

**A FRAMEWORK FOR THE INTEGRATION OF ONLINE LEARNING IN DISTANCE  
EDUCATION**

by

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### Title of thesis:

### **A FRAMEWORK FOR THE INTEGRATION OF ONLINE LEARNING IN DISTANCE EDUCATION**

Online learning through the use of information and communication technology (ICT) features in institutions of higher education globally. If integrated successfully online learning holds many benefits. Research however has highlighted that the focus of online learning is often on the technology, while pedagogical considerations are neglected. As such online learning has not yielded significant changes from a pedagogical perspective. The impetus of this study was driven by the need to find approaches of integrating pedagogically sound online learning in distance education (DE). The study employed a case study research design, and was qualitative in nature. Questionnaires, interviews and documents informed the case study. The findings of the study reveal that online learning should be purposefully planned. In light of the findings, the study presents a framework for the integration of online learning in DE. The framework is built on the concept of awareness and argues that online learning should depart from three types of awareness, i.e. lecturer, student and institutional. The framework is entrenched in theory from both DE and online learning and offers direction for stakeholders at various levels of DE higher education institutions in terms of integrating online learning.

### KEY TERMS:

**Online learning, distance education, Open distance learning (ODL), Open distance and e-learning (ODeL), Integration, Pedagogy, Information and communication technology (ICT), Challenges, Opportunities, Framework**

## **YUNIBESITHI YA AFRIKA BORWA**

Thaetlele ya thesisi

### **TLHAKO YA KOPANTŠHO YA BOITHUTI KA INTHANETE KA GO BOITHUTIKGOLE**

Boithuti ka inthanete ka tšhomišo ya theknolotši ya tshedimošo le kgokagano (ICT) bo hlaga ka go dihlengwa tša thuto ya godingwana lefaseng ka bophara. Ge e le gore di kopantšwe ka katlego, boithuti ka inthanete bo na le mehola ye mentši. Le ge go le bjalo, dinyakišišo, di bontšhitše gore nepišo ya boithuti ka inthanete gantši e ka go theknolotši, mola ditlhoko tša mokgwathuto di hlokomologilwe. Ka fao, boithuti ka inthanete ga se bo tšweletše diphetogo tša go bonagala go tšwa go kgopolo ya mokgwathuto. Tlhohleletšo ya dinyakišišo tše e laolwa ke nyakego ya go hwetša mekgwa ye e kopantšwego ye e kwagalago ya thuto ya boithuti ka inthanete le boithutikgole (DE). Dinyakišišo di šomišitše tlhamo ya dinyakišišo ya tshekatsheko ya maemo, gomme ka tlhago e be e le tša boleng. Mananeopotšišo, dipoledišano le dingwalwa di tsebagaditše tshekatsheko ya maemo . Diphihlelelo tša dinyakišišo di utolla gore boithuti ka inthanete bo swanetše go beakanywa ka maikemišetšo. Go ya ka diphihlelelo, tlhako e hlagišwa ke kopanyo ya boithuti ka inthanete ka go DE. Tlhako ye e theilwe godimo ga kgopolo ya temošo le go hlagiša gore boithuti ka inthanete bo swanetše go tšwa go mehuta ye meraro ya temošo, k.g.r. mofahloši, baithuti le dihlengwa. Tlhako ye e hlalošwa ka botlalo ka go teori go tšwa go DE le boithuti ka bobedi ka inthanete gomme e fa taetšo go baamegi maamong a go fapafapana a dihlengwa tša thuto ya godingwana ya kgole go ya ka boithuti ka inthanete.

#### **MAREO A BOHLOKWA:**

Boithuti ka inthanete, boithutikgole, boithuti ka dikgokaganokgole (ODL), boithuti ka dikgokaganokgole le ka elektroniki (ODEL), kopanyo, mokgwathuto, theknolotši ya tshedimošo le kgokagano (ICT), ditlhohlo, menyetla, tlhako.

