such challenges will be discussed.

The Media Technology Department at Aalborg University in Denmark used screencasting to provide an online overview of science. The outcomes revealed that students missed clarification when learning with online tools and they doubted the quality and legitimacy of some of these tools (Triantafyllou & Timcenko, 2016). Students also mentioned that the fact that they could not ask questions for clarification during a recorded lesson was regarded as a weakness by them (Triantafyllou & Timcenko, 2016:2574, Mohorovičić, 2012).

More difficulties that need consideration, as mentioned by Esgi and Kocadag (2015:19), are that students reported that time spent working on computers is boring

because of the nature of computer-based learning, and the lack of personal interaction. Another problem investigated by Esgi and Kocadag (2015:19) regarding screencasts was that students could not get a prompt response where they lacked understanding. Palaigeorgoui and Despotakis (2010) expressed that, with respect to the value of screencasts in education, the long-term remembering and transferability of information was found to deteriorate in a post-trial of students' execution, showing an absence of deeper learning of content and procedures. Writing about the extent to which screencasts were utilised to support the teaching of programming, Lee, Pradham and Dalgarno (2008: 75) found "no significant effect of the provision of screencasts during learning".

While trying to achieve the goals and implementing the strategies that help improve effective learning through technologies such as screencasts, Zubdeh (2013) mentions various challenges that threaten to hamper the educational process. Such challenges are weak technological infrastructure, restrictions on the import of crucial technological equipment, lack of necessary infrastructure in telecommunications, difficulties of sourcing funding, non-recognition of the official authorities in some neighbouring countries and low incentives to teach e-learning courses (Zubdeh, 2013).

In developing countries like South Africa, other challenges that arise are the necessity to ensure that the necessary infrastructure is available to all post-schooling students. At the moment, access is extremely uneven, making it challenging for distance education and different suppliers to harness the capability of technological innovations such as screencast implementation completely (DHET, 2013:53). Unwin et al. (2010:22) add that confinements in data transmission and high expenses of Internet restrict the successful utilisation of e-learning in Africa. This confirms the idea that the screencast implementation in Africa seems to be in its infancy, as substantiated in section 2.4.2 of this study.

Nevertheless, regardless of data transfer capacity and availability confinements, careful planning and a suitable portion of rare and scarce resources can enable as well as empower instructive educational institutions to build up their own compelling and effective LMS-based digital advanced learning conditions, which help with the accessibility of screencasts (Unwin et al., 2010:22). It is important to reflect on the

strengths and weaknesses of screencasts to be able to harness their potential, as well as to draw upon pedagogical and instructional design principles in their development (Raftery, 2010:674). This helps to enhance the effective use of screencasts.

2.4.5 The potential of screencasts to enhance teaching and learning

Seven years ago, Raftery (2010:668) revealed how time consuming the development of quality and sophisticated screencasts is, as the lecturer has to consider pedagogy and technology when producing the final screencast. As the study concentrates on screencasts, it is fundamental for me to discover whether it is useful to utilise screencasts as enhancers of teaching and learning. On the basis of local and international universities that have experimented with screencasts, research has shown the positive impact of screencasts as a learning asset and a tool to support teaching and learning. The effect of technological innovations, such as mobile devices, LMS, and other applications that offer accessibility to podcasts and screencasts, on teaching and learning is showing how fast the latter is changing and developing.

Amongst others, screencasts offer advantages to mathematics students (Pinder-Grover, Green & Millunchick, 2011). Feinstein (2010) utilised a tablet and screencasts when teaching mathematics to students. Feedback from students showed that: (a) they thought that it was supportive to get to the slides and recordings soon after each class, on suspicions that there might be a mistake in their print-out notes; (b) the students who could not attend classes appreciated screencasts because they were more helpful than printed copies; and (c) the students utilised the screencasts to go back to the lessons in which they needed verbal clarification. This is especially solid and helpful for students who are not native English speakers (Feinstein, 2010).

As indicated by Barthel, Ainsworth and Sharples (2013), screencasts have turned out to be set up as a key piece on the internet space; generally utilised by individuals for data sharing, learning and stimulation. In attempting to utilise new technologies such as screencasts to benefit the curriculum and teaching and learning, Egan, Frindt and Mbale (2013) state that integrating eLearning into the educational process could start from small beginnings and end as a success. Egan et al. (2013) further add that without

high-level university commitment to support technologies such as screencasts, and an allocation of resources to access such screencasts, eLearning will neither mature nor develop to a level where it becomes a major noteworthy mode of education. Moeller and Reitzes (2011:4) advise that it would be useful for the institution to understand and be involved in the production of ICT-supporting teaching and learning for distance learning. Getting lecturers involved in screencast production benefits the university and its lecturers, which leads to students benefiting as well. If such is not incorporated, students feel unprepared and ill-equipped to utilise technological innovation as they look forward to higher education or their work life.

Regarding students' perspectives on the use of ICT in higher education, Ghana's Wilson, Tete-Mensah and Boateng (2014) found that a decent number of the students approached ICT instruments and gadgets, and were able to use an extensive variety of ICT devices and gadgets for the setting of both scholastic and non-scholastic use. It was clear and evident from the data that most students used this innovation on a regular basis (Moeller & Reitzes, 2011: 6).

While some critics claim that some online resources have no pedagogical underpinnings, do not allow students to build knowledge hierarchically, and do not offer meaningful or personalised feedback (Triantafyllou & Timcenko, 2016:2574), other scholars have different opinions. In an article, "Do short screencasts improve student learning of Mathematics?" (Jordan et al., 2012), students express how beneficial screencasts are in terms of the powerful utilisation of ICT to improve education and learning; and to change stereotypes and those resisting to adaptation to technologies. New technological innovations can be used to improve traditional teaching and learning, keeping in mind the end goal, namely to improve the education experience (Joseph, 2012:429).

The Faculty of Engineering and Industrial Sciences at the Swinburne University of Technology in Australia and the School of Education at the Australian Catholic University confirm how beneficial screencasts have been, as they offer flexibility in accessing the resources at their convenience, and afford explanations of concepts and operations to their students (Loch & McLoughlin, 2011). However, Loch and McLoughlin (2011) also state that they often neglected to consider the active

engagement and participation of the student. Since screencasts must be uploaded on mobile devices and sometimes as part of LMSs, they will be discussed next.

2.4.6 Learner management systems as screencast "uploaders"

Even though this research is about screencasts, it is necessary to address LMS, as screencasts are usually uploaded and accessed via the LMS by any device. McConachie, Danaher, Luck and Jones (2004) describe Learning Management Systems (LMS) as software systems or frameworks; particularly composed and promoted to education establishments to support students' teaching and learning. LMSs further provide tools for correspondence, communication, student assessment, presentation of study material and organisation of student activities (McConachie et al., 2004). Josh Bersin, who is the founder and principal of Bersin at Deloitte, views today's LMS as a platform for record keeping, and this purpose can now be substituted by new advanced technologies (Bersin, 2017). Baker (2016), from the Coastal Carolina University (USA) mentions that videos such as screencasts get to be embedded into the LMS. Barnard and Mostert (2015), from Rhodes University in South Africa, mention that screencasts are made available for review or download on the LMS at any time during the course or in preparing for an examination.

According to Mohorovičić and Tijan (2011), whose screencasts were uploaded and viewed by students on the LMS, the LMS gives the user an opportunity to have all electronic learning materials such as screencasts online and in one location. This creates a strategic environment that is easily accessible. Any course material, including screencasts, gets stored online, and is accessed through the LMS (Gardner, 2012). MyUnisa in this study is a Sakai-based platform (see section 1.2 of this study). LMS has been implemented successfully in numerous organisations of developed countries and has enhanced students' learning performance, lessened students' dropout rates, and expanded students' satisfaction with offered courses (Naveh, Tubin & Pliskin, 2012). Even though it appears that the Universitat Politècnica de València uses YouTube for video uploading due to bandwidth issues, it still makes use of the LMS to upload its videos by making reservations through its respective university LMS (Turró, Despujol & Busquets, 2014)

As indicated by Gautam (2015), a responsive LMS achieves a consistent, seamless learning experience, providing a high level of adaptability for changing, starting with one gadget onto the next, and students can pick where, when, and how to access learning material and information without any loss of information or tracking. Since students make use of digital devices to access information anywhere in the world, teaching and learning spread and remain relevant among all students.

2.4.7 Mobile devices as screencast “uploaders”

As it is evident that an LMS may be accessible using any digital device, it is important to emphasise and single out mobile devices, as most students have access to smartphones (Poll, 2014). This study is neither about mobile phones nor any other hardware, but because mobile smartphones might provide wide and easy access to students, they are discussed briefly. Lahri (2014) remarks that mobile phones, started as an endeavour to enhance the telegraph more than a hundred years back, have advanced to become the most vital of customer gadgets on the planet, acting as a specialised gadget, and now as a learning apparatus as well. Rajasingham (2011:3) points out that some advocates of m-learning, as explained in section 1.2, endeavour to characterise, define and conceptualise portable mobile learning as far as gadgets and technological innovations go, in terms of the mobility of students and the versatility of learning, and others in terms of students' experiences of learning with mobile devices. From the perspective of Sarrab et al. (2012), mobile learning is a fairly new research topic that has turned into a developing gadget for education systems. Mobile learning can also be used to enhance the overall learning experience of students and educators. The following are examples of mobile learning inspiration. In Indonesia, where Internet connectivity can be problematic, particularly outside the vast metropolitan zones, access to online courses on Nokia handsets, despite their small screens, was speedier than doing such courses through an Internet-service providing organisation (Burns, 2011:111). One of the best-known phone-based educational projects is Bridge-It in Tanzania and the Philippines (formerly Text2Teach), which uses cell phones to deliver videos to classrooms (Burns, 2011:110). According to Tuncay (2016), the British University of Nicosia started delivering certain distance education courses via Smartphones.

As indicated by Makhura (2015:3-4), the total population secured by mobile networks expanded from around 10% in 1999 to 60% in 2009 in sub-Saharan Africa. Over 90% of sub-Saharan Africa's urban population now lives within the range of a mobile signal (Makhura, 2015:3-4). By any record, this is an amazing accomplishment in a short space of time. Lahri (2014) mentions that the increase in the adoption of smartphones, fuelled by the advent of powerful telecommunication networks as well as the increased affordability of buying mobile devices, has made mobile learning the ideal possibility for learning. Notwithstanding, Rajasingham (2011:6) warns that, while versatile mobile technologies give helpful possibilities, learning is about a coordinated effort between lecturer and students, and among students, to process information to create new data that can be associated with *bona fide* issues.

Rajasingham (2011:4) maintains that while there is a large amount of information that can be accessed via mobile phones, research is still rare on the sustained and maintained utilisation of mobile devices for accomplishing ideal learning results, and arrangement between student/lecturer desires and the era of new aptitudes considering social orders' needs. This research study is attempting to contribute in this regard. Video-based guidelines in online conditions, such as screencasting, can affect student learning effectively and it is believed, with Pang (2009), that they can be regarded as academically equivalent to their face-to-face teaching counterparts.

Haag (2011:3-5) makes the point that cellphones that fall under the smartphone classification have prevalent mobile browsers and support for HTML5. This makes it easier for screencasts to be accessible through smartphones, such that Garg (2015a) indicates how tablets have changed from being "entertainment" devices to "computing" devices. Garg (2015b) additionally proposes beginning with multi-device learning without waiting for the world to settle down. Like bookmarking in eLearning courses, one can leave a book halfway on one device and start from a similar place on another device. Concerning screencasts, one could view screencasts in any of these multiple devices. The figure beneath shows how compelling and invaluable it may be to execute multi-device learning in teaching and learning.



Figure 2.2: Multiple-devices (Garg, 2015b)

However, as much as there is provision for multi-device learning technologies at the disposal of students, Morris and Chikwa (2013) caution that, while there is an impression that students are satisfied with the provision of technology-enhanced tools such as screencasts, there is limited evidence regarding their impact in terms of how they acquire knowledge. Since students use these devices to view podcasts and screencasts uploaded by lecturers, one cannot discuss screencasts without mentioning podcasts. They are mostly confused in terms of names by the users, due to their similar usages and the fact that they are both technological innovations employed in higher learning institutions (The eLearning Unit, Centre for Lifelong Learning, 2013). Because podcasts have been utilised long before screencasts, podcasts will be briefly discussed next.

2.4.8 Podcast implementation in higher learning institutions

Podcasts in distance learning have been utilised in many ways, and for a number of years lecturers have embarked on engaging podcasts in their lessons. When technological innovations are used in new ways, the technological innovation changes in itself, “creating additional new literacies in the process” (Leu, Kinzer, Coiro & Cammack, 2004:1593). The benefit of using podcasts is that students can access them in any place and at any time, as they are easily downloadable; and the same applies to screencasts, although screencasts have visual characteristics. The video factor is what differentiates screencasts from audio podcasts (Jordan et al., 2012). Students can even tune in to the podcasts while driving. Regarding podcast recordings, Jordan et al. (2012:14) add that the hardware and software settings must also be taken into consideration to produce good sound quality. This applies to screencasts’ quality too.

It is evidence that, unlike traditional audio files hyperlinked from sites, podcasting offers various specialised strategic and academic pedagogical benefits (Abdous, Facer & Yen, 2012:44).

There seem to be misunderstandings regarding differentiating screencasts from podcasts. Back in 2007, Sandy Winterbottom of the University of Stirling in Scotland differentiated podcasts from screencasts. She mentioned that screencasts are digital recordings on computer screens inclusive of audio commentary, while a podcast, which requires the use of Rich Site Summary (RSS), in its truest sense is a digital media file (audio or video) distributed and shared over the web, to enable the subscription user to access digital content such as a lecture series (Winterbottom, 2007; Williams, 2014). Since terminologies differ, some scholars assume podcasts are just audio recordings, whilst some refer to podcasts as media (audio and video). Having worked with both podcasts and screencasts, I understand podcasts to be audio recordings that can be played or streamed on any digital format that plays and supports audio, while screencasts are computer-screen recorded videos, which can be played on a video-supporting digital format such as a laptop. Both podcasting and screencasting are seen as video-based conceptions that can be created by a student or a lecturer; they are educational tools in a flipped classroom (Williams, 2014). Higher Education settings are increasingly making use of screencasting and podcasting to deliver a range of educational material (Winterbottom, 2007), as screencasts can be watched on a computer or on a mobile device with video playback capabilities (Ahmad & Doheny, 2013). Virginia Commonwealth University (VCU) uses RSS feeds, video screencasts, and podcasts to maximise the usability and accessibility of some of the most relevant class content (Kirlaw, 2007)

Podcasting is exceptionally valuable for automatic searches on web sites selected by the lecturer (Hubackova & Golkova, 2014). Podcasts do not only benefit able-bodied persons, but also contribute significantly in benefiting visually impaired students – to the extent that there has been an urgent request to reform educational methodology in India, as podcasting is regarded as helpful to visually impaired students, mainly because it has a voice (Dutta & Wadhwa (2013). As indicated by Forbes and Khoo (2015), podcasting affords course lecturers, mentors, and students the opportunity to learn, engage and share thoughts with each other. Khanghah and Halili (2015) mention

that, although utilising technology tools is not a new trend in education, inaccessibility of some IT infrastructures may be a drawback to traditional teaching styles. Consequently, cheap technology devices and the internet provide a better chance for lecturers and students to have wider access to educational resources. There are certain rules and regulations that must be adhered to when introducing ICTs in teaching and learning, and therefore relevant educational policies will be discussed next.

2.5 EDUCATION POLICIES ON ICTS LOCALLY AND GLOBALLY

The introduction of technologies is dependent on various policies that pertain to ICTs and training. As indicated by the Edinburgh Council (2015:8) regarding ICT policies, policy architects have furnished schools with clear direction on proper measures. Such measures have guaranteed alleviation of risk and compliance with their council.

Across the globe, the considerable benefit of ICTs is that distinctive ICTs are presently set to become instrumental to encourage wider access to education, reinforce advanced digital workplaces, and raise educational quality by, among others, developing teaching and learning into an attracting, dynamic process related to honest, genuine living (Alam & Hoque, 2010). This potential urges institutions all around the world to actualise these innovations with a specific end goal of achieving national and instructive ICT objectives. As indicated by Unesco, developing countries use ICTs as a means to change the lives of individuals and provide lecturers with better approaches to adapting learning and teaching to individual needs and differentiate learning (Kozma, 2010:14).

As Unesco (2015) concentrates on the part that ICT can play in moulding policies for education, its part is both standardising and instructive, gathering certainties, data and cases of ICT in education and making this information generally accessible. Unesco's education sector studied the policy development process in five countries: Rwanda, Namibia, Uruguay, Jordan and Singapore, to assist countries to formulate effective ICT in education policies and, in the meantime, fortify national limits in the focused-on nations (Unesco, 2015). It is my opinion that research on effective ICT innovations such as screencasts, among plenty of ICT resources in education, is a necessity.

The Department of Higher Education and Training in South Africa should look into amending policies among all universities which offer online distance education. The fact that the DHET recognises the importance of expanding access to ICT resources (DHET, 2013: xvi), yet little is done in terms of accommodating screencasting, has led to the asking of many questions in this regard. At a postgraduate level, expanding access to web technologies such as screencasts has already resulted in considerable growth of modes of delivery alternative to face-to-face teaching and learning (DHET, 2013:51). It is believed that institutions find themselves using technological innovations such as screencasts to support teaching and learning to a greater or lesser extent in providing distance education, both to meet the desires of their students and to enhance their teaching and learning productivity and adequacy (CHE, 2014: viii). Furthermore, sufficient capacity is required in terms of financial and human resources (DHET, 2013:53).

With the evident increase in digital access to remote connectivity and mobile technology, student support is gradually moving from contact to online approaches (DHET, 2013:58). This implies that, because of the recent increments in the availability of bandwidth in South Africa and the increasing affordability of digital devices, the DHET will be required to develop feasible arrangements, which will guarantee that all post-school students have significant access to learning technologies, such as screencasts and broadband Internet, for accessing the screencasts from their digital devices (DHET, 2013:59). However, it must be noted that the value of an educational programme will be dictated by the strength and quality of its educational pedagogy, and not by the incorporation of ICT innovations such as screencasts, which can sometimes be utilised inadequately or as a gimmick (DHET, 2013:53).

In 2012, the National e-Skills Plan of Action (NeSPA)'s then Present State of e-Skills Agenda in South Africa had a list, and among it was the provision of e-skills for students and communities based in deep rural, rural and peri-urban areas. This provision of e-skills was a huge problem, as community centres were neither effectively used nor adequately equipped for Open distance e-learning (ODeL) (NeSPA, 2012:22). This remains a huge problem, as even though screencasts can be uploaded on myUnisa for students to download on their digital devices, there is no guarantee that all students will have access to such. Thabani Mdlongwa, a research intern at the Africa Institute

of South Africa (AISA), had in AISA Policy recommended that both the DBE and the DHET play a greater role in both the funding of ICT resources for schools and universities: training, equipping and skilling educators to take advantage of the immense benefits that come with the use of ICT in both teaching and learning (AISA Policy, 2012:6).

The implementation of screencasts is governed by the various ICT policies across the globe, within the university and the country of origin to the stakeholders. Therefore, it is crucial that this study refers to the White Paper for Post-School Education and Training (DHET, 2013) on how ICT support on teaching and learning interventions such as screencasts should be planned and implemented, as they will be determined by its pedagogical strength. This questions documentation from departments such as the White Paper of the DHET (2013) and the Department of Science and Technology's (DST) Ten-Year Innovation plan. It is questionable how these departments' level of economic growth (as mentioned in section 1.5) plans on sustaining continuous advances in technological innovations, such as screencasts, effectively, and ensuring that they are sustainable resources (DHET, 2013). This demonstrates that it is not just education and training that is in an innovative space and requires the development of ICT.

UNISA has a Strategic Plan with three goals (UNISA Strategic Plan, 2016–2030). The last goal – which is to harness ICTs to support the transformation of the core business to enable high performance, service and quality with regard to all its communities – emphasises the need to leverage technology for effective teaching and learning, research and innovation and community engagement (UNISA Strategic Plan, 2016–2030). UNISA has indicated how it plans to deliver the last goal effectively, but one wonders if UNISA considers screencasts and myUnisa in their plans for supporting the ICT transformation.

2.6 CONCLUSION

CoI was discussed as this study's theoretical framework: the analysis of the three presences of CoI and how they relate to online learning environment. This chapter reviewed the literature on screencasts, podcasts, mobile learning and LMS, as they all form part of ICT-enhancing teaching and learning in higher learning institutions with

the aim of producing technologically savvy lecturers and students. The literature review also focused on the characteristics and use of the various technologies mentioned, such as podcasts and screencasts and how valuable they can be in an ODL context within South Africa, the continent and globally.

The ICT education policy and its guidance in developing and developed countries was also touched on briefly. This study shows that the ICT policy is the main source underpinning the use of ICT developments. ICT policy necessitates proper preparation for all requirements for the effective incorporation of ICT into teaching and learning. The methodology of the empirical research will be discussed in the next chapter.

CHAPTER 3

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

The previous chapter dealt with the theoretical framework of this study. The chapter further covered important aspects relating to ICTs, LMS, eLearning and mLearning, as well as screencasts.

This chapter gives an in-depth overview of how this study was conducted. This chapter outlines the empirical research undertaken for this study and presents the research design and methods that were used as a means of gathering information from the lecturers, who were selected from the CAS within the university as they had used screencasts as a means of teaching and learning for their lessons.

The rationale for collecting, storing and analysing data is also discussed in this chapter. This chapter discusses the research design as a means to explore the research paradigm of the study. Secondly, research methods on how participants were selected and how data were collected is discussed. Thirdly, the data analysis and pilot study follow. Fourthly, matters relating to Lincoln and Guba's (1985) criteria for trustworthiness are considered: credibility, transferability, dependability and confirmability. Finally, a section presenting ethical measures is followed by the conclusion of the chapter.

3.2 RATIONALE FOR THE STUDY

The rationale for a study into the use of ICTs, such as screencasts, for supporting teaching and learning in higher learning at an ODL University is of the utmost importance. This is to help address the barriers that hamper both students' and lecturers' educational performance in higher learning distance education. The lecturers' training with regard to screencast implementation will promote students' learning and lecturers' professional development experience. Some lecturers mention the challenges in their experience with new technologies such as the screencast

production process. This is not new, as the literature has revealed the challenges pertaining to ICTs supporting teaching and learning (Charalambous & Karagiorgi, 2002:199). In South Africa, there is a growing body of literature regarding the use of screencasts.

This study's aim was to determine how screencasts as a technology-enhanced teaching and learning tool could be used in a public ODL university in South Africa. The purpose of the investigation was also to determine the primary purposes and challenges with regard to using screencasts as a technology-enhanced tool. Recommendations by the lecturers should help to assist planning and will suggest future ways of using screencasts as a technology-enhanced teaching and learning tool.

3.3 RESEARCH DESIGN

As the fundamental purpose of this current research was to investigate and examine the reported experiences and perceptions of lecturers on the use of screencasts, this study followed a qualitative, interpretive research approach to ensure the accomplishment of the study. McMillan and Schumacher (2006:315) indicate that the qualitative researcher's main concern is to understand a phenomenon from the participants' point of view. Thus, this research study gathered information from the lecturer-participants. During the process of interviewing the participants, I became acquainted with their sentiments, beliefs, thoughts, contemplations and their actions with regard to phenomena (McMillan & Schumacher, 2006:316). Since the qualitative research approach of this study aimed at eliciting information concerning the lecturers' perceptions, it was fitting that this study employed an interpretive research paradigm, which will be discussed next.

3.3.1 Research paradigm

This case study employed an interpretivist paradigm, as it was aimed at finding out the lecturers' views, perceptions and interpretations regarding the use of screencasts as a technology-enhanced teaching and learning tool at an ODL university. A paradigm is a model or body of research methodologies used as a reference for organising

observations and understanding for collection and interpretation of data (Babbie, 2010:33; De Vos, Strydom, Fouché & Delpont, 2011:513). Research approaches are characterised by a specific ontology, epistemology and methodology (Terre Blanche et al., 2006:586). An interpretivist paradigm means that the lecturers' experiences regarding the nature of existence in terms of the utilisation of screencasts were real (ontology), and therefore, I had to interview lecturers by posing questions of how reality can be known via a face-to-face method to hear their stories (epistemology) (Terre Blanche et al., 2006:586; Vasilachis de Gialdino, 2009:2). Hence, I assumed the position of the primary instrument in an interpretive perspective, by understanding the context and collecting and analysing data, which all form part of interpretive approach principles (Terre Blanche et al., 2006:274).

Research paradigms such as positivism, interpretivism and critical science all represent different views on how the world is viewed (McMillan & Schumacher, 2010:5). As positivism studies humans and emphasises the rationalistic view of knowledge, which can be discovered only through scientific methods (McMillan & Schumacher, 2010:5; Nieuwenhuis, 2007:55), critical theory shares features with interpretivism by focusing on studying and understanding society. However, critical theory puts more emphasis on understanding, and not underestimating, the abilities and human potential in human beings. Through reasoning, people enable themselves to personally act toward a positive change in their societal circumstance (De Vos et al., 2011:9). With interpretivism, when people seek comprehension of their world, they develop subjective meanings through interacting and listening carefully in their own lived experiences (Creswell, 2007:20; Terre Blanche et al., 2006: 273-274).

Creswell lists what he regards as five different approaches of qualitative inquiry, which are phenomenology, ethnography, grounded theory, biography and case study (Creswell, 2007:2). This study uses a case study, as it was found most suitable, and this will be discussed next.

Case studies are descriptive in nature and provide rich information about a specific situation (Terre Blanche et al., 2006:461). Furthermore, case studies are explorative with regard to programmes, events, activities or processes connected to one or more individuals (Creswell & Creswell, 2003:25). This present study's case focused on the

lecturers at UNISA to investigate a contemporary phenomenon inside its authentic setting (Yin, 1984:23). The phenomenon under study pertained to how screencasts are used to enhance teaching and learning. This was done through conducting interviews with a group of lecturers who were, for the sake of this study, regarded as the case. McMillan and Schumacher (2006:317) describe case studies as single-site studies, which tend to have a socio-cultural boundary and focus on a group of individuals who have had similar experiences.

Yin (1991:46) mentions different types of case studies, such as exploratory and descriptive case studies. This study focused on an exploratory case study because of its nature of investigating without a clear set of outcomes (Yin, 1991:46). As case studies examine a detailed case or a situation, cases may be programmes, events, or activities, or a set of people confined to a specific time and place (McMillan & Schumacher, 2006:26). Case studies are enlightening and descriptive in nature and provide rich information about a specific situation (Terre Blanche et al., 2006:461).

As I was the essential prime instrument with regard to the collection and analysis of data (Terre Blanche et al., 2006:274), it was important that as an employee at the same university I should not let the facts influence me; but should keep track of the collected information and not lose focus because of bias or subjectivity with regard to the outcomes of the research.

3.4 RESEARCH METHODS

The research methods were used to investigate the problem identified in this study. Accordingly, the methods used describe how the data were collected to achieve the study's aims. Accordingly, the following aspects will be discussed next: the selection of participants, data collection, document analysis, semi-structured interviews and member checks.

3.4.1 Selection of participants

This study focused only on the participation of lecturers at the College of Accounting

Sciences (CAS). As mentioned in Chapter 1 (section 1.8.1), the rationale for choosing CAS and selecting the lecturer-participants for this study was based on their knowledge of, relevance to and familiarity with screencasts, since these lecturers had gone through the implementation of screencasts as a technology-enhanced teaching and learning tool in ODL. This college has received funding from the Auditor-General in Pretoria and engages in educational technological enrichment in the form of screencasts to enhance their teaching and learning in ODL.

Twelve CAS lecturers were invited to be participants via electronic mail invitation. Ten lecturer-participants accepted the invitation. CAS consists of two schools, namely the School of Accountancy and the School of Applied Accountancy. Participants were selected from the School of Accountancy, which has four departments, namely the Department of Auditing, Financial Accounting, Management Accounting and Taxation. The CTA Programme is derived from the mentioned four departments. There are five modules that make up the CTA programme, on which the lecturers were interviewed. The modules that will be dealt with are the following: Applied Auditing, Applied Financial Accounting 1, Applied Financial Accounting 2, Applied Management Accounting and Applied Taxation. These were the modules in which the lecturers had embarked on screencast production.

All ten CAS lecturers from the School of Accountancy that had done screencasts in the School of Accountancy were selected. Furthermore, the selection of lecturer-participants was based on gender, and experience with lecturing with screencasts and their different roles in the CTA screencasts programme. The roles of the lecturers varied, depending on such aspects as whether they had recorded the screencasts for the first time or not and whether they saw any value in creating screencasts.

This research employed purposive sampling, which Chilisa and Preece (2005:170) describe as a researcher selecting a targeted type of participants (Terre Blanche et al., 2006:304). In turn, according to Babbie (2010:93), purposive sampling is described as a type of non-probability sampling in which the units to be investigated are selected on the premise of the researcher's judgement about which units are the most important. Accordingly, the ten lecturers were chosen due to their "knowledge as well as other

stakeholders' knowledge in this area of interest" and were responsible for CTA students (Chilisa & Preece, 2005:170).

Morse (2004:884) additionally mentions that purposive sampling in qualitative inquiry deliberately seeks participants with specific qualities and characteristics, as required by developing analysis and emerging theory. Factors that were considered in the selection of the lecturer-participants were the lecturer-participants' gender and experience of the topic under study. Therefore, I interviewed ten lecturer-participants, of whom four were males and six were females. The rationale behind this type of sampling is related to the fact that in-depth data was required through interviews and document analysis. The data collection process will be discussed next

3.4.2 Data collection

Data collection pertains to the correlated activities aimed at gathering relevant information, which will help to address the relevant research questions (Creswell, 2007:118). As mentioned in section 1.8.2, this study employed semi-structured interviews and document analysis (McMillan & Schumacher, 2006:477) to collect data. It is fitting that the lecturer-participants were interviewed; interviews are natural forms of interacting with people, as they resemble natural conversations (Terre Blanche et al, 2006:297). I chose interviews to understand and have more insight into how the CAS lecturers perceive the use of screencasts (Chilisa & Preece, 2005:151).

I identified and contacted the ten lecturer-participants from the School of Accountancy. The screencasts per module depended on how many screencasts the lecturer had prepared. I looked at the variety of the information regarding screencasts shared by the lecturer-participants and aimed to look at screencast information lectures shared with their students based on the five modules per course. Document analysis was done for triangulation purposes to see how it supported the lecturers' responses elicited during the interviews. McMillan and Schumacher (2006:477) refer to this approach as triangulation, which additionally serves as cross-validation among data-collection methods. Using various data-collection strategies enables researchers to collect data relevant to the phenomenon being investigated (Nieuwenhuis, 2007:81).

This study employed two forms of data gathering with a specific end goal, namely to improve the validity of the findings through triangulation. As indicated by McMillan and Schumacher (2006:477), triangulation is a procedure where multiple data sources, data collection strategies, periods and theoretical schemes are qualitatively cross-validated. This study triangulated the data by means of different research methods for the investigation and analysis of data.

3.4.2.1 Document Analysis

In document analysis, one gathers additional information from various documents pertaining to the phenomenon under investigation. Bowen (2009:27) explains that document analysis is a systematic process where documents recorded without the researcher's intervention are reviewed and evaluated. Such documents contain text and images and are either printed or electronic material. Since this study triangulated the data by means of document analysis, I gathered additional information from documents which were myUnisa screencast activities 2014-2017 (see section 4.3.1) and the Unisa Strategic Plan (2016-2030) (section 4.4.2), as they were found relevant to the study under investigation. The mentioned documents were regarded as important and helpful as they were seen to add value to the richness of the information, and deepen an understanding of the research data (De Vos et al., 2011:377; Nieuwenhuis, 2007:101).

3.4.2.2 Semi-structured interviews

This study employed semi-structured face-to-face interviews as its main information collection method. The lecturer-participants from CAS were interviewed on an individual basis. These interviews took place in the comfort of the lecturers' offices. The length of the interviews varied according to each lecturer's response, with the shortest being ten minutes and the longest 30 minutes. The semi-structured, face-to-face interview was selected because, by its very nature, it gave the lecturers the flexibility to answer questions in accordance with their own experiences. Corbetta (2003:270) expresses the view that, concerning the conducting of semi-structured interviews, the lecturer-participants should all be asked the same questions that are prepared by the interviewer. There were instances where the answers were not clear,

leading to my probing further, or lecturers asking for clarity where necessary. It is interesting to note that Corbetta (2003) also adds that the strength of semi-structured interviews is that the researcher can prompt and probe deeper into the given situation where necessary, should the clarification of the appropriate responses be unclear.

In this study, semi-structured interviews were viewed appropriate as the lecturers participating could ask for clarity if certain interview questions or responses were unclear. Questions were asked in the same order, but where the lecturers added more information, they were given a chance to do so without interruption, while I was free to ask follow-up questions where it was deemed necessary. In addition, the interview guide (Appendix 1), helped me to make sure that the interviews concentrated on answering the interview questions.

As mentioned in the previous section, this study employed semi-structured interviews as its main information-collection method. The semi-structured interviews were based on an interview guide with four questions, each with its sub-questions (McMillan & Schumacher, 2006:351; Chilisa & Preece, 2005:147). Corbetta (2003:270) mentions that the questionnaire's layout may require eliciting different amounts of detail in a semi-structured interview. Furthermore, it might contain a list of the themes to be covered or may be a rundown of the questions to be asked. Because of this review, the interview guide comprised a rundown of the questions that were posed to the lecturer-participants (Appendix 1). In addition, the questions were organised to address the research questions, and to achieve the aim of this research study. After completion of the interviews, the answers were transcribed.

I did not expect the interview guide to influence the lecturers to respond in a pre-determined manner. The aim was for the interviewees to be comfortable when answering the questions and for me to get as much valid and reliable information as possible to add to the depth of the research. The purpose of the interview guide was primarily to provide guidance and ensure that the lecturers participating expanded on their answers and gave adequate information to answer the study's research questions (Babbie, 2010:277).

Laws, Harper and Marcus (2003:265) describe tape recording as a process of making an entire record of what has been said by the interviewees as a first-hand experience. This maintains the originality of what was said by the interviewee and helps avoid the questioner's getting distracted in the interview, as everything would be tape-recorded. A tape recorder catches individuals' real voices of reason as well as their voice projection, which brings life into the research report. As mentioned, all the interviews were sound recorded by means of a digital audio recording device and I later transcribed them.

3.4.2 Member checks

Member checking is described by Harper and Cole (2012:510) as a quality control technique utilised by the researcher as a means of enhancing and improving the quality in terms of accuracy, credibility and validity. To validate whether the interviews were transcribed accurately and were not misquoted, the transcribed interviews of each interview were sent to the relevant lecturer-participants after the interviews were transcribed, for them to verify the authenticity and accuracy of the captured records and to make corrections if needed. In the cases where the lecturer-participants would question certain items, or where the data did not reflect the true conversations of the actual interviews, these could be corrected accordingly. However, in this study, none of the lecturer-participants made any changes to the transcripts.

3.5 DATA ANALYSIS

This research study found the inductive analysis of this qualitative research study useful for the study, as the information gathered was from trusted and relevant sources. McMillan and Schumacher (2001:41) mention that inductive reasoning enables one to investigate a phenomenon with an emerging research design. The collected data information was organised, compared and analysed after it had been transcribed. McMillan and Schumacher (2001:462) demonstrate that groupings and themes transpire from the data, as opposed to being enforced on data before the data has been collected. After the data collection was carried out, the transcription of the data

ensued. This transcription comprised sound documented files converted into MSWord documents, which were ready for coding.

Neuman (2006:459) views data coding as discovering “tags for assigning units of meaning during the study.” Neuman (2006:459) further elaborates that “Codes are usually attached to chunks of varying size – words, phrases, sentences, or whole paragraphs connected to a specific setting”. The coding process is part of the qualitative data analysis process.

After the transcription of the data, emerging themes were identified, and qualitative data analysis was carried out on the themes that emerged from the data. Cohen et al. (2007:461) indicate that qualitative data analysis involves organising, accounting for and explaining such data. This analysis was done to make sense of the data in terms of how participants define a situation, noting patterns, themes, categories and regularities. An organising system was created by making a list of the steps this study employed (McMillan & Schumacher, 2006:368). I did not assume or anticipate any answer beforehand but kept an open mind with regard to any responses as those appropriate from the participating lecturers.

Certain steps were followed concerning the data analysis and are reported on in Chapter 4. Reflections on the literature underpinning this research are elaborated on in detail in sections 4.2 to 4.4, as well as the in-depth details of how the interview questions, document checklists and document analyses were done. After that, open coding of all the data collected was carried out. Then an intense, careful check was carried out for emerging themes. An examination of themes were carried out, and lastly, the conclusions based on the findings were formulated.

A pilot study consisting of a lecturer who characterised those who participated in this research study was done with a lecturer from the College of Human Sciences (McMillan & Schumacher, 2006:202). It was deemed to be appropriate to employ a pilot study as its main purpose was to test the instrument (Persaud, 2010:1033). The pilot study is discussed next.

3.6 PILOT STUDY

According to Persaud (2010:1033), “a pilot study refers to either a trial run of the major research study or a pretest of a particular research instrument or procedure”. Concerning this study, a pilot study was conducted with one lecturer as a member from the College of Human Sciences (CHS) at the same university. One lecturer was seen to be adequate as a pilot because the purpose was to test the instrument. The CHS lecturer shared similarities with the CAS lecturers. It was hoped that the pilot participant would reveal issues that lecturers dealt with on a daily basis concerning screencasts. The purpose of this pilot study was to assess the effectiveness of the research instrument (interview guide and audio recording of the interviews) and conclude whether the set questions would provide answers to the research questions. This helped me to modify and re-examine the questions in the interview schedule. Overall, the results of the pilot study were helpful as they alerted me to the inadequacies of the data collection instruments and data collection process. Accordingly, the questions were restructured and I worked on my questioning skills. The interview took less than the actual anticipated time (25 minutes); this, therefore, provided me with useful information regarding the questions. Therefore, I skipped some interview questions as their relevance and significance turned out to be minimal or irrelevant.

3.7 TRUSTWORTHINESS

As section 1.10 stipulated, Silverman (2004:283) advises the researcher that, when doing research, it is of vital importance to be mindful of its validity and reliability, as the objectivity and credibility of research are at stake and are in question. Morse, Barret, Mayan, Olson and Spiers (2002:2) state that “without rigour, research is worthless, becomes fiction, and loses its utility. Hence, a great deal of attention is applied to reliability and validity in all research methods”. This underlines the significance of achieving and attaining rigour in a study; if the study is not characterised by a solid feeling of rigour, it will lose its credibility. To achieve rigour in this study, Lincoln and Guba’s (1985) criteria for trustworthiness were considered. These criteria incorporate *credibility, transferability, dependability and confirmability*. Below is a brief description of the criteria and how they were applied in this study.

3.7.1 Credibility

Credibility establishes that the research was conducted in a manner that guarantees the subject being accurately identified and described (De Vos et al., 2008:420). Therefore, in this study, credibility refers to a definite representation of the CAS lecturers who participated in the study. To achieve credibility in the study, I embarked on both member checking and providing a thorough description of the phenomenon under investigation (Shenton, 2004:68–69). I followed this suggestion, as mentioned in section 3.4.5.2. Leedy and Ormrod (2005:97-100) further advise researchers to consider triangulation, a prolonged stay in the field, feedback from others and member checking, as they are activities that increase the credibility of qualitative research. Furthermore, I committed myself to the selection of participants (section 3.4.1), doing member checks (section 3.4.2.5), pilot testing (section 3.4.2.1) and preparing the interview instruments such as tape recordings and interview guides. This was to help guarantee and clarify that the information was credible enough for the study. Furthermore, Creswell and Miller (2000:128) recommend that the qualitative study's participants and the themes should be described in rich detail, which is done in this study's Chapter 4.

3.7.2 Transferability

Transferability is a scenario or the degree to which the results of a qualitative research study are transferable to other settings, groups or context (Polit & Hungler, 1997:470). The data analysis that this study utilised was the use of thick descriptions as they emerged from the prolonged semi-structured interviews (see section 4.3) and document analysis (see section 4.4). To accomplish transferability, I made it my responsibility to ensure that this study employed sufficient contextual information about the fieldwork to enable the reader to make transfer (Shenton, 2004:70). In this study, the information was gathered from different sources such as the screencast activities mentioned in section 4.4, as well as the selected CAS lecturers who are the lecturer-participants discussed in section 4.3. This makes it theoretically possible to transfer this study's implications to other parts of the world.

3.7.3 Dependability

Dependability entails finding out whether the study would yield similar outcomes in similar contexts if redone, since the choice of sampling method determines how accurate the research findings, reliability and accuracy of the research methods are (Mason, 1996:24; Merriam, 1998:205; Babbie, 1998:129). As this study employed purposive sampling, if the study were to be redone, the results would be similar in a study of a similar nature. Dependability in qualitative research is also conditioned by how stable the data are over time and conditions, as it evaluates the quality of the integrated processes of data collection, data analysis and the theory generated (Polit & Hungler, 1997:306). As dependability is not guaranteed in qualitative research, this is also applicable to this qualitative study. The collected data consist of sound audio files and the content transcribed to ensure that the inquiry audits could be established at any time (McMillan & Schumacher, 2006:326).

3.7.4 Confirmability

Confirmability evaluates the qualitative data, grounded in how objective and neutral the specific data are (Polit & Hungler, 1997:307). Lincoln and Guba, (1985:320-321) state that there are six stages involved in confirmability, namely: raw data, data reduction, process notes, personal notes, instrument development and drafts of the final report. This study employed the mentioned stages due to their pertinence to this qualitative study. Furthermore, I discussed and compared all these findings from multiple sources of data (Seale, 2000:45). By analysing the data, everything that emerged from the research was validated. Importantly, confirmability entails the repetition of the study by others (Miles & Huberman, 1994:278). I trust that the characteristics of the data, as posited by me, would be confirmed by others who read or reviewed the research results (Bradley, 1993:437).

3.8 ETHICAL MEASURES

Since the inception of this study, throughout its different stages, ethical measures were adopted. According to Babbie (2010:64), it is essential and fundamental for

researchers to be aware of a general agreement of proper and improper conduct throughout scientific enquiry. Furthermore, De Vos et al. (2005:57) add that moral principles are widely accepted when suggested by an individual or group. Moral principles further offer rules and posit behavioural expectations about the correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students.

As mentioned in section 1.9, ethical clearance was obtained from the College of Education (CEDU) as well as the College of Accounting Sciences (CAS) at UNISA (see Appendices 5 and 6 respectively). As the lecturer-participants in this research study were all staff members of UNISA at the time of the study, permission (see Appendix 7) was obtained from the Research Permission Sub-Committee (RPSC) office at UNISA to work with the university lecturers and documents. Not only did I assume the role of being the primary instrument from an interpretive perspective, mentioned in section 3.3.1, but in addition I was a student and a staff member at UNISA. I ensured that I was not biased or subjective with regard to the research study by being cautious concerning data selection and data analysis and reviewing the interviews recorded, to ensure that my own views did not influence the lecturer-participants' lived experiences; especially as I knew that a qualitative study can entail bias on the part of the researcher (Noble & Smith, 2015:1). Written approval was received from UNISA to conduct the interviews. After the interviews had been transcribed, data analysis was done (Chapter 4 discusses the process in detail).

Accordingly, the lecturer-participants were asked to complete informed consent forms (Appendix 3), which they signed and returned to me, thereby acknowledging that they were satisfied with the criteria of the consent forms (Flick, 2007:68). Regarding obtaining informed consent, Flick (2007:72) states that a mutual contract should be prepared, and such contract details should include the purpose of the research, the expectations of the lecturer-participants regarding being interviewed and the data collection process. In addition, aspects that are of importance are the length of the data storage, who will have access to the data and whether there will be guaranteed anonymity. The lecturer-participants were made to feel comfortable when answering interview questions following strict critical ethical research aspects such as confidentiality, no-harm, non-disclosure, anonymity, privacy and empowerment, as

well as caring and fairness, as outlined by Neuman (2006:129); McMillan and Schumacher (2006:334); Allmark, Boote, Chambers, Clarke, McDonnell, Thompson and Tod (2009:49); Maree, (2007:300) and Leedy and Ormrod (2005:101).

For this study, I ensured that the lecturer-participants were aware of every step of their contribution and participation in the study. Accordingly, the lecturer-participants were informed of the power they had in the research process (McMillan & Schumacher, 2006:335). Flick (2007:73) warns the researcher to respect the participants in their space and not probe further if participants appear to be uncomfortable; hence the lecturer-participants were informed about their freedom to withdraw from the study at any stage.

During the interview recording process, I arrived prepared with a writing pad and a pen, a cell phone and a sound recorder in case either of them did not record perfectly, a sound recorder charger in case a battery ran out, and an electronic extension for power as the interviews were conducted in the lecturers' offices. While conducting the interviews, I showed respect for the lecturer-participants, to ensure their welfare and their rights as research participants (Durrheim & Wassenaar, 2002:66-70).

Confidentiality is a condition whereby the participants are assured by the researcher that their information will be kept private (Babbie, 2010:67). I informed the lecturer-participants that they would be kept anonymous, and that they could give their information without fear of their privacy being invaded. I also assured them that their personal particulars would be kept anonymous. I aimed to keep up with the ethical guidelines about the privacy rights of the lecturer-participants. As privacy is synonymous with confidentiality, privacy is the intention to mind one's own business concerning that which is not proposed for others to watch or investigate (De Vos et al., 2011:118). In this study lecturer-participants' names were not revealed, but, instead, a method of referring to College of Accounting Sciences Lecturer 1(CASL#1), CASL#2 and so on was employed. Flick (2007:74) concludes by noting that one should make a priority of retaining the anonymity and privacy of one's research participants when analysing the data. This included everything that had to do with data analysis. Field notes and transcripts ought to exclude solid concrete information about real persons

and sites; the issue ought to be obscurity from the earliest starting point (Flick, 2007:74).

3.9 CONCLUSION

This chapter gave an in-depth overview to explain how this study was conducted. The rationale for collecting, storing and analysing data was also discussed in this chapter. This included the research design, research methods, the data analysis, pilot study, trustworthiness and finally a section presenting ethical measures.

Since this study has dealt with lecturer-participants in a specific college, ethical considerations and measures were considered. The next chapter offers an in-depth discussion of the findings during the empirical investigation. This is to reveal the main reason why this study was done and give proper feedback.

CHAPTER 4

DATA ANALYSIS, FINDINGS AND DISCUSSION OF DATA

4.1 INTRODUCTION

The previous chapter discussed the research methodology that this study employed. The chapter further dealt with outlining the empirical characteristic of this research study. Chapter 3 further dealt with various sections that described the rationale for gathering, storing and analysing the data.

This chapter provides the research findings, document analysis and summary of the findings. The aim of this chapter was to extensively analyse all the data collected from the ten lecturer-participants who were selected from the CAS within UNISA and also analyse the relevant documents. Research findings revealed the profiles of participants and their themes and subthemes that emerged from the interview questions. The discussion of documents analysed focuses on MyUnisa screencast activities 2014-2017, and the UNISA Strategic Plan 2016–2030. There is also an entire summary of this study's findings. The details of the interviews that were recorded, transcribed and analysed and the results that were found based on the data collected are presented.

4.2 RESEARCH FINDINGS

The focus of this section is on providing the findings as well as a thorough report on the empirical enquiry as a means of answering the main research question, namely *“How can screencasts be used as a technology-enhanced teaching and learning tool in open distance learning?”* It presents the findings of interviews with ten participants, as well as the observations and document analysis, from the selected CAS college.

4.2.1 PROFILE OF PARTICIPANTS

To differentiate among and provide information about the participants, their detailed profiles were captured and listed on the table below:

Table 4.1: Details of the participants

Participant	Gender	Qualifications	Module Name	Lecturer Years' experience at UNISA	Years of experience with screencasts
CASL #1:	F	BCom (Accounting Sciences) (UP) BCom(Hons) (Accounting Sciences) (UP) Certificate in Accounting Theory (CTA) (UP)	FAC4862_4864 (Applied Financial Accounting 1 & 2)	7	4
CASL #2:	F	BCom Accounting Sciences (UP) BCompt Accounting Sciences (Unisa)	FAC4862_4864 (Applied Financial Accounting 1)	5	2
CASL #3:	F	Chartered Accountant (SA) MCom (Forensic Accounting) (NWU)	FAC4864 (Applied Financial Accounting 2)	9	1
CASL #4:	M	Chartered Accountant (SA)	TAX4861_4862 (Applied Taxation)	10.5	1.5
CASL #5:	F	MPhil (Accounting Sciences) BCompt (Hons) CTA, CA(SA)	AUE4862 (Applied Auditing)	9	1
CASL #6:	M	BAcc (Hons) (University of Zimbabwe) Professional Accounting Degrees (UK) MBL (Unisa)	MAC4861_4862 (Applied Management Accounting)	16	2
CASL #7:	M	B Compt Hons (Financial Accounting) (Unisa) PG Dip Management (Financial Accounting) (UCT) ND: Cost and Management Accounting (CPUT)	AUE4861_4862 (Applied Auditing)	5	1
CASL #8:	F	BCom Accounting Sciences BCompt Honours (Unisa)	TAX4861_4862 (Applied Taxation)	2	1.5
CASL #9:	M	BCom Accounting Sciences BCompt Honours (Unisa)	MAC4861_4862 (Applied Management Accounting)	7	3
CASL #10:	F	BCom Accounting Sciences (Hons) (2002) BCom Accounting Sciences (2001) MPhil (Accounting Sciences) UP	TAX4861_4862 (Applied Taxation)	4	3

Source: Self compiled

Table 4.1 shows that there were six female participants and four male participants in this study. The education level ranged from Bachelor of Commerce degree (BCom) to

Master of Commerce degree (MCom), which indicates the professional scale of each lecturer-participant interviewed at CAS. The lecturer-participants have had work experience at UNISA ranging from two to sixteen years. However, the experience with screencasts ranges between one and four years. As stipulated in the table above, the participants are named CAS Lecturer 1 (CASL#1) to Lecturer 10 respectively. This is to keep track of the participants as well as retain their anonymity. As per the heading, the findings from the interviews and document analysis are discussed in the next section. Below will be a discussion of themes informed by the research questions.

4.2.2 DISCUSSION OF THE THEMES

As mentioned in the previous section, this discussion is about what emerged from the interviews and the research questions. The themes are therefore based on the secondary research questions. The main aim was to determine how screencasts as a technology-enhanced teaching and learning tool could be used in ODL. The analysis of the interviews revealed certain themes and subthemes; which have been divided into four broad sections. The themes emerged from the transcriptions (one of the participants' transcripts is included in Appendix 4). These themes and subthemes are indicated in Table 4.2 below and further in-depth discussions will follow beneath the table.

Table 4.2: Themes and subthemes

Theme	Subtheme
Screencast as ODL technology-enhanced teaching and learning tool	Screencast implementation Screencast recording experience
Primary purposes of screencast	Screencast as a teaching tool Screencast suitability for discipline content Lecturers' opinion on students' feedback
Screencast challenges experienced	Internet access (Resources and ICT connections, Wi-Fi and myUnisa accessibility) Screencast being time consuming, staff shortage (lack of resource to do the job) and limited staff training MS PowerPoint and subject content Solutions to screencast challenges
Recommendations for the effective use of screencast	Recommendations and guidelines Software and other ICT interventions University staff training

Source: Self compiled

A **screencast as ODL technology-enhanced teaching and learning tool** is the first theme that materialised from the first research question, which asked: “*How can screencasts be used as a technology-enhanced teaching and learning tool in open distance learning?*” This research question’s objective was to determine how screencasts as a technology-enhanced teaching and learning tool could be used in ODL. It is a necessity for this objective to be visited thoroughly as it unpacks layers of the study. This theme emerged from the main question, which led to three subthemes. These subthemes were: screencast implementation and screencast recording experience, which will be discussed shortly.

Secondly, the **primary purposes of screencasts** emerged as the next theme, inspired by the second research question: “*What are the primary purposes for using screencasts as a technology-enhanced tool?*” This was to see whether there is any reason for engaging in this technological platform. Four subthemes emerged from this theme’s objectives. These were: screencasts as a teaching tool; screencast suitability for disciplining content; lesson planning for screencast; and lecturers’ opinion on students’ feedback.

Thirdly, **screencast challenges experienced** transpired after the emergence of the research question: “*What challenges do lecturers experience in using screencasts as a technology-enhanced teaching tool?*” This informs the core of the study, as it reveals the effective ways of dealing with challenges already encountered by the participants going forward. Four subthemes emerged. These were: Internet access (Resources and ICT connections, Wi-Fi and myUnisa accessibility); screencasts being time consuming; staff shortage and limited staff training; MS PowerPoint and subject content – and solutions to screencast challenges.

Fourthly, **recommendations for the effective use of screencast** emerged as a fourth theme materialising from the research question: “*What recommendations can be made regarding the effective utilisation of screencasts as a technology-enhanced teaching and learning tool?*” The objective was to get recommendations on this theme. This theme pertained to any suggested improvements or recommendations to improve screencasts as a teaching and learning tool. Three subthemes emerged from this theme. These were: recommendations and guidelines; software and other ICT

interventions; and university staff training. All the sub-themes will be dealt with in-depth below.

4.2.2.1 A screencast as ODL technology-enhanced teaching and learning tool

Subthemes that emerged under this theme are revealed in Table 4.2 (section 4.2.2). Such subthemes are screencast implementation and screencast recording experience, which will be discussed in this section. These themes will each be analysed as they are respectively listed in Table 4.2 above.

Screencast implementation

This theme is aimed at the quantity and quality of the screencast production, enhancements and suggestions. Concerning the quantity, the numbers produced by the lecturers vary according to the modules. In the TAX4861 and TAX4862 (Applied Accountancy) modules, the lecturers produced a large number of screencasts. CASL#4 indicated that she had produced ten screencasts, while CASL#8 produced 15 and CASL#10 had produced 39 respectively. CASL#10 confirmed that she produced *“31 screencasts and then I also did eight for my masters at Tuks”*.

The FAC4864 and FAC4862 modules produced their own number of screencasts, with CASL#1 having produced four, CASL#2 could not remember the exact number but mentioned that it was low. CASL#3 could not recall whether it was three or four screencasts. There have been four screencasts produced for MAC4861_4862 (Applied Management Accounting) by CASL#9. Concerning screencasts being implemented in lesson planning, CASL#3 felt that *“screencasts are additional student support tools meant to elaborate more on difficult concepts and does not replace the normal study material”*. CASL#8 shared the same sentiments that *“It is basically just focusing on more complex or difficult issues in the legislation that we try to explain in each tutorial letter.”*

CASL#1 shared that *“it helps the students with core principles that they can review before they start to practise their questions in the tutorial letter.”* CASL#8 added that *“screencasts remind you to look for difficult concepts that students struggle with, either maybe in the exam or test, to think of future things to maybe incorporate those topics in to a screencast.”* CASL#9 felt that *“in an open distance learning context, screencasts serve as an addition to the formal material”*.

CASL#5 felt that screencasts *“can serve as additional aids, so it can be used as a brief summary to make students curious, to want to read the existing materials, like textbooks or tutorial letters. If I know they struggle with specific aspects of the study material, we can maybe create brief screencasts, upload it and refer them to the screencasts for that section only.”* CASL#10 contended that *“if students struggle to understand the content when it is just written or in audio format, it is easier with a visual format coming through; it usually enhances their ability to understand the topic”*

The lecturer-participants had mixed feelings about how screencasts influenced their teaching. Some lecturer-participants did not see how screencasts influence teaching and learning, where others saw the significant value screencasts can add. CASL#4 felt that a screencast *“is a nice tool of summarising difficult areas of the work and bring it into where they can actually see and hear certain topics that you know they struggle with.”* Ruffini (2012) further adds, as cited in section 2.4.1, that screencasts are a viable educational arrangement that can be used for various purposes. CASL#7 indicated that he often refers students who contact him to a screencast link uploaded on myUnisa. Some lecturer-participants such as CASL#10 argued that,

...even though screencasts are time-consuming, they don't need to be just there for tuition, it could also be to inform students of how to use myUnisa, how to understand or read your textbook, so also giving them more administrative teachings. More than just for the actual tuition.

Screencast recording experience

Regarding the lecturer-participants' responses, the perception of the recording experience differed. CASL#10, who was fairly technologically advanced regarding

screencasts, was comfortable, while her colleagues had found the recording experience challenging. Technologically advanced lecturer-participants mentioned that they were inundated with work, while other lecturer-participants indicated that they did not want to be involved with screencast recording projects.

CASL#8 added that whenever they faced challenges on screencast recordings, they referred to the sound and video department to assist them. CASL#6 felt that the recording was time-consuming and a long process to master, even though they enjoyed recordings. CASL#10 stated that:

...initially it was a learning process of making sure that the slides were animated enough to keep one's attention ... I think that the process got better, and so it made us more comfortable. It is a bit awkward talking to a screen and not to people, but that you get used to it.

CASL#3 spoke about the screencasts' preparation, such as content preparations on the MS PowerPoint slides as well as professional editing by professional scriptwriter at SVP prior to screencast recordings. Additionally, she remembered how they had to practise before studio recordings.

4.2.2.2 Primary purposes of screencasts

Table 4.2 (section 4.2.2) reveals the four sub-themes, which are screencasts as a teaching tool; screencast suitability for discipline content; benefits of screencasts based on lecturers' opinions of students' feedback; and challenges with their use. These themes will each be discussed below:

A screencast as a teaching tool

From the interviews, it transpired that most lecturer-participants viewed screencasts as an enhancement to their teaching and learning. Even though the lecturer-participants emphasised that students would not pass their modules by just viewing the screencasts, they recognised the impact and value screencasts added to the students'

academic lives. Lecturer-participants, such as CASL#8, mentioned that students like to see something happening and to hear something at the same time. Since the screencasts are mostly pre-recorded, it affords an option of editing, downloading and viewing at any time. CASL#5 added that the students' own digital devices have access to internet, which makes it quicker, and convenient to connect. Additionally, CASL#8 concurred that screencasts are easily accessible and downloadable anywhere as long as students have access to the internet.

Screencast suitability for discipline content

Lecturer CASL#1 mentioned that:

...screencasts afford students access and possibilities to accounting principles and better understanding of tutorial letter questions. If there is something that you still don't understand, go back, because I really think it, the way that we have broken down the specific topics, will help the students in starting with their studies as well as for revision.

CASL#8 added that screencasts were suitable for any student, irrespective of whether they are ODeL or residential students. CASL#7 often referred his students to the screencasts as it mostly happened that they asked questions that were captured in the screencasts. CASL#4 noted that:

I haven't seen really any change because we didn't really track people that watch it, where you can see if their results improve or so, so we haven't done anything in that sense to know if it benefits the students, but from the past, the reviews were quite good on the screencasts.

CASL#8 had noticed no changes after screencast implementation, and felt that there were no benefits, and instead that screencasts were time consuming. CASL#4 could not even track screencast viewership. In turn, CASL#7 indicated how excited their students felt after the introduction of screencasts:

So I would actually ask the students, you know what, before we

continue, have you looked at the screencasts? And if they haven't, I would refer them to it. Many of the students would call back and some of them wouldn't; it is just the way it goes. And the feedback that I see was that it was helpful, it was useful.

All the CAS lecturers relied on the feedback that had previously been conducted by the college. CASL#1 and CASL#7 both felt that screencasts were helpful as they fostered an understanding the principles of accounting, even regarding students who were not registered in CAS. Regarding resources and ICT, the lecturer-participants held different views of ICT and, therefore, their answers differed. CASL#1 appreciated the fact that the screencasts were easily downloadable, because of UNISA's free Wi-Fi. CASL#2 noted that the ICT connections enabled lecturer-participants to reach more students, while CASL#8 commended the headsets, which made the sound better, especially for the convenience of recording at home. CASL#10 commented on the user-friendliness of MS PowerPoint.

Benefits of screencasts based on lecturers' opinions of students' feedback

Screencasts have been observed to be connecting and compelling when conveying subject matter and teaching methods (Ahmad et al., 2015). CASL#1 felt that *"for me as a lecturer, it also improved my knowledge because now you really have to work through the accounting standards, and try to put it in a five-minute slide."* The lecturer-participants viewed lesson planning for the screencasts as a daunting and challenging experience, as the lecturers must "look for particular areas where students struggle" (CASL#1). Lecturers commended the flexibility of a student having the option to view "screencasts at their own pace," and concluded that "it is really useful because they can pause, rewind, press play, fast forward, skip to certain sections, etcetera. It gives them a lot of power" (CASL#7).

Since CAS lecturer-participants had given their opinions regarding the screencasts, CASL#9 stated that,

it is difficult to see who actually watched it and then it is difficult to have feedback on that. We did a questionnaire; at some stage the students

said that they feel the benefit of the screencast. On a personal level, it is difficult for me to say.

CASL#2 stated that:

the students liked it. They enjoyed the screencasts; if it really made a difference, I mean that I can't say. It is because, it is very small, it is on small sections of the work, because you can't take a huge question and work through it. So yes, but they enjoyed it.

CASL#4 indicated that research that had been done previously revealed the effectiveness of screencasts. CASL#8 mentioned a designated email address per module, where students can send queries or comments regarding their feedback on the specific uploaded screencast on myUnisa. This is an indication of the dedication of the lecturers, and the teaching and cognitive presence is reflected, as students tend to inquire and get responses from their lecturers. The difficulties students face and the need to send enquiries to their lecturers often vary with regard to various students because of the inability of some to view screencasts, volumes and more. CASL#10 concluded that students had been issued with a questionnaire which enquired about screencasts and almost all the students' responses to the questionnaire were positive, indicating the need for more screencasts.

4.2.2.3 Screencast challenges experienced

Table 4.2 (section 4.2.2) reveals the four subthemes that emerged under this theme. These are: Internet access (Resources and ICT connections, Wi-Fi and myUnisa accessibility); screencasts being time consuming and staff shortage and limited staff training; MS PowerPoint and subject content; and solutions to screencast challenges. These themes will each be analysed below:

Internet access (Resources and ICT connections, Wi-Fi and myUnisa accessibility)

Resources and ICT connections serve as the major subtheme that delays ICT integration in the entire ODL university. The lecturer-participants expressed their frustrations concerning screencasts. These issues range from the screencast uploading and downloading on myUnisa, UNISA's ICT department battling with the ICT configurations of myUnisa, Wi-Fi and data access for the students, as well as screencasts disappearing on myUnisa. In section 2.4.4, Zubdeh (2013) mentions the various challenges that threaten to hamper the educational process. Such challenges are weak technological infrastructure, restrictions on the import of crucial technological equipment, the lack of the necessary infrastructure in telecommunications, the difficulties of sourcing funding and finance, the non-recognition of the official authorities in some neighbouring countries and the low incentives to teach e-learning courses Zubdeh (2013). These are among some of the issues that the lecturer participants mentioned. CASL#8 expressed the view that there was a challenge when there was a change of storage on myUnisa. The lecturers uploaded the screencasts on learning units, but myUnisa moved the uploaded screencasts to additional resources; this caused delays and frustrations when students downloaded screencasts.

Regarding the frustrations experienced, CASL#7 mentioned that the lecturers had to condense a four-hour lecture to a five-minute screencast, which was time consuming. This was done to ensure access to screencasts, as large files delay downloading to a smart phone, and also data are extremely expensive. Another challenge mentioned by CASL#10 was the fact that lecturers had no access to data informing them about the number of students who had viewed the screencasts, even though previously the learning units had tracking accessibility. Regarding Wi-Fi and myUnisa accessibility, the CAS lecturer-participants also raised concerns. Although most students used ICT devices regularly, Moeller and Reitzes (2011: 6), referred to in section 2.4.5, mentioned that there were students with limited access to data and Wi-Fi. This was six years ago and is still relevant and a burning issue to date. Additionally, CASL#9 mentioned that students' access was a big challenge, due to the limitation of resources, regardless of whether access was made via a device like a tablet or a phone or an internet connection. CASL#3 added that:

...when the website is down, the students can't get to the screencasts, so that is annoying. Also, the other thing, I am not sure if all the students have access, have data and computers. I also don't know how extensive the problem is. Do they have access or do they not? I am thinking, maybe it is a problem because obviously there must be students in the rural areas, I don't know what the network coverage is like there. I don't know if that is a problem or not. I think it might be.

CASL #1 proffered that:

mostly the challenges that we meet are that at first screencasts were not loaded properly by ICT or whoever has loaded them on myUnisa, so there was a bit of a struggle. We have some very poor students as well, most of our students have data and have the resources to get that, but in some rural villages, there is not always internet access, so I think that might also not help them that much. Most of our students are also young people. I don't think they always stay in these rural areas in any way, so they do come to cities where there is free data available, such as Wi-Fi at restaurants.

CASL#8 expressed the following view, *"the challenge is just that some students don't have the latest internet explorer, or maybe they don't have data to download, but we did try and make it smaller so that it doesn't use that much data."*

The CAS lecturer-participants expressed concern with regard to myUnisa's inability to cope with storing the uploaded screencasts for students. They also had reservations about Wi-Fi and data access, which play a role in ensuring access to screencasts. CASL#10 referred to the issue of the screencasts' dimensions and the quality of screencasts not being 100% viewable as a challenge that the students had mentioned. For this reason, the lecturers communicated with the students by advising them which devices to use for viewing the screencasts. CASL10# thought that:

some of the sizing and the quality, wasn't 100%, then they said if they view it on their laptops, it was very pixilated, and they couldn't see it because it was actually designed for a smallish tablet or a large phone. It was designed to be small so that the data usage would also be one of the challenges, so I think just communicating back to the students helped them to know what device to use and then I think we also slightly increased the quality, so if they reviewed it on a screen, you don't have those pixilation problems.

Additionally, CASL#3 mentioned that they referred students to any local area with Wi-Fi close to them where they could download screencasts.

Screencasts being time consuming, staff shortage and limited staff training

Lecturer-participants such as CASL#8 and CASL#4 were vocal about the limited number of staff members, the lack of interest in screencasting as well as the lack of training. CASL#4 said that:

in our department it would be great if everyone can get training, because now they basically rely on people who are on contract, because the ones in contract know how to work with screencasts and the permanent staff do not want to learn screencasting because it does take a little bit of time. If you really want to do a proper job, you would have to do the recording and the upload.

CASL#8 mentioned that older lecturers do not really want to be involved in the recording of screencasts. This resulted in contract workers having to gain knowledge and experience in creating screencasts to do the work. "Or if the contract people leave, you know, how would that affect the department, the screencasts?"

CASL #9 expressed the view that "*the only challenge for us will be a Camtasia recording programme; I do not have access to it. Also, I don't have training on it*".

As mentioned on numerous occasions, all lectures cited that screencasts were time consuming. This is because it requires time spent on preparation and the technical side of the Camtasia programme requires attention.

CASL#10¹ (see Appendix 4) mentioned that *“I usually just work during the night, a couple of nights to finish it.”*

Some lecturers further suggested an addition of technical lecturers whose responsibility would be to take responsibility for screencasts and all other technological related instructions to avoid poor quality produced work. According to CASL#10 (see Appendix 4: CASL#10 was included as one transcribed interview and Appendix 4 because it was rich in data):

a twenty-five-minute screencast takes five days, just to set it up, which is a long time..., however, obviously that is your first time, then the next time it must just be updated. Then it is obviously much easier, because the animation is there, the pictures are there, then it is just an update. However, every time you create a new, let's say screencast, a new topic, it is very intense, in terms of time and so I would work through the night to get it finished.

MS PowerPoint and subject content

As Ruffini (2012) explains (see section 2.4.1), screencasts are viable educational arrangements that can be used for tutorials, demonstrations, digital storytelling, and narrated MS PowerPoint presentations. Lecturer-participants have indicated their frustrations regarding creating visually appealing MS PowerPoint slides, which add value to the content depth when preparing to record screencasts. CASL#6 stated that

“we found that PowerPoint slides were sort of like dull and not animated and unattractive to students. We feel that we can enhance them by using screencasts”.

1

CASL#8 observed that:

just to set up the PowerPoint, to deal with all the animations, that is a bit time consuming; it takes a while to prepare before you can actually do the recording. Regarding the subject content, the results have shown that some of the lecturers are as equally concerned about the content preparation as much as they are with the screencasts. Some feel the screencasts contain only a fraction of the actual module content.

CASL#6 explained that the main reason for their using screencasts was because their management accounting students were underperforming in the subject. CASL#10 (see Appendix 4) revealed that

in order for the content to make sense to the student, it should be understood by the lecturer and it demands attention from the student. The lecturer should make the content visually stimulating and eye-catching, revealing the lecturer's passion, as the lecturer's impact plays a role in how well the students actually understand the content.

Ruffini (2012) cautions that it should be remembered that making an instructive screencast that meets content destinations requires an efficient, deliberate way of arranging and planning (see section 2.4.3).

Solutions to screencast challenges

With the many challenges that the lecturers are faced with while trying to empower their students, the lecturers have found some solutions to combat the frustrations they experienced. CASL#6 posts and responds to students on the myUnisa discussion forum:

for the students that write to us informing us about how they struggle to access content, or they've got difficulty in loading content, then we normally would write in a discussion forum or would post an

announcement on myUnisa to sort of like guide them through how this is done.

Lecturer-participants inform the students where they have uploaded the screencasts to afford students easy access. Additionally, CASL#8 has a checklist of what the students should do to access the screencasts:

We've got like a checklist of what the students should do, like, these plug ins, maybe use google chrome or other website browsers to view the screencast, so on the announcements I just reiterate the steps that they have to follow to make sure that they can view the screencasts. It is basically pre-empting the problems.

Where and when lecturers encounter trouble whilst recording, CASL#9 recalled that they refer to the sound and video department for assistance.

4.2.2.4 Recommendations for the effective use of screencasts

Table 4.2 (section 4.2.2) indicates the three subthemes, which are: recommendations and guidelines; software and other ICT interventions; and university staff training. These themes will each be analysed below:

Recommendations and guidelines

CASL#7 felt that an ODL university as big as this one should have workshops on screencasts and content preparation for the presentations to help with visual delivery of the screencasts. CASL#5 noted that *"screencasts must be interesting and worth the student's while, summarised or packaged in a way that adds value."*

CASL#6 indicated that

there should be continued use of the tool over a prolonged period of time, further development on the visual effects and on the lecturer's

side. I also think there could be further training, because when we recorded screen casts initially I was made aware that this could be very robust and more advanced than what we initially did. I think further training and more advanced usage and implementation of screencasts could be necessary, as it could benefit the university.

It should be in the interests of UNISA to embark on efforts to improve the quality of work for their students, to avoid producing screencasts of a poor quality. CASL#7 suggested that, upon registration, all screencasts per module should be packaged on a CD or USB for students. This would be cost effective and less time consuming for other modules, except for Tax, as Tax laws change annually. CASL#7 further recommended the creation of free Wi-Fi hotspots by the UNISA:

The reality is that we need to find something that is accessible and many UNISA students, you know they may or may not have a laptop, but they definitely almost have a smart phone. The advantage of screencasts is that you could, wherever you could find a Wi-Fi hotspot, download that screencast, have a copy of it on your smart phone.

CASL# 9 suggested screencast maximum production time limitation of not more than five minutes, so that students would not need too much data. CASL#10 also agreed with time constraints, and further suggested the use of other quicker technologies such as webinars or an interactive lecture. *“From a tuition side, I think more interactive type of broadcasting might replace screencasts.”*

Software and other ICT interventions

In section 2.4.3, Ruffini (2012) is cited, mentioning that a screencast, for educators, is a proficient and successful method for depicting a well-ordered process, clarifying a specific idea, or giving a PowerPoint introduction portrayal. Lecturers can create compact and concise presentations because each screencast can be altered. Lecturers have used MS PowerPoint with Camtasia Studio in ensuring that their teaching makes sense to their students. In trying to experiment with other technologies, CASL#8 felt that it was efficient to have the content in MS PowerPoint, as they have

piloted the webinar and they could always link pre-recorded screencasts to it. However, they had encountered some challenges and did not want to combine everything in one module. Lecturers enjoyed creating screencasts to some extent; they felt that all the lecturers needed to understand how to cater for their ICT-orientated target audience. CASL#7 felt that “*students are embracing technology at a rapid rate, if you look at all of the different forms of social media that you get these days*”. CASL#10 (see Appendix 4), mentioned how they:

used Power Point and then we use Camtasia studio to do the actual recording and the editing of it. There are other new technologies that might make screencasts less useful, just because it would be quicker to do it. You can, for instance, do a webinar or an interactive lecture, and I think those might start to replace the screencasts in a sense that you don't have to spend as much time animating your slides, making it as attentive because you would have a lecturing figure actually lecturing it.

University staff training

Lecturer-participants such as CASL#9 felt that it was the university's duty to invest in the ICT infrastructure as well as their lecturer training and student centredness. CASL#9 said that “*they must invest in technology to make it more efficient*”. In this way, the screencasts, data, Wi-Fi access and myUnisa would be fully utilised. CASL#7 observed that:

lecturers also need to think of more innovative ways. I don't know whether or not UNISA has that platform for students to simply download for free or whether there are Wi-Fi hotspots at UNISA's regional centres across South Africa. I don't know that, but that is a big challenge, because students can't afford data, you know, it becomes expensive.

One of the things that I would have done, firstly to overcome that challenge was that I have prepared as many screencasts as you

possibly could. [To] give that information on all our subjects in this college is fairly relevant, so it does change.

CASL#10 (see Appendix 4) indicated that the university could use screencasts in multiple ways, such as for administrative purposes, where a student can watch a video for application or registration at the university. This helps, to give the students a visual aid to simplify the administration or general related encounters within or about the university. CAS lecturer-participants felt that it is the university's' role to ensure staff training in the use of ICTs supporting teaching and learning.

CASL#3, thought that

lecturers need proper training in screencasts. You know, because it is not something that comes natural, the screencasts, it is a different way of preparing your presentations, therefore proper training is needed. There is not always an artist available to draw up a new stick man, so if there is a little data base and you can get your materials from there, you can help yourself, and it will shorten the process in creating the screencast.

This, the lecturers felt, would help to combat any technological issues that the staff and the students encountered. Well-trained lecturers are enabled to work effectively on their screencasts or any other technologies that they use.

As UNISA is an ODL university, any online-related platform for screencast viewership for the students and lecturers should be easily accessible. CASL#6 felt that there was a need for further training with regard to screencasts as they were daunted by the recording process. CASL#8 mentioned the difficulty of getting access to who can train the lecturers, as there was a need for continuous training as well as a manual or a guide that would be accessible at all times. CASL#9 claimed that lecturers not only needed training on screencasts but also on creating interactive, visually appealing MS PowerPoint in preparation for screencast recordings.

Document analysis, which follows, will further add to the findings, and reveal the main aim and the sub-aims of the study.

4.3 DISCUSSION OF THE DOCUMENT ANALYSIS

Concerning the document analysis, it was fitting that the 2014–2017 myUnisa screencasts uploaded should be considered, as they contained information regarding the screencasts implemented in the CAS. I also looked at Unisa’s Strategic Plan (2016–2030) document (UNISA Strategic Plan, 2016–2030). With this document analysis, I sought to study the screencasts uploaded from 2014 until 2017, as this was the period in which screencasts were implemented in the college up to the present (CTA modules: (AUE4861_4862 (Applied Auditing), FAC4861_4863 (Applied Financial Accounting 1), FAC4862_4864 (Applied Financial Accounting 2), MAC4861_4862 (Applied Management Accounting) and TAX4861_4862 (Applied Taxation) for 2014–2017. The table below shows the teaching and learning tools that are on myUnisa and how they had been applied with relation to myUnisa. Below is the summary of the documents analysed.

Table 4.3: CTA Modules

2017	AUE4861-17	FAC4861-17	FAC4862-17	MAC4861-17	TAX4861-17
ANNOUNCEMENT	None	IFRS 16 Leases Screencast	None	Screencasts for exam preparation	Screencasts TL103,105&107
ADDITIONAL RESOURCES	None	None	None	None	Resources/ Podcast
DISCUSSION FORUMS	None	None	None	None	None
LEARNING UNITS	None	<u>Screen Cast:</u> <u>Student</u> <u>Approach</u>	<u>Study</u> <u>approach</u>	Screencasts	Learning Unit 0; Introduction to TAX4861
2016	AUE4861-16	FAC4861-16	FAC4862-16	MAC4861-16	TAX4861-16
ANNOUNCEMENT	Screencast links	None	None	Screencasts	Screencasts TL105,106&107
ADDITIONAL RESOURCES	Podcasts	None	None	None	TAX4861-16-Y1 Resources / Podcasts

2017	AUE4861-17	FAC4861-17	FAC4862-17	MAC4861-17	TAX4861-17
DISCUSSION FORUMS	None	None	None	None	None
LEARNING UNITS	None	Screen Cast: Student Approach	Study approach	Screencasts	None
2015	AUE4861-15	FAC4861-15	FAC4862-15	MAC4861-15	TAX4861-15
ANNOUNCEMENT	None	Financial Instruments – Part 5 podcast Tutorial letter 105 - Screencasts Test 3 - Tutorial letter 104 screencasts. Screencasts (videos)	Screencasts - Test 4	None	Important: TL105,106&107 screencasts & survey
ADDITIONAL RESOURCES	Screencasts TL102 (Study Unit1-4)	None	None	Screencasts	None
DISCUSSION FORUMS	None	None	None	Hi all Is anybody else struggling with the volume levels on the screencasts? They come very soft even when I have my volume settings at 100%. Thanks	None
LEARNING UNITS	Thuthuka screencasting project Test 3 & Test 4	Screen Cast: Student Approach	Study approach	Tutorial 102 - Variable & Absorption Costing	Thuthuka screencasting project - TL103 Test 1 -TL103_2015_VAT & Test 1 - TL104_2015 Test 2-TL105_2015_Trusts & Test 2 - TL105_2015_Dividends Test 3 - TL106 & TL107

2014	AUE4861-14	FAC4861-14	FAC4862-14	MAC4861-14	TAX4861-14
ANNOUNCEMENT	None	Financial instruments videos	Presentatio n on IAS 7 Statement of cash flows (8 videos)	None	None
ADDITIONAL RESOURCES	None	None	IAS 7 - Statement of cash flows	None	TAX 4861-14-Y1 Resources/Video casts/TL105
DISCUSSION FORUMS	None	None	None	None	None
LEARNING UNITS	None	None	None	None	None

Source: Self compiled

4.3.1 MyUnisa screencast activities 2014–2017

This research study only looks at three years (2014–2017), as these were the years that CAS was involved with screencasting, to date. From the table provided above, the activities regarding screencasts are evident. Not all five modules' screencasts show up on the myUnisa system as shown on the table. There were years where certain modules' screencasts were referred to as videos or podcasts. Regarding what the Col framework presences are about, the student's ability to construct and confirm meaning through sustained discourse in a critical community of inquiry (Garrison et al., 2001:7) through screencast feedback is essential. Activities on the discussion forums show (see table 4.3) that students do engage and seek clarity from one another regarding screencasts. The social presence is therefore applied, as section 2.3.1 mentions that with regard to the social presence, students venture more socially and emotionally; in this way, they are seen as genuine individuals in intervened communication (Garrison & Arbaugh, 2007:159). Since the lecturer's intention is to achieve a learning outcome through screencast uploads, a teaching presence is also applicable in screencasts. Where applicable, students question matters on the LMS via the email address supplied or on the discussion forum; this is an act of a cognitive presence.

The lecturers inform students about the screencast uploads using the announcement tool, and the screencasts are available elsewhere (on the additional resources tab).

Even though lecturers have uploaded screencasts, myUnisa does not show activities concerning the uploading of screencasts for certain modules. Lecturers' facilitation and giving direction to students about uploads on announcement tool about their screencast uploads show a teaching presence, but how screencasts are available somewhere else is misleading for the students, which defeats the purpose of a teaching presence. However, if students are socially and emotionally engaged, they can communicate all the issues they encounter to help create a conducive online learning environment.

The MAC4861_4862 (Applied Management Accounting) module information does not exist on myUnisa for 2014, even though it existed during the other years. This proves the absence of the Col framework regarding screencasts' accessibility. Some modules are uploaded on the additional resources information tab, whilst the rest of the modules have nothing uploaded under additional information. Although LMS may be used to "determine learners' needs and current level of expertise" (Anderson, 2008:17), I am aware of myUnisa's inability to accommodate lecturers' and students' frustrations effectively; this discourages independent learning and leads to the absence of the three presences at certain times. However, as it stands, depending on the students' willingness to navigate the LMS system for the benefit of their own learning, it could benefit them by:

- their asking questions on discussion forums (as they currently do)
- their responses and navigation around the LMS tabs (including additional resources, as it seems to accommodate screencasts to a large extent), which shows their independence as well as their level of expertise
- when they struggle, their knowledge that they can always get assistance from the lecturers where necessary.

Since myUnisa accommodates screencasts, which are about the enhancement of teaching and learning underpinned by the characteristics of the Col framework, if run well, it could be beneficial for the students.

With reference to the document analysis, Table 4.3 indicates confusion where lecturer-participants do not use standardised terminology regarding the naming of screencasts throughout the entire college. The terms that keep showing up are podcasts or videos or screencasts, which can be confusing and misleading for the student. Chapter 2 deals with the meanings of both podcasts (see section 2.4.8) and screencasts (section 2.4) to differentiate between the two as they are frequently thought to have the same meaning. The inconsistent placement of screencasts on different tabs such as the additional resources tab on the LMS system acts as a hindrance in the uploading and accessibility of screencasts.

4.3.2 UNISA Strategic Plan (2016–2030)

Because CAS is in UNISA, I conducted a document analysis of UNISA Strategic Plan (2016-2030), as both CAS and UNISA help inform the decision making as well as the vision and the mission for the entire university for the stipulated 2016–2030 years. Since this analysis comprised the interpretation of institutional documents such as the UNISA Strategic Plan 2016–2030, I sought to establish how screencasts can be used as a technology-enhanced teaching and learning tool in ODL.

The UNISA Strategic Plan 2016–2030 announces that the institution is student-centred and allows for the provision and utilisation of cutting-edge ICT applications and platforms. This is in line with screencasting, as it is part of technology enhancement within the university. The mission statement embraces Strategic Target 3, which focuses on harnessing ICTs to support the transformation of the core business to enable high performance, service and quality to all its communities, as it promises:

- Lifelong higher education for all and knowledge creation that is nationally responsive and relevant
- A leading student-centred ODeL comprehensive university producing quality graduates
- Provision of cutting-edge ICT applications and platforms (UNISA Strategic Plan, 2016-2030).

Since UNISA's mission statement highlights and recognises the priority of the technology infrastructure amongst its top priorities, it is fitting that this study seeks to find out whether the mission statement as well as the empirical research findings correlate with each other. From the analysis of documents as well as the empirical research findings, it is clear that UNISA's mission to offer lifelong higher education for all and promote knowledge creation that is nationally responsive and globally relevant is still a work in progress. Section 2.4.2 reveals that globally universities have utilised screencasts for a long time. Notwithstanding, UNISA is amongst the local universities such as Rhodes University, Stellenbosch University, and the University of the Western Cape that pride themselves in having embarked on ICT innovations such as screencasts to enhance their teaching and learning, as elaborated on in section 2.4.2.

Regarding being a leading student-centred, ODeL comprehensive university producing quality graduates, CASL#9 on section 4.2.2.4 agrees with the notion of the university's investing in the ICT infrastructure as well as its lecturer training and student-centredness. Students are given a platform to be "intellectually independent and personally self-assured along with the disciplinary knowledge and skills they acquire" (Bucharest Communiqué é, 2012). This is done by letting students study independently as they are at an ODL institution. Students must seek information to equip themselves, hence, according to CASL#5, "*screencasts can serve as additional aids, so it can be used as a brief summary to make students curious, to want to read the existing materials, like textbooks, tutorial letters.*" Since most of these modules are challenging, a good summary draws the attention of the students and motivates them to want to know more. As the lecturers cannot put all the content on screencasts; they use screencasts to grab the students' attention to the textbook or tutorial. This is important, as student-centred learning is fundamentally described as a pedagogical concept "characterised by innovative methods of teaching that involve students as active participants in their own learning" (Klemenčič, 2017). The students are, therefore, afforded an opportunity to access the uploaded screencasts by means of their modules as an additional tool for their studies. Empirical research findings as well as UNISA Strategic target 3 both seem to commit to the "provision of cutting-edge ICT applications and platforms" such as screencasts.

In summary, the reasoning behind the conducting of this document analysis was for triangulation purposes, as I was seeking clarity on whether the documents that were analysed supported or contradicted my empirical research findings. From the data collected from the UNISA Strategic Plan 2016-2030 documents, and the empirical research findings such as myUnisa screencast activities 2014-2017, certain similarities emerge with the interviews. There is a desire for the university, as an ODL institution, as well as its lecturers, to commit to the concept of student-centredness. In addition, it is clear from both the UNISA Strategic Plan 2016-2030 documents and the findings that UNISA and the CAS participants are committed to implementing cutting-edge ICT applications and platforms such as screencasts, even though there are still evident challenges.

The fact that lecturer-participants mention that they upload screencasts proved to be truthful as they are evidently uploaded on myUnisa. However, there is inconsistency about where these screencasts are uploaded; which, again, is proof that screencasts disappear on myUnisa and seem to get stored on the “my additional resources” tab. There is thus a lack of uniformity in terms of where to upload screencasts as well as the naming of the screencasts. Lecturers seem to upload them on the announcements tab, the additional resources tab as well as on the learning units tab. They also often refer to screencasts as screencasts, podcasts or videos.

4.4 SUMMARY OF THE FINDINGS

It is evident that each lecturer-participant’s view is of the utmost importance. It transpired from the interviews that the lecturer-participants held differing views and this adds substance to the study. The relevance of screencasts at UNISA is still in its beginning phase, but some lecturer-participants feel that, based on how much technologies evolve, there are more effective technologies, which will replace screencasts in future. The screencast location is an ICT infrastructure challenge, which has emerged from the empirical findings of the study. A Col environment must be established and maintained to support knowledge construction (Garrison, Anderson & Archer, 2010). This study reveals that the teaching presence is evident, as most lecturers announce whatever they will post regarding the course information studies (inclusive of the screencasts) on the myUnisa announcement tab. Therefore, lecturers

upload screencasts on additional resources or on the learning resources site as a means of enhancing their teaching and learning. Some of the myUnisa modules such as MAC4861_4862 (Applied Management Accounting) have missing information (concerning screencasts) whereas other modules such as TAX4861_4862 (Applied Taxation) consistently show effective activities (see table 4.3). This, the lecturer-participants feel is the result of the inconsistent functioning or malfunctioning of myUnisa, as at times, the screencasts they upload on the learning units tab is automatically uploaded on to the additional resources tab. Therefore, it appears that, with regard to the Col framework presences, some presences are evident while others are not. For example, in some cases, there is a teaching presence, but no cognitive presence or social presence, and vice versa.

Some lecturer-participants are technologically more advanced than others. The interviewed lecturer-participants are in favour of screencasts, even though some are concerned about the fact that producing screencasts is time consuming. Since students reveal their online active engagement socially and emotionally as a social presence characteristic, it is evident that the students' discussions do not reveal that they use screencasts for learning. This means therefore that they use the LMS for other goals. There is only one cognitive presence occurrence on the discussion tab where a student complains about the audio volume of the screencast on myUnisa (see Table 4.4). This shows that not only does the theoretical framework apply to screencasts, but also to the LMS used.

Section 4.3 reveals that the screencasts are often referred to as videos or podcasts. This is proof that there is a need for a workshop or training within the college to inform lecturers of the usage of standard terminologies as the lack of uniformity might cause confusion, disengagement or discouragement among students, which defeats the purpose of the university's' student-centredness and commitment to student success (see section 4.3.2). Accordingly, section 4.3.1 mentions that there is no standard terminology regarding the naming of screencasts, which could be confusing and misleading for whoever is navigating myUnisa. This is proof that, "Africa's failing e-readiness position in relation to other developmental states – [requires] an urgent, even more organised and coordinated action" (National e-Skills Plan of Action, 2013:10).

Accordingly, Baloyi (2013) warns of the dropout rate and the inability of numerous students to access myUnisa as being a significant problem.

4.5 CONCLUSION

This chapter detailed the lecturer-participants' demographics, while adhering to the idea of the lecturer-participants' anonymity. This chapter also discussed the empirical research findings based on the face-to-face interviews, the myUnisa screencast activities 2014–2017 documents, the UNISA Strategic Plan 2016–2030 documents and summarised all the findings.

The main themes as well as subthemes emerged from the interview questions, which this chapter discussed. The themes which related to the research questions that this study posed, including that of a screencast as ODL technology-enhanced teaching and learning tool, transpired with the lecturer-participants mentioning how they implemented screencasts in their teaching, as well as their screencast recording experience. Secondly, the primary purposes of a screencast was discussed with screencast as a teaching tool, the lecturer-participants explaining screencast suitability for discipline content, and lastly the benefits of screencasts emerged, based on lecturers' opinions of students' feedback. Thirdly, details of the screencast challenges experienced, with its four subthemes, emerged from the responses with the lecturer-participants explaining their challenges such as the lack of resources and ICT connections (Wi-Fi and myUnisa accessibility), the time-consuming nature of screencasts, staff shortages and limited staff training. Fourthly, recommendations for the effective use of screencasts emerged with the lecturer-participants making recommendations for the university. Such recommendations included software and other ICT interventions as well as university staff training.

The data gathered and analysed reveal that the CAS lecturer-participants raised questions about myUnisa's inability to keep screencasts, as elaborated on in MyUnisa screencast activities 2014–2017. The Col framework as the lens of this study, with its three presences, is present in myUnisa screencast activities 2014–2017, as elaborated on in section 4.3.1, despite the fact that at times, there seem to be problems on

myUnisa. This research study looked at the previous three years up to the present (2014–2017) as these were the years that CAS had been involved with screencasting. From the document analysis, it became clear that the lecturer-participants do not use standardised terminology regarding the naming of screencasts. There seems confusion regarding the naming of the module screencasts throughout the entire college. Since UNISA's mission statement highlights and recognises the priority of the technology infrastructure amongst its top priorities, I sought to determine whether the mission statement and the empirical research findings correlated with each other and found that there was a correlation with some issues only.

UNISA Strategic Plan 2016–2030 documents and the empirical research findings prove that there is a desire for the university and its lecturers to commit to being student-centred as well as to implement ICT cutting-edge applications and platforms such as screencasts, even though there are still evident challenges, proved by the empirical research findings. The next chapter will conclude the entire study and relevant recommendations will be made.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This study's previous chapter dealt with a discussion and analysis of the collected qualitative data. Certain themes and subthemes emerged from the interviews that were covered in that chapter. The document analysis was also discussed.

This chapter concludes by providing an overview of this research study. Firstly, the literature review will be discussed, after which the findings from the empirical study will follow. After that, there is a section on the synthesis of the research findings. That aims to highlight and compare any major similarities and contradictions that this study's literature review and the empirical study encountered. The research questions will form the basis of this study's conclusion. This study's' limitations will then be stated and lastly, the study will conclude with recommendations and suggestions for further research.

5.2 SUMMARY OF THE LITERATURE REVIEW

Firstly, the literature review in Chapter 2 dealt with the Col theoretical framework employed as the lens of this study (see section 2.3). This section was aimed at revealing a holistic overview of screencasts. It also discussed the LMS, mobile learning, podcasts and different connections between them as the capacity to see associations between fields, thoughts, and ideas as a centre aptitude (Siemens, 2008). The study discussed the challenges regarding the utilisation of screencasts. The relationship between ODL, teaching and learning, ICTs and how they can be used in educational settings were discussed.

As discussed in section 2.3, the Col framework is an online learning strategy model (Garrison et al., 2000:89) which served as the theoretical lens of the study. Although this study is about screencasts, the LMS system (myUnisa) also plays a big role as it accommodates/keeps the screencasts. Therefore, the Col framework's three presences feature in both the LMS and screencasts, as it is a community that embraces

teaching and learning in the online learning environment. Section 2.3 speaks of the three interdependent elements of the Col framework: (a) the cognitive presence, (b) the social presence, and (c) the teaching presence (Maddix et al., 2012:109), which were created to facilitate profound and significant constructivist learning (see section 2.3). Regarding screencasts and teaching and learning, as screencasts contain module content they convey cognitive presence to students who engage with the screencast, which requires interaction with other students and the lecturer regarding the screencast material. If such is not performed, there is no social presence, nor will there be any teaching presence if the lecturer does not add any guidance or correction, or any form of teaching voice.

Section 2.3.1 referred to the social presence as the capacity of students to venture both socially and emotionally; in this way, they are seen as genuine individuals in online learning environments (Garrison & Arbaugh, 2007:159). Section 2.3.2 refers to the cognitive presence (which was revealed through the PI process) as the students' ability to engage critically among themselves by obtaining and applying knowledge in online learning environments (Garrison et al., 2001:7). The teaching presence (see section 2.3.3) serves as the fundamental component to unite all components in framing and supporting the community (Anderson et al, 2001:5) as it covers the design, facilitation and direction of both the cognitive and social processes, ensuring that the learning results are powerful and attended to in the online learning environment (Garrison & Arbaugh, 2007:163).

Even though myUnisa screencast activities revealed that some presences may feature while others may not, the fact that they are applied is relevant, as the Col is the lens. The Col acknowledges capable, viable web-based adapting, particularly in higher learning education, and requires the improvement of the community (Swan et al., 2009:5). What every other presence has done was to inspire and get ready in conjunction with the teaching presence. This situation assists with the overlapping of the three presences in Col (see section 2.3.3). It is worth addressing that the overlapping of the three presences symbolises the student's educational experience in the context of the Col.

Chapter 2 also gave an in-depth overview of the literature about screencasts (see section 2.4) and how they can be utilised. Hence, six years ago, Ruffini (2012) stated that screencasts can be utilised in the creation of “sophisticated, information-rich multimedia presentations” (see section 2.4.1). Screencasts are used across the globe (see section 2.4.2). Regarding screencasts and teaching and learning, Col applies in the use of screencasts, as they serve as content tools that convey cognitive presence to students, who engage and interact with each other regarding screencasts. Lecturers also interact with students to ensure social presence as well as teaching presence. Section 2.4.3 stipulates that screencasts can assist student learning even though there are challenges (see section 2.4.4) that will always emerge in any online learning environment. The screencasts’ potential to enhance teaching and learning is discussed in section 2.4.5, and other ICTs supporting teaching and learning tools such as the LMS (see section 2.4.6) respectively. As mobile devices (see section 2.4.7) and podcasts (see section 2.4.8) are part of an online learning environment, they are dealt with in depth as they encompass Col presences. In Education Policies on ICTs (see section 2.5), the DHET recognises the importance of expanding access to ICT resources (DHET, 2013: xvi) as they all form part of ICT, enhancing teaching and learning in higher learning institutions. Accordingly, UNISA emphasises the need to leverage technology for effective teaching and learning.

5.3 SUMMARY OF THE EMPIRICAL STUDY

This section outlined the research methods used in this study. It gave an in-depth discussion on how the data collected from the lecturer-participants were kept confidential. This section consists of a brief section on the research methodology, followed by the findings from the empirical research, which will be discussed below.

Research methodology

As mentioned in section 3.1, the research method is the core value of the study, therefore must give sense to the study through its selected methods.

This chapter had numerous segments that defined the justification for gathering, storing and analysing data, which had been surveyed in section 3 (3.3) with the aim of answering this study's four research questions. The research design in section 3.3.1 elaborates on the research paradigm; a qualitative research approach and a case study was used as this study's empirical research approach (see sections 3.3.1). How the lecturer-participants were selected is dealt with section 3.4.1. The data collection which comprised document analysis (section 3.4.2.1), semi-structured interviews (section 3.4.2.2) as well as member checks (section 3.4.2.3) that this study used were detailed in section 3.4.2.

Concerning the selection of participants, ten lecturer-participants who had used screencasts in the school of accountancy were identified and contacted. These lecturer-participants were interviewed using semi-structured interviews (see section 3.4.2.2). These interviews were then tape-recorded (see section 3.4.2.2). After that, the lecturer-participants were sent their copies of the interview transcriptions to verify the authenticity and accuracy of the captured records (see section 3.4.2.3) for member checking. Data analysis discussed how I organised and analysed the collected data information after it had been transcribed (see section 3.5).

Prior to interviewing the lecturer-participants, I piloted the project (see section 3.6). The interview guide was prepared in advance before sending the consent form to the lecturer-participants (see section 3.4.2.3). Trustworthiness was covered in section 3.7. Subsequently, credibility (section 3.7.1), transferability (section 3.7.2), dependability (section 3.7.3) and confirmability (section 3.7.4) were covered collectively in this section. Finally, a section presenting the ethical measures in section 3.8 detailed how the ethical measures for all the different stages underpinned this study and it was explained how they had been dealt with throughout the study. Since ethical clearance was obtained from both the CEDU and CAS colleges, research permission to conduct research was granted by the Research Permission Sub-Committee (RPSC) at UNISA: to gain access to and work with the UNISA lecturers as well as the university documents. In line with Babbie's (2010:64) cautionary advice, it is essential and fundamental for the researchers to know what is appropriate and improper conduct throughout the scientific enquiry is. The next section will discuss the findings derived from the empirical research.

Findings based on the empirical research

This segment summarises the findings of the face-to-face interviews with the ten lecturer-participants from CAS. The document analysis and interviews informed the study. It should be noted that all data were collected against the backdrop of the research objectives of the study. This study's data collection comprised interviews and document analysis. Significantly, there were variations regarding how the lecturer-participants viewed the screencasts and their implementation both in the university and within their college.

The themes identified in this study were discussed in Chapter 4. The various main themes that emerged in Chapter 4 were dealt with in sections 4.2.2.1 to 4.2.2.4. These themes emerged from the lecturer-participant interviews about screencasts as a technology-enhancing teaching and learning tool in ODL. The first theme was: *screencast as ODL technology-enhanced teaching and learning tool* (See section 4.2.2.1). The lecturer-participants' responses towards this theme indicated that their main reason for implementing screencasts was to elaborate on more difficult concepts with which students were battling, and that screencasts were influential as an additional teaching tool with regard to their formal teaching material, which was their primary purpose for screencasting. Regarding the recording experience, most of the lecturer-participants were uncomfortable with the process; however, some were at ease, since assistance was provided by the sound, video and photography (SVP) department (see section 4.2.2.1).

The second theme was *the primary purposes of screencasts* (see section 4.2.2.2). From the lecturer-participants' interviews, it emerged that, since students have their own digital devices, it is easier and more convenient for them to connect and download the screencasts, especially with topics such as accounting principles. The lecturer-participants' views varied, with some mentioning the positive changes and benefits for students, while others did not notice any as they did not get any feedback from the students. Many lecturer-participants felt that screencasts afforded the students flexibility to rewind, pause and play at any time they wished to do so.

The third theme was: *screencast challenges experienced* (see section 4.2.2.3); quite a number of challenges emerged regarding this theme, which, when looked at, are at variance with UNISA's strategic plans (see section 4.4.2), and its vision about ICT infrastructure, being a student centred ODL institution whose purpose is its student success. Among the challenges with which the lecturer-participants are faced are the following: Wi-Fi and data access, myUnisa's inability to store screencasts, and not knowing whether students view and make use of screencasts. Lecturer-participants also feel that they lack training on screencasts; they need more lecturers as their workload is too heavy and screencast producing is time consuming. It is apparent that MS PowerPoint and screencasting are used concurrently by these lecturers, therefore they require time to set up a visually appealing MS PowerPoint presentation that speaks to the content of whatever module being produced. When attempting to solve such challenges, lecturers try to respond to students' queries on their discussion forums, which implies the enhancement of teaching and learning as well as presence of the Col framework. Lecturers also refer to SVP Department for more assistance.

The fourth and last theme was: *recommendations for the effective use of screencasts* (see section 4.2.2.4). The lecturer-participants offered recommendations such as training and workshops throughout UNISA. Free Wi-Fi and data were also suggested by the lecturer-participants. Furthermore, some lecturer-participants suggested that on registration, all screencasts per module should be packaged on a CD or USB for students. UNISA could use screencasts in multiple ways, such as for administrative purposes, where a student could watch a video for application or registration at the university. Lecturer-participants also recommended the consistent upkeep of software and upgrades relating to ICT enhancement of teaching and learning.

Findings from the document analysis

The findings derived from the document analysis and interviews are:

- The DHET is willing to provide ICT infrastructure to higher learning institutions to enhance teaching and learning; however, higher learning institution experience difficulties with ICT.
- Lecturers' inexperience with ICT technologies result in frustration for those who

are technologically less advantaged. The lecturers need proper professional training on screencasts and ICT related innovations.

- The findings reveal challenges facing the university. Such challenges include the issues with Wi-Fi, data, myUnisa, the staff shortage, as well as ICT resources at large.
- Some lecturers' unwillingness to embark on screencasts result in the other lecturers being overloaded.
- UNISA's Strategic plan documents reveal its dedication to ensuring effective ICT usage across the university to help boost the idea of being student centred. However, the current state of ICT innovations at the institution which is aligned with the university's strategic plan's vision, currently need attention.
- MyUnisa's' storage space and its inability to show students' activities such as viewership on screencasts remain a challenge.
- Because this study investigates screencasts in terms of teaching and learning that occurs in an online environment, Col characteristics often show up in the findings.
- Even though CTA students are supposedly working, it is not understood whether the lack of data is the cause of the minimal use of the myUnisa LMS by the students.

The next section will discuss the synthesis of the research findings.

5.4 SYNTHESIS OF THE RESEARCH FINDINGS

After having dealt with the literature review and data collected, the similarities and contradictions that were discovered in the findings will be discussed. The apparent primary similarity between the literature review and the findings from the empirical study relates to how the lecturers' understandings of screencasts influences their teaching. Anderson and Dron (2011:81) state that accessibility and availability of technologies strengthen the distinctive models of learning strongly and also influence the kind of model to be created (see section 2.3). The findings of the empirical study relate to this statement, as lecturer-participants mentioned how screencasts' incorpo-

ration in their teaching was aimed at influencing and enhancing the commitment to teaching and learning.

Discussion forums reveal that students are socially interactive and lecturers respond to their students on myUnisa. This underpins the relation of three presences, namely, the social, cognitive and teaching presences. To ensure effective communication between lecturers and students regarding screencasts uploading onto myUnisa, lecturers made use of the announcement tab, the learning units tab and the additional resources tab.

As to the Col framework and its presences, regarding screencasts implementation, there seem to be visible teaching, social and cognitive presences which at times evidently overlap, which symbolise students' different experiences in the context of Col. Screencasts, as they contain module content, were used as a teaching tool, which is a form of facilitating discourse or direct teaching, which are both necessary for the existence of the teaching presence (Garrison & Arbaugh 2007). There was also a strong cognitive presence as students viewed screencasts independently while exploring, enquired where they were stuck or needed clarity from the lecturers and had received a response (Garrison & Arbaugh, 2007), which encouraged teaching and social presence as lecturers responded at times. The inefficiency of myUnisa regarding lecturers' active involvement is a negative projection of UNISA's ICT systems as they do not show the lecturers' activities on the LMS as a means of enhancing teaching and learning.

Even though screencasts are uploaded online, there is a slight absence of some of the three Col framework presences, in terms of the social, cognitive and teaching presences. Due to how ineffective myUnisa is at times, lecturers were often unable to view or observe the students' activities to determine whether the students had watched the screencasts or not, resulting in the lecturers' inability to gauge the effectiveness of the screencasts. There is limited evidence of the cognitive presence, as it is noticeable that student responsiveness concerning screencasts is evident in only one module (MAC4861 (Applied Management Accounting)-15 of 2015). However, lecturers did refer to a designated email address per module for queries and concerns that students did use (see section 4.3.2).

One would want to associate the students' lack of responsiveness with the high data costs. South African internet users have been plagued with problems such as the lack of bandwidth and the high costs associated with the data packages available to consumers (Kotzé, 2011). In this case, there is no communication from all the parties involved in the online environment which pertains to the Col framework. Similarly, section 2.4.5 mentions how specialised support in Libya in Africa was practically inaccessible at most universities, which resulted in postponements in installation operations and the upkeep of software and programming, which disheartened users (Rhema & Miliszewska, 2010). Similarities compromise UNISA's strategic target 3 of being ICT accessible, as mentioned in section 4.3.5.

Similar to the above statements, section 2.4.5 reflects on how other ICT challenges in developing countries such as South Africa are associated with ensuring that the necessary infrastructure is made available to equip all the post-schooling students. Currently, access is extremely uneven, making it impossible for distance education and different suppliers to harness the capability of technological innovations completely (DHET White Paper, 2013:58). This again is not favourable with regard to what the Col framework stands for. Unwin et al. (2010:22) add that confinements in data transmission and the high cost of the internet restrict the successful utilisation of e-learning in Africa. Nevertheless, regardless of the data transfer capacity and availability confinements, careful planning and suitable allocation of rare and scarce resources can enable and empower educational institutions to build up their own compelling and effective LMS-based digital advanced learning conditions (Unwin et al., 2010:22).

Teaching purpose similarities are revealed in section 2.4.2, where Ruffini (2012) is cited, narrating how screencasts are viable educational media that can be used for tutorials, demonstrations, digital storytelling, and narrated MS PowerPoint presentations. Section 4.3.2 also confirms the lecturer-participants' views with regard to screencast purposes. It was apparent from the responses of the interviewed lecturer-participants that MS PowerPoint was frequently used by the lecturers in their respective modules (section 4.3.2). The lecturer-participants agreed on how they spent most of their time in the pre-production phase, namely with designing meaningful MS PowerPoint slides for their content to be useful for the student. This shows the teaching presence in terms of its description in section 2.3.3. Harris et al. (2014) comment that

designing an online course is more protracted and tedious than planning an identical course for face-to-face (F2F) teaching (see section 2.3.3).

Students use their digital devices to access screencasts. This is a confirmation of section 2.4.7, where Garg (2015a) mentions how tablets had changed from being an 'entertainment device' to a "computing" device. This is a clear indication that these mobile devices have broadened their usability features. There was a complaint on one of the CAS modules where a student complained about the poor audio quality. Both the social presence (see section 2.3.1) and the cognitive presence (see section 2.3.2) are present here as students are engaging socially and emotionally and are exploring and seeking clarity where necessary. Similarly, section 2.4.9 echoes similar views about the sound quality issues, even though one might find out that poor sound quality might be caused by the student's hardware or software settings (Jordan et al., 2012:14).

As a means of encouraging independent learning, enhancing the online teaching and learning, the lecturer-participants used myUnisa screencast activities 2014–2017's discussion forum (see section 4.3.1). The lecturer-participants encouraged students to engage in independent learning (see section 4.3.2) which relates well with the self-directed learning theory. According to Cafarella (1993), the self-directed learning theory refers to a process of learning whereby individuals are given autonomy in the learning process. The lecturer-participants' interviews reveal that discussion forums were used to observe what the students were discussing among themselves about their screencasts, as well as posting queries and receiving feedback where necessary from their lecturers. They responded to each other where necessary to encourage social presence, but lecturers could not find much information suggesting the student viewership of screencasts. The myUnisa discussion forum tab revealed the student participation. This confirms what the literature claims, namely that LMSs may be used as a support tool for teaching and learning (see section 2.4.1).

Various unrelated challenges and possibilities were revealed in this study's' empirical research findings, such as the fact that screencasting is time consuming, the lecturers' inexperience, and the low numbers of screencasts produced, though they endorsed screencasting's ability to add value to teaching and learning. Section 2.4.5 reveals how

time consuming developing good quality and sophisticated screencasts is, with having to consider pedagogy and technology when producing the final screencast (Rafferty, 2010:668). The empirical study reveals that lecturers experienced similar challenges and time was against them as they indicated that they were overworked and understaffed (see section 4.6.2). The lecturer-participants also revealed how inexperienced they were regarding myUnisa and they had to seek help from the SVP technicians to help them produce professional recordings. Furthermore, they also mentioned that the screencasts constituted a small portion of the lessons, and that the students needed to understand they would not pass their modules just by watching screencasts. There is no tracking system in place to determine the difference between those students who watched screencasts and those students who did not. The lecturer-participants felt, however, that the screencasts were helpful, especially when they wanted to clarify difficult sections like accounting principles in the coursework.

The emerging conclusion is that there seems to be a certain amount of apathy on the part of some students, which leads to a slight absence of a social presence. Based on the lecturer-participants' views, students prefer being led with regard to where to get information. Even though the students were referred to the screencasts, they often asked questions that had been addressed in the screencasts; which is evidence that students are not always willing to look for information. Lecturers' feedback and referral of screencasts for their students to enhance teaching is an indication of the social and teaching presence. There seems to be no standard terminology for screencasts, which could lead to confusion among students. The lack of interest in searching for information forms part of students' problems. Concerning student access to the internet, the lecturer-participants felt that CTA students are all employed postgraduates with access to digital devices (as mentioned in section 2.4.7). This study highlights the links between the literature review and the empirical study findings. The data generated from the study, and especially the interviews, are analysed and presented below.

5.5 CONCLUSIONS IN RELATION TO THE RESEARCH QUESTIONS

The aim of this study was to determine how screencasts can be used as a technology-enhanced teaching and learning tool in ODL. This research question was supported by the following sub-questions:

- What are the primary purposes for using screencasts as a technology-enhanced tool?
- What challenges do lecturers experience in using screencasts as a technology-enhanced teaching tool?
- What recommendations can be made regarding the effective utilisation of screencasts as a technology-enhanced teaching and learning tool?

These sub-questions will be discussed next.

Sub-question 1: What are the primary purposes for using screencasts as a technology-enhanced tool

The lecturers chose screencasts to connect with the students and to support their teaching. The study revealed that screencasts are suitable for distance learning. In attempting to answer this question, I referred to the literature review as well as the empirical research findings from the lecturer-participants. Section 2.4.2 cites Ruffini (2012), who observes that screencasts can be used for tutorials, demonstrations, digital storytelling, and narrated MS PowerPoint presentations. Mohorovičić (2012) asserts that screencasts can address students' issues better and are clearer than composed guidelines. In section 2.4.3, reference is made to Ahmad et al. (2015), who add that not only can screencasts enhance the learning results, they have also been observed to be connecting with, and are useful for delivering, subject content and procedures. Likewise, screencasts can assist with student learning and with providing the necessary information (Warfvinge, 2012). Screencasting enables students to learn from examples, such as viewing a detailed systematic sequence of a screencast video directly related to lesson content (Ruffini, 2012). Hung et al. (2013:20) comment that lecturers embark on a mission to create abilities to outline authentic learning experiences that focus on the processes of meaningful learning, inquiry, and making use of technology as an enabling first-person learning experience. As indicated by Barthel et al. (2013), as cited in section 2.4.5, screencasts have turned out to be set up as a key piece on the internet space, generally utilised by individuals for data sharing, learning and stimulation.

When the lecturer-participants were interviewed, it emerged from the empirical research findings that the lecturer-participants whom I had interviewed used screencasts for similar purposes to those described in the literature. The lecturers used screencasts as an additional tool to attract students to study their textbooks and study materials. Lecturer-participants made use of the announcement tool, the discussion forum and the additional resources tool on myUnisa to inform students about all the uploaded screencasts. The lecturer-participants explained that they used the screencasts to summarise issues they felt needed to be visited to help students get a better understanding. They explained that the visual effect of screencasts played a role in converting their PowerPoint presentations into screencasts. The lecturer-participants also mentioned that they liked the idea of screencasts being viewed and downloaded by students on their digital devices in the comfort of their homes.

It was of concern to the lecturer-participant that some students could have problems with the expensive data, even though most postgraduate students are usually employed, but they relied on the fact that there are various places where there is free internet access so that they can download the screencasts. In addition, the CAS lecturers produced 5MB short snippets of screencasts to help alleviate the issue of data costs. The lecturer-participants felt that screencasts added value to teaching and learning. It became clear from the interviews, however, that some lecturer-participants were just making screencasts but were not in a comfortable space regarding training and expertise. Some lecturer-participants confirmed that the students wanted more screencasts even though they had no proof as to whether they viewed the screencasts or not. The purposes for which the lecturers used screencasts are evident, namely that the lecturers wanted to enhance their teaching as well as their students' learning abilities.

Sub research question 2: What challenges do lecturers experience in using screencasts as a technology-enhanced teaching tool?

Concerning resources and ICT connections, the lecturer-participants found that the ICT infrastructure at UNISA needed attention, as they experienced challenges concerning the uploading of screencasts on myUnisa. While the screencasts are often limited to 5MB, the lecturer-participants feel that 5MB is not sufficient for the content

they would like to upload for students. Therefore, lecturers have to use small segments of information that they refer to as “small chunks” to accommodate the 5MB limited space. Lecturer-participants regarded the screencasts as time-consuming and demanding, as not enough lecturers were willing to learn how to use the Camtasia software. The contract lecturers were overworked with screencasts productions; hence, they voiced the idea of extra lecturers to relieve their workloads. Previously, lecturers had noticed the screencasts disappearing from the tabs to which they had uploaded and stored their information on myUnisa because of myUnisa storage space. To avoid this problem, lecturers were advised to upload the screencasts on the additional resources tab of myUnisa and they have since informed their students of this fact. Some students complained about the audio volume, while others were asking for more screencasts. The lecturers consistently inform students to access and make use of the screencasts uploaded on myUnisa.

Sub research question 3: What recommendations can be made regarding the effective utilisation of screencasts as a technology-enhanced teaching and learning tool

The lecturer-participants recommended that UNISA should invest in training its lecturers in screencasts and all ICT- and ODL-related training to add value to the teaching and learning in ODL. In addition, the lecturer-participants also recommended that UNISA invest in its ICT infrastructure to accommodate all the teaching and learning materials. They also recommended the installation of Wi-Fi hotspots across the university and its regional branches. In addition, the lecturer-participants recommended that screencasts should be incorporated in the registration packages to avoid students having to download screencasts, resulting in their using their own data. UNISA could use screencasts in multiple ways, such as for administrative purposes where a student could watch a video explaining the application or registration processes at the university. Furthermore, they recommended the consistent upkeep of software upgrades relating to the ICT enhancement of teaching and learning.

Main research question: How can screencasts be used as a technology-enhanced teaching and learning tool in open distance learning?

What emerged from the empirical research is that lecturers use screencasts as an extended tool to support their teaching and learning. The screencasts that had been produced depended entirely on the module and the lecturers' commitment to their modules. Screencasts can help with explaining difficult sections such as accounting principles with which the students struggle. Screencasts are used in multiple ways, such as for administrative purposes, in that a student could watch a video explaining procedures at the university, or role play for certain topics within any coursework. Some lecturers had produced screencasts incorporating several lessons into screencasts to address their students' needs. The lecturers incorporated MS PowerPoint slides into their recordings. Some lecturer-participants indicated that they required training on the use of Camtasia software to produce good quality and appropriate screencasts. Overall, the lecturer-participants asserted that screencasts add value to their students' performance and learning. The lecturer-participants understood the process of recording screencasts and revealed how much discomfort they felt during the initial phase of screencast recording and how they had grown and developed over the years.

5.6 LIMITATIONS

Despite the manner in which this study was planned and carried out, it still has its limitations. The first limitation is related to the sample size of the ten CAS lecturer-participants who participated in the study. This sample was based on the lecturer-participants' experience of screencasts. UNISA consists of eight colleges; therefore, ten lecturer-participants from one college (CAS) is relatively small considering that the entire university is encouraged to integrate screencasts in their teaching and learning. The lecturer-participants' availability was a challenge, as at the time that the data collection process was undertaken, they were either busy with exams or marking and this affected the time scheduling of the interviews.

Among other limitations has been the fact that most of the lecturer-participants who had originally been contacted to participate in the study, who had worked on the

screencasts at UNISA, had either resigned or were on sabbatical leave. Therefore, they were not available to take part in the study. Having had more lecturer-participants in this study might have resulted in more in-depth results. Despite these limitations, I am confident that this study can motivate research on a greater scale on the screencasts serving as teaching tools within UNISA.

5.7 RECOMMENDATIONS

This study's recommendations are based on the themes identified in Chapter 4 (section 4.3). CAS has undertaken screencast implementation to enhance teaching and learning (see section 2.4). Based on the interviews and document analysis carried out in this study, leading the findings, the study has recommendations that relate to teaching and learning within UNISA. Such recommendations are made to lecturers, UNISA and the Department of Higher Education and Training.

5.7.1 Lecturers

The research findings have revealed that lecturers require assistance regarding the effective use of screencasts. Such assistance comes through getting proper professional training or attending workshops on screencast production. Lecturers may seek training support from the SVP Department as well as from the Centre for Professional Development (CPD) departments within UNISA. Lecturers should ensure that they encourage students to access myUnisa often, as well as getting written feedback from the students regarding their use of the screencasts on myUnisa. It should be made compulsory that lecturers use screencasts to support their teaching and learning. Therefore, it is recommended that screencast training should be enforced in all the UNISA departments.

5.7.2 UNISA as an ODL university

There is an obvious and urgent need for an accelerated and aggregated approach to e-skilling the nation (National e-Skills Plan of Action, 2013:69). This is revealed in UNISA's Strategic Plan (2016–2030) and in all the institutional policies and

programmes as well as the DHET's White Paper (2013). As UNISA is evidently shifting to be an open distance and e-learning institution, UNISA must improve its investments on ICT platforms.

It is clear from the interviews as well as the document analysis that ICT innovation is a priority of the institution. Strategic target 3 of UNISA's Strategic Plan (2016–2030) insists on ICT intervention being influential in the teaching and learning of students. This must be driven effectively in accordance with the idea of being student-centred. In addition, this study recommends that UNISA should invest in its ICT infrastructure. Another recommendation is that the university could have Wi-Fi hotspots at every UNISA branch for students to download information easily (including screencasts) without worrying about data costs. UNISA could train its staff members on how to work with screencasts effectively. All the colleges could embark on the production of screencasts as additional tools in their modules. The university could raise an awareness of screencasts in all the colleges within the university. Since UNISA offers ODL, it should strive to ensure that its online learning environments are not "perceived and experienced as a lonely way to learn" (Anderson, 2008:222).

This study recommends that UNISA must invest in its employees through relevant training, workshops and seminars. Another aspect is that lecturers feel they are overloaded. Perhaps UNISA can also look at outsourcing the screenshot production and get ICT administrative support for lecturers regarding the screencast uploading. UNISA must also get peer assistance for lecturers as UNISA is understaffed. UNISA could use screencasts in multiple ways, such as for administrative purposes where a student can watch a video explaining processes at the university, or role play for certain topics within any coursework. The lecturer-participants recommended the consistent upkeep of software upgrades relating to the ICT enhancement of teaching and learning. This study recommends further research into useful resources that UNISA could implement. As a final recommendation, a further study should be conducted into the rest of the colleges at UNISA to ascertain other effective ways of using screencasts as technology-enhanced teaching and learning in ODL.

From the research into UNISA's Strategic Plan (2016–2030), it is clear that the institution is striving to be the best in higher education, student centredness and ICT

preparedness, to effectively achieve student success. It is evident that some lecturers are indeed producing screencasts for their students, which will hopefully lead to the university's improved service delivery regarding ICT infrastructure to accommodate screencasts. It is also recommended that UNISA should recognise the CAS department and what has already been implemented using screencasts and use them as an example and a source of encouragement for other departments.

5.7.3 Department of Higher Education and Training

Since student support enhances communication between the students and the university (Baloyi, 2013), this study recommends that the DHET should collaborate with UNISA in ensuring that there is proper installation of ICT infrastructure across the country, as some students are in remote areas. The DHET should ensure that there is implementation of affordable data for students as well as Wi-Fi access for students. In addition, the DHET should constantly hold conversations on ways of upgrading and researching proper sustainable ICT innovations to boost teaching and learning within the universities across the country.

5.8 SUGGESTIONS FOR FURTHER RESEARCH

This study recommends a study on screencasts where students and UNISA management could also be interviewed to get different perspectives and views on the benefits of screencasts and other ICT-related teaching and learning tools. This study suggests further research which will encompass different departments and colleges within UNISA. It is hoped that such research will include investigations on improvements with regard to ICT integration and student centredness across UNISA as an ODL institution committed to its students' success.

5.9 CONCLUSION

The aim of this study was to determine how screencasts as a technology- enhanced teaching and learning tool could be used in ODL. This chapter provided an overview of this research study, including addressing the aim of the study. This was backed up

by a brief overview of how the Col as the theoretical lens of this study was covered, the literature review and the summary of the empirical study. The synthesis of the research findings was also revealed. This study highlighted and compared similarities and contradictions that this study's literature review and the empirical study uncovered. This study's research questions formed the basis of its conclusion. In addition, this study's limitations were indicated. Lastly, recommendations and suggestions for further research were indicated.

The major challenge facing this study is based on the problems associated with ICTs such as screencasts, which support teaching and learning. These technological obstacles have a negative impact on UNISA's level of ICT teaching and learning globally, its lecturers' and students' performance. UNISA faces challenges as an ODL institution whose top priorities include student centredness, student success and ICT integration.

The lack of technological training of the lecturers added to the challenges pertaining to screencasts' implementation. The advantages of using screencasts is the fact that they are shortened versions of content taught to students by lecturers. These screencasts are accessible in the comfort of the students' homes via any digital device. Since screencasts serve as an additional tool for teaching and learning, they afford students and lecturers in higher education an opportunity to enhance their teaching and learning online, hence this study used Col as its theory of choice because Col gives students an experience of being able to take control of their learning online. Col's three presences served as an ideal connection and linkage to the utilisation of screencasts, as both students and lecturers can benefit from them to a large extent. Even though this research study only focused on ten lecturer-participants, it could provide a snapshot of similar challenges or successes experienced in other support departments, as there is still room for improvement.

Screencasts can be accessed anywhere and are used across the globe. So, if used to their full potential, screencasts have the potential to act as powerful tools to support teaching and learning in ODL.

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APPENDIX 1 - LECTURER'S INTERVIEW GUIDE

INTRODUCTION

- Introduction of myself as an interviewer
- The purpose of conducting the interview

BIOGRAPHICAL INFORMATION OF THE PARTICIPANTS

Lecturers' response to gender, qualifications, module name, years of experience at UNISA, as well as years of experience with screencasts.

Participant	Gender	Qualifications	Module Name	Lecturer Years' experience at UNISA	Years of experience with screencasts
RESPONSE (R):	R:	R:	R:	R:	R:

INTERVIEW QUESTIONS

Lecturers' response to all questions I asked.

1. How can screencasts be used as a technology-enhanced teaching and learning tool in open distance learning?

Interviewer: I believe you have produced screencasts before. How many have you implemented?

Interviewee:

Interviewer: How does your use and understanding of screencasts influence your teaching?

Interviewee:

Interviewer: To what extent have you implemented screencasts in your lessons?

Interviewee:

Interviewer:

What are the ways that lecturers can use screencasts?

Interviewee:

Interviewer:

How do you see your position as a lecturer and a screencast implementer in the college?

Interviewee:

Interviewer:

Please take me through the process of recording screencasts

Interviewee:

Interviewer:

How comfortable were you with regards to screencast recording?

Interviewee:

2. What are the primary purposes for using screencasts as a technology-enhanced tool?

Interviewer: Why have you chosen screencasts as a technology-enhanced teaching and learning tool?

Interviewee:

Interviewer: What do you think screencasts are most suitable for?

Interviewee:

Interviewer: What do you appreciate most in lesson planning for screencast implementation?

Interviewee:

Interviewer: What do you appreciate most in teaching for screencast implementation?

Interviewee:

Interviewer: What do you appreciate most in using resources and ICT connections in screencast implementation?

Interviewee:

Interviewer:

Did you see any change after you have implemented screencasts? If so, why do you think there was any difference?

Interviewee:

3. What challenges do lecturers experience in using screencasts as a technology-enhanced teaching tool?

Interviewer:

What challenges do you meet in terms of resources and ICT connections?

Interviewee:

Interviewer:

How do you deal with these challenges?

Interviewee:

Interviewer:

Are there any challenges with regards to uploading of screencasts on myUnisa with regards to screencast implementation? If so, how did you deal with such challenges?

Interviewee:

Interviewer:

Are there any specific challenges from your students with regards to how you implemented screencasts? If so, how do you address such challenges?

Interviewee:

Interviewer:

Are there any other challenges that we have not dealt with in terms of screencast implementation?

Interviewee:

Interviewer:

Interviewee:

4. What recommendations can be made regarding the effective utilisation of screencasts as a technology-enhanced teaching and learning tool?

Interviewer: Please share with me any recommendations or guidelines for implementation and use of screencasts

- For lecturers who want to use screencasts
- As well as the university

Interviewee:

Interviewer: Is there anything you would want to add with regards to screencasts?

Interviewee:

Interviewer:

Many thanks for your time and allowing me to conduct this research.

Interviewee:

APPENDIX 2 - CONSENT LETTER TO PARTICIPANTS (LECTURERS)



APPENDIX B: Consent letter-Lecturer

“Screencast as a technology enhanced teaching tool at an Open Distance Learning higher education university in South Africa”

Dear Participant

This letter is an invitation to consider participating in a study I, Khanyisile Yanela Twabu am conducting as part of my research as a MEd in Curriculum Studies student entitled Screencast as a technology enhanced teaching tool at an Open Distance Learning higher education university in South Africa. My supervisor is Prof G van den Berg, with the following contact details: Tel 012 429 4895 and email ydberg@unisa.ac.za. Permission for the study has been given by Department of Accounting Sciences, UNISA and the Ethics Committee of the College of Education, UNISA. I have purposefully identified you as a possible participant because of your valuable experience and expertise related to my research topic.

I would like to provide you with more information about this project and what your involvement would entail if you should agree to take part. The importance of this study is to reveal how Screencast can be used as a technology enhanced teaching tool at an Open Distance Learning higher education in South Africa. In this interview I would like to have your views and opinions on this topic. This information can be used to improve the status of education in locally and globally.

Your participation in this study is voluntary. It will involve an interview of approximately 40 minutes in length to take place in a mutually agreed upon location at a time convenient to you. You may decline to answer any of the interview questions if you so wish. Furthermore, you may decide to withdraw from this study at any time without any negative consequences.

With your kind permission, the interview will be audio-recorded to facilitate collection of accurate information and later transcribed for analysis. Shortly after the transcription has been completed, I will send you a copy of the transcript to give you an opportunity to confirm the accuracy of our conversation and to add or to clarify any points. All information you provide is considered completely confidential. Your name will not appear in any publication resulting from this study and any identifying information will be omitted from the report. However, with your

permission, anonymous quotations may be used. Data collected during this study will be retained on a password protected computer for 5 years in my locked office.

The benefits of this study are that the University of South Africa and the rest of other universities at large will take note of how screencasts as a technology enhanced teaching and learning tool could benefit an ODL university as well as traditional higher learning institutions. There are no known or anticipated risks to you as a participant in this study. You will not be reimbursed or receive any incentives for your participation in the research.

If you would like to be informed of the final research findings, please contact Khanyisile Yanela Twabu on 0735140187 or email: mayekky@unisa.ac.za. A complete copy of the dissertation will be available on UNISA's institutional repository. All findings of this research study will be used to write up a Full dissertation for the Masters in Curriculum Studies

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please contact me at 0124292772 or by e-mail at mayekky@unisa.ac.za

I look forward to speaking to you and thank you in advance for your assistance in this project. If you accept my invitation to participate, I will request you to sign the consent form.

Yours sincerely

Khanyisile Yanela Twabu
Researcher's name (print)



Researcher's signature:

24 February 2017
Date:

APPENDIX 3 - CONSENT FORM TO BE SIGNED BY PARTICIPANTS (LECTURERS)

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CONSENT FORM

I have read the information presented in the information letter about the study in education. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and add any additional details I wanted. I am aware that I have the option of allowing my interview to be audio recorded to ensure an accurate recording of my responses. I am also aware that excerpts from the interview may be included in publications to come from this research, with the understanding that the quotations will be anonymous. I was informed that I may withdraw my consent at any time without penalty by advising the researcher. With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

Participant's Name (Please print): _____

Participant Signature: _____

Researcher Name: (Please print) _____

Researcher Signature: _____

Date: _____

APPENDIX 4 - PARTICIPANTS INTERVIEW TRANSCRIPTS

CASL#10

Q: Okay, good morning, **CASL#10**, I am Khanyisile. I am currently doing my studies in Curriculum Design, masters in curriculum studies and my topic is screencast as technology teaching tool at an Open Distance Learning Higher Education in South Africa. The purpose of my study and this interview and really to review how can screen casts be used as a technology-enhanced teaching and learning tool in an ODL University in South Africa. In this interview I would like you to air your views and opinions with regards to the topic at hand. I have chosen you to participate in the study because you are part, you were part of the cast lecturers that we doing the programme at the time and you are still producing some screen casts, so your, plus your college have been involved in the screen cast project. Ensuring your anonymity I will not use your name in any case of your particulars or personal information, whatsoever, so just be comfortable that your information will be confidential and also once this has been transcribed I will send you the copy of whatever has been transcribed so that you can also see that information is the way you have put it. You are not obligated to take part in this interview, I will encourage you to answer all the questions as this will help me get a better understanding of the project itself. For the purpose of this interview, I will refer to you as cast lecturer no 10.

R: Okay.

Q: So do you accept?

R: I do accept it.

Q: Okay, thank you, before we start with the questions I will just go through with this short, you gender?

R: Female

Q: Qualifications?

R: MCom

Q: And the name of your module?

R: TAX4861 and TAX4862.

Q: And how long have you been a lecturer at the ODL university?

R: Since 2013.

Q: Okay, you have mentioned the qualifications. Where did you obtain your qualifications?

R: I got my masters from T*.

Q: Okay, great. How many years of experience do you have on using screen casts?

R: It is probably two and a half now, maybe three years, the programme started three years ago.

Q: Okay, and how many years of experience do you have without the screen casts?

R: Oh, since 2000, I started doing academic support in 2007, so it is more than that.

Q: Okay, now we can start with the interview questions. We have four interview questions and then each question have sub-questions. So, you answer the sub-questions. So, the first one is about how can screen casts be used as technology-enhanced teaching and learning tool in ODL? I believe you have been, you have produced screen casts before and how many have you implemented?

R: I have to check the numbers. 31 here and then I also did 8 for my masters at Tuks.

Q: Okay, that is 31 and 8, 39. Okay, and how does your use and understanding of screen casts influence your teaching?

R: I think it is, for us in distance learning it is an additional tool, so if students struggle to maybe understand the content when it is just written and format when having somebody explain it to you, as having the audios, I am explaining it to you with a visual coming through, it usually enhance their ability to understand the topic.

Q: Okay.

R: That is in my opinion.

Q: Okay, to what extent have you implemented screen casting in your lessons?

R: So what we have done is for each tutorial letter that we have, we implemented, we would take key topics or topics that students struggle with, and then we do a short screen cast taking the principle and then examples that we take of the facts.

Q: Okay. What are the other ways that lecturers can use screen casts?

R: I think they don't need to be just there for tuition, it could also be to inform students of how to use myUnisa, how to understand or read your textbook, so also giving them some more administrative like instructions. More than just for the actual tuition.

Q: How do you see your position as a lectured and a screen cast implementer within the college?

R: I guess it is trying to do everything, you are trying to do tuition, you are trying to do the technology to enhance learning and in that sense, you are trying to get to everything which means sometimes I don't know if it gets as much attention, the screen casts are

almost secondary when you get your tutorial material out first and screen casts, so they become secondary. So it is a just an added service that we try to produce that if we had more time we could do more, I feel.

Q: Okay. Please take me through the process of recording screen casts?

R: Okay, so what we would do, is we would take slides or summaries of the tuition material and enhance the slides to be more visual, to have a lot more animation and then also to write like a script for whoever was doing screen casts so that it is quite standardised and make sure that we cover everything that we wanted to on the screen cast and then editing areas and then obviously upload it to myUnisa when it is ready.

Q: Okay, and how comfortable are you with the screen cast recordings?

R: I think now it is fine, initially it was a learning process of making sure that the slides were animated enough to keep ones attention because I think even the slide that we have generally, there is a lot of content, which is fine if you are standing in front of the class, lecturing, it is not fine if you are doing a screen casts, then you need something to constantly happen in order to keep that engagement with the viewer, I found initially my slides were almost boring, they had too little animation, too little pictures and if I was listening to the screen casts to try and just check it, I would find my mind were wondering. They want to be enough to keep me, I think that process bettered and so it made us more comfortable. It is a bit awkward talking to a screen and not to people, but that you get used to.

Q: You get used to. Okay. We are finished with the first question. Now we will move on to the second one. What other primary purposes for using screen casts as a technology-enhanced tool. Why have you chosen this screen casts for teaching and learning as a technology-enhanced teaching and learning tool?

R: I think we chose it because it was the easiest to do, which cost the least money, and so I think we were able to use power points, so most lecturers are able to use power point. The screen cast recording itself we did mostly at the sound and production, so we had that additional editing help, but ja, mainly because it was the easiest tool and the cheapest tool, so we didn't need to add. We needed just to access to power point and voice recordings or to have then a licence for the software. So it was, we didn't have to buy too much.

Q: And why do you think screen cast are most suitable for?

R: I think they are very well suited for revision type work, for students, so if a student just use the screen casts they could actually use it to start the learning process for that

topic, or they could preferably use as a revision. So they've gone through it, they go back and they listen to it and they watch it and it would enhance their understanding of that they already studied. So I think it could be used for both primary study and as a secondary, a supplementary tool.

Q: And what do you appreciate most in lesson planning for screen cast implementation?

R: So in terms of what we are going to cover?

Q: Yes.

R: So well we sit together as a group and we say, well we think these are topics that are even new, that have come out, or based on past experience with students and where areas that they struggle on, we focus on those and so we also try to see which ones, will be do this year, which ones can we maybe then build in later so almost try to build up a library of these screen casts rather than you know just repeating the same ones over and over, so it is almost like a plan to get a more holistic or a more complete set of screen casts.

Q: Okay. What do you appreciate most in teaching for the screen cast implementation?

R: I think the process of making sure you cover the theoretical or the application or the theoretical the information that they need to understand and then following that up with an example, is a good link so that they are able to, this is what we say and this is how you do it.

Q: Okay.

R: So that they get both aspects of that learning in.

Q: Okay. Now the ICT connections. What do you appreciate most in using the resources and the ICT connections when you implement screen casts?

R: I think it, well with the screen casts that we use, it is power points, you can use it anywhere and it usually works without too much, it is not a beat the programme or something that is very new. So I think that is quite handy, obviously the uploading to myUnisa, but that is separate from the screen cast implementation side.

Q: Okay, did you see any after you have implemented the screen casts and if so, what were the reward?

R: We don't have that, too much contact with the students, but the contact that we had, did have with the students, and also there was a questionnaire that went out to the students where we asked them what did they like, what didn't they like and almost all the students that responded to the questionnaire responded that they wanted more of

it. So they clearly were looking for more because they felt that it explained the topics clearly for them, so they needed that, almost just that extra, almost gave them a bit of motivation you know, there is additional help out there, or additional information.

Q: Do you have the questionnaire, or was it?

R: Yes, I can get the questionnaire.

Q: Okay, I would appreciate it to see for the document analysis and so on.

R: Ja, that is fine, I can send you the questionnaire, I don't have access to the raw data, but I can give you the questionnaire that was asked.

Q: Oh you don't have access, that is fine. Okay, now we are, we are done with question 2. Now we move on to the third question. What challenges do lecturers experience in using screen casts as a technology-enhanced teaching and learning tool? What challenges have you as a lecturer met in terms of resources and ICT connections?

R: I think there are sometimes the connectivity or getting on to the server or access to the server to put it on and then change where it needs to go, on to an apple server, now it goes straight to myUnisa and so there is a constraint in terms of the size of what you can put onto myUnisa, which makes it a bit of a challenge in finding the right place, so that also the consistency for the students, so that they know where to find it all the time, so it is kind of moved around a bit, so that hasn't been great, I think the other concern is also with the limit of the size, it does impact, we have to be very careful that we stay within the size limit otherwise we have to break maybe a screen cast into two in order to upload it onto myUnisa. Initially we also have problems with it not being downloadable for the students, so they would be able to view it but they wouldn't be able to download it and then that meant every time they wanted to see it, they must download it again or they have to view it again. So that was initially, I don't know if that is a problem anymore but that was, ja, initially a bit of a concern. Ja, I think those are the main ICT challenges.

Q: And how have you dealt with such challenges?

R: So, well made a plan to find out exactly where they want from a curriculum perspective, where they want it on myUnisa and access for the students. So we have managed to get that, it has changed to, so we have communicated that to the students, I am just not sure how well it has been communicated, if the students aren't reading their announcements properly then they would not necessarily know and students aren't generally the ones who want to go and look for stuff, unfortunately so you have

to kind of help them with that. I think the other challenge I would say, a challenge is that where we now put the screen casts, we have no way of getting any data to see how many students access the screen casts. Whereas before when it was a learning unit, there was tracking information for you to get to see how many times was that video used, how many students access that video? Whereas, it has now moved as an additional resource and on additional resources we have no tracking to see whether a student actually checked on the link and look at the video. So that also, we assume that they are using it, but we don't have any data to proof it, which I think.

Q: What motivated the move?

R: I am not sure. I wasn't here at the time, I was on study leave. So there was something that we were in fact, we weren't allowed to access that space on, it was insufficient space on the apple server or whatever it went, and so that move it to an additional resource as opposed to a separate learning unit.

Q: So if there is a space issue, do they not delete it sometimes, do they not clean up the space or do they keep the files?

R: I am not sure what ICT does in the background. Ja, because we could still go back and access multiple years' information.

Q: Okay.

R: I am not sure with regards to screen casts, ja.

Q: Okay. Are there any challenges with regards, I think we have dealt with this, with regards to uploading the screen casts in myUnisa?

R: So ja, it was just knowing where they wanted them eventually, and so, ja, so initially it was a challenge to get access to the server when it was running to the apple server, going as a learning unit and now we have the challenge of space and size on uploading it as additional resources.

Q: Are there any specific challenges from your students with regards to how you have implemented your screen casts?

R: Initially there were some, I think some of the sizing and the quality, wasn't 100%, so then they said if they viewed it on their laptops, it was very pixilated, they couldn't see it because it was actually designed on a smallish tablet or a large phone. It was designed to be small so that the data usage would also be small, so it was maybe one of the challenges, so I think just communicating back to the students, helped them to know what device to maybe viewed on and then I think we also slightly increased the quality so that if they did review it on a screen, it will only open to let the half a size of

a computer screen, so that you don't have those pixilation problem.

Q: Okay, I was going to ask how did you adjust such changes, so you have already answered that. Are there any other challenges that you have not dealt with in terms of the screen cast implementation?

R: I guess the biggest challenge is time, because the slides are, have to be very animated, very kind of eye catching, it takes a really long time to set up, it would take me more than a week to set up, let's say five screen casts of five minutes each. So for a twenty five minute screen casts it takes me five days, just to set it up, which is a really long time and I think that is the biggest challenge to keep it, to keep the attention of the learner, you need something that is eye catching, but to do that the time involved is a lot, however, obviously that is your first time, then the next time that we have to update it, then it is obviously much easier, because the animation is there, the pictures are there, then it is just an update, but every time you create a new, let's say screen cast, a new topic, it is very intense, in terms of time.

Q: So how do you deal with your work, the other tuition work that you do, because you mentioned that five days sometimes to do it, so how would you then

R: I usually just work during the night, a couple of nights to finish it. So I have to catch up on my, so I would do my work, and then in the evening I would do the screen casts and so I would work, ja through the night to get it finished.

Q: Would you then say it is, it requires one to also have some passion in it and accountability of some sort?

R: I think so, the more, the more excited you are about it, the better you want to make it. So the more improvement you want to put in, the more effort you will put in to make it, so the content is, it is not, I think with the screen casts it is not always about the content, so the content is important, but it is the way that you deliver the content, which is also important.

Q: Oh.

R: And that is what takes the time, because you've got the content, we've got the content for physical stand up lectures, or to put it up, we put the slides up almost as a summary of the tutorial information, whereas this is saying okay, you've got the content, I need to make sure that you understand the content and in order to do that, keep your attention, I need to make it visually stimulating. Something that you will be able to almost remember, you know, that eye catching so that's I think that is where your passion comes in, in terms of how well your slides will be presented for the screen cast

and then I think, this is again, an assumption, I also feel that your impact on how well the students actually understand it, they can use it, if they are obviously more attentive, they are also going to understand more. Okay, my assumption.

Q: Okay. I hear you. We are done with question 3, now we move on to the last question, which is question 4. What recommendations can be made regarding the effective utilisation of screencasts as a technology-enhanced teaching and learning tool? Share with me any recommendations or guidelines for implementation and use of screen casts to lecturers who want to use, screen casts, or the university itself, that you would advise with regards to your views and anything related to the screen cast implementation?

R: Ja, I think the screencast have a lot of value in the sense of the learners are different today than what they were in the past, they want to be entertained, so you are able to create and entertaining experience through the use of screen casts, like a voice over power point situation. So you are able to communicate with them in a way that they need to be communicated, in terms of recommendations, I think you need to want to make a difference in your students' learning journey, in order to really make the screen casts you know something that they will want to ask for more, they will want more of it. As for lecturers it is easy to do, it is not complicated, it is just time consuming. So I think from that point of view it is very positive, is that it is not complicated, we are not using complicated software, we are not, it is not rocket bind, it is literally just using power point and then going recording it.

Q: What other software have you used?

R: So we used power point and then we use Camtasia studio to do the actual recording and the editing of it. So those are the two, so Camtasia is also, it is quite, if someone can show you how to do it, or sound and production, so it is easy for any lecturer to do it, they just need to try.

Q: Okay, and for the university, what would you?

R: For the university, I think like I said it can be used in multiple ways, it can be used for administrative side, so a student can watch a video, how do I apply? How do I go and register, you know they can even maybe get videos on what do the different courses entail so that they can maybe make better decisions in terms of what they want to study, so that they are not chopping and changing during the year. So I think there are many aspects that the university can use screen casts, so pre-recorded stuff, it would pretty much stay the same unless some of the processes change, year in year

out, and it will give the students a visual aid to maybe simplify something that gets a bit complicated with the administration and just the general, you know logistics of how the thing works of the university.

Q: Is there anything else that you would want to add, with regards to screen casts?

R: No, I think they are really good, I think the time is a concern, so the amount of time that it takes is concerning, so in order for it to be effectively implemented and rolled out within whichever module or whatever, you almost ideally want a dedicated person, so a lecturer who is almost dedicated to doing screen casts. So that we could get enough off a basis that the students would have a lot more access to the screen casts. So I think, there are other technologies that are now coming into the next that might screen casts less useful in a sense just because it would be quicker to do it, so you can do a webinar or an interactive lecture, and I think those might start to replace the screen casts in a sense that you don't have to spend as much time animating your slides, making it as attentive because you would have a lecturing figure actually lecturing it. So there is potential that screen casts, I think for areas where not much change happens, so like what to do, how to access myUnisa. You know those kind of things, who stay pretty much consistent, the screen casts is perfect. You can go back, you can put little book marks in it, they know exactly where to go. Whereas I think from a tuition side, I think more interactive type of broadcasting might replace screen casts.

Q: Thank you so much for your time.

R: Sure. It is a pleasure.

Q: Thank you so much.

R: It is a lot of work to do, that you have to transcribe everything.

APPENDIX 5 – APPROVAL CERTIFICATE FOR RESEARCH: COE



UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2017/02/15

Dear Mrs Twabu,

Decision: Ethics Approval from
2017/02/15 to 2019/02/15

Ref: **2017/02/15/411731124/29/MC**

Name: Mrs KY Twabu

Student no: 411731124

Researcher:

Name: Mrs KY Twabu

Email: mayekky@unisa.ac.za

Telephone: 012 429 2772

Supervisor:

Name: Prof G van den Berg

Email: vdberg@unisa.ac.za

Telephone: 012 4294895

Title of research:

**Screencast as a technology enhanced teaching tool at an Open Distance Learning
higher education university in South Africa**

Qualification: M Ed in Curriculum Studies

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2017/02/15 to 2019/02/15.

The low risk application was reviewed by the Ethics Review Committee on 2017/02/15 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.



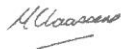
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3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No field work activities may continue after the expiry date 2019/02/15. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

The reference number **2017/02/15/411731124/29/MC** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

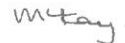
Kind regards,



Dr M Claassens

CHAIRPERSON: CEDU RERC

mcdtc@netactive.co.za



Prof V McKay

EXECUTIVE DEAN

UNISA
College of Education
 2017 -02- 15
Office of the Executive Dean

Approved - decision template – updated 16 Feb 2017



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APPENDIX 6 - APPROVAL CERTIFICATE FOR RESEARCH: CAS



UNISA COLLEGE OF ACCOUNTING SCIENCES ETHICS REVIEW COMMITTEE

Date 2017-05-24

Dear Ms KY Twabu

ERC Reference:
2017_CAS_019
Name: Ms KY Twabu
Student/ Staff #: 41334124

**Decision: Ethics Approval from
2017-05-23 to 2020-05-22**

Researcher(s): Ms KY Twabu
mayekky@unisa.ac.za

Working title of research:

**Screencast as a technology enhanced teaching tool at an Open Distance Learning
higher education university in South Africa**

Qualification: Master's Degree

Thank you for the application for research ethics clearance by the Unisa College of Accounting Sciences Research Ethics Review Committee for the above mentioned research. Ethics approval is granted for three years.

The application was reviewed by the College of Accounting Sciences Research Ethics Review Committee on 23 May 2017 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment, and approved.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Accounting Sciences Research Ethics Review Committee.



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3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No field work activities may continue after the expiry date of this certificate.

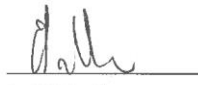
Note:

The reference number of this certificate should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Yours sincerely,



Ms L Grebe
Chair of CAS RERC
E-mail: grebel@unisa.ac.za
Tel: 012 429 4994



Prof E Sadler
Executive Dean CAS

APPENDIX 7 - REQUEST FOR PERMISSION TO CONDUCT RESEARCH: RPSC



RESEARCH PERMISSION SUB-COMMITTEE (RPSC) OF THE SENATE RESEARCH, INNOVATION, POSTGRADUATE DEGREES AND COMMERCIALISATION COMMITTEE (SRIPCC)

30 June 2017

**Decision: Research Permission
Approval from 4 July 2017 until 30
September 2017.**

Ref #: 2017_RPSC_035
Ms. Khanyisile Twabu
Student #: 41334124
Staff #: N/A

Principal Investigator:

Ms. Khanyisile Twabu
Department of Curriculum and Instructional Studies
School of Teacher Education
College of Education
UNISA
mayekky@unisa.ac.za; (012) 429-2772/ 073 514 0187

Supervisor: Prof Geesje van den Berg
vdberg@unisa.ac.za, 012 429-4895/ 082 921 9771

A study titled: "Screencast as a technology-enhanced teaching tool at an Open Distance Learning higher education university in South Africa."

Your application regarding permission to conduct research involving UNISA employees, students and data in respect of the above study has been received and was considered by the Research Permission Subcommittee (RPSC) of the UNISA Senate, Research, Innovation, Postgraduate Degrees and Commercialisation Committee (SRIPCC) on 15 June 2017.

It is my pleasure to inform you that permission has been granted for the study. You may:

1. Gain access to the email addresses of lecturers from the College of Accounting Sciences, who have used screencasts from 2014 until 2017 (CTA modules: (AUE4861_4862 (Applied Auditing), FAC4861_4863 (Applied Financial Accounting 1),



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FAC4862_4864 (Applied Financial Accounting 2), MAC4861_4862 (Applied Management Accounting) and TAX4861_4862 (Applied Taxation) for 2014 - 2017.

2. Recruit the lecturers from the College of Accounting Sciences via their emails and conduct individual interviews with ten lecturers who are willing to take part in the study.
3. Gain access to the information available on screencasts to look at the screencasts shared per module per course for the modules mentioned above.
4. Gain access to the MyUnisa pages of the modules mentioned above in order to use the feedback that the students gave their lecturers on screencasts for research purposes.
5. Gain access to the feedback that the students gave to their lecturers through their emails on the use of screencasts, after obtaining permission from the students.

You are requested to submit a report of the study to the Research Permission Subcommittee (RPSC@unisa.ac.za) within 3 months of completion of the study.

The personal information made available to the researcher(s)/gatekeeper(s) will only be used for the advancement of this research project as indicated and for the purpose as described in this permission letter. The researcher(s)/gatekeeper(s) must take all appropriate precautionary measures to protect the personal information given to him/her/them in good faith and it must not be passed on to third parties. The dissemination of research instruments through the use of electronic mail should strictly be through blind copying, so as to protect the participants' right of privacy. The researcher hereby indemnifies UNISA from any claim or action arising from or due to the researcher's breach of his/her information protection obligations.

Note:

*The reference number **2017_RPSC_035** should be clearly indicated on all forms of communication with the intended research participants and the Research Permission Subcommittee.*

We would like to wish you well in your research undertaking.



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Kind regards,



pp. Dr Retha Visagie – Acting Chairperson

Email: visagrg@unisa.ac.za, Tel: (012) 429-2478

Prof A Davis – Acting Executive Director: Research

Email: davisa@unisa.ac.za, Tel: (012) 429-8357



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APPENDIX 8 - LANGUAGE EDITED CERTIFICATE

CERTIFICATE OF EDITING – MJ MARCHAND

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E-mail: marchm@iafrica.com

14, Twenty First Street
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Pretoria
0081
16 June 2018

To whom it may concern:

I certify that I am a professional, experienced and accredited editor and that I have re-edited the dissertation by Khanyisile Yanela Twabu in Curriculum Studies entitled "Screencast as a technology-enhanced teaching tool at an open distance learning university in South Africa".

I have edited the dissertation for clarity, correctness and flow of language and expression. This included spelling, tense, vocabulary, number, punctuation, pronoun and verb matches, word usage, correct acronyms, sentence structure and consistency.

I also carefully checked the references with the text, and found this aspect to be almost impeccable. However, the reference list itself needed a lot of work. I was unfamiliar with the style used, but in the short time available decided to make the existing style as consistent as possible.

I personally believe that verbatim quotes should be either in italics *or* using quotation marks, but decided to follow the style already used.

The dissertation left my hands on 16 June 2018.

Marion J Marchand
BA, H Dipl Lib, HED,
Postgraduate Certificate in Editing UP; Accredited Translator (Afrikaans to English) and English Editor, South African Translators' Institute, Member of the Professional Editors' Guild; Member of the English Academy