## **INYUVESI YASENINGIZIMU AFRIKA**

ISihloko Sombhalo Wocwaningo

### **UHLAKA LOKUDIDIYELWA KOKUFUNDA NGOKUXHUMANA NGEKHOMPUYUTHA KWEZEMFUNDO YAMABANGA**

Ukufunda ngokuxhumana ngekhompuyutha ngokusebenzisa ubuchwepheshe bolwazi nokuxhumana (i-ICT) kuyinto ekhona ezikhungweni zemfundo ephakeme emhlabeni wonke. Uma kudidiyelwe ngempumelelo, ukufunda ngokuxhumana ngekhompuyutha kunemihlomulo eminingi. Kodwa-ke, ucwaningo luqhakambise ukuthi ukugxila ekufundeni ngokuxhumana ngekhompuyutha kuvame ukuba mayelana nobuchwepheshe, bese kuthi okuphathelene nezindlela zokufundisa kunganakwa. Kanjalo, ukufunda ngokuxhumana ngekhompuyutha akuzanga noshintsho oluningi maqondana nezindlela zokufundisa. Isisusa salolu cwaningo kwaba ngukukhuthazwa yisidingo sokuthola izindlela zokudidiyela izindlela zokufundisa ngokuxhumana ngekhompuyutha ezisebenzayo kwezemfundo yamabanga (i-DE). Lolu cwaningo lusebenzise uhlobo lokucwaninga olubheka izindawo ezithile okugxilwa kuzo kanti luwuhlobo olubheka imininingwane yezinto ezikhona ezingamaqiniso. Amaphephamibuzo, izingxoxiswano kanye nemiqulu yikona okwaholela ocwaningweni olugxila ezindaweni ezithile. Okwatholakala kulolu cwaningo kwaveza ukuthi ukufunda ngokuxhumana ngekhompuyutha kumele kuhlelwe ngendlela. Ngenxa yokutholakele, uhlaka luhlinzekelwa ukuba kudidiyelwe ukufunda ngokuxhumana ngekhompuyutha kwezemfundo yamabanga. Uhlaka lwakhiwe ngomqondo wokuqwashisa futhi lubeka phambili ukuthi ukufunda ngokuxhumana kwekhompuyutha kufanele kusukele ezinhlobeni ezintathu zokuqwashisa, kuthisha wasenyuvesi, kumfundi nakwisikhungo. Uhlaka lugxile emqondweni wezinzululwazi wakona kokubili imfundo yamabanga nokufunda ngokuxhumana ngekhompuyutha futhi luhlinzeka umhlahlandlela kwabathintekayo emazingeni ahluahlukene ezikhungo zemfundo ephakeme yamabanga maqondana nokudidiyela ukufunda ngokuxhumana ngekhompuyutha.

#### **AMAGAMA ASEMOKA:**

Ukufunda ngokuxhumana ngekhompuyutha, imfundo yamabanga, ukufunda ebangeni elide (i-ODL), ukufunda ebangeni elide nokufunda ngekhompuyutha (i-ODEL), ukudidiyelwa, indlela yokufundisa, ubuchwepheshe bolwazi nokuxhumana (i-CT), izinselelo, amathuba, uhlaka

## DEDICATION

*No matter how far we come our parents are always in us...Brad Meltzer.*

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# CHAPTER 1

## ORIENTATION TO THE STUDY

### 1.1 INTRODUCTION

The advent and dissemination of information and communication technology (ICT) has reinvented the way we currently view our world. ICT has had widespread reach in all sectors of society, signalling the need for change in existing practices. It has also had a significant impact on business and education, as well as society at large. With specific reference to education, ICT has served as a catalyst, bringing the institution and the student together through the click of a button. Students have at their disposal a wealth of information which can be accessed instantaneously, while knowledge can be shared across the boundaries of space and time. Lecturers in turn have immediate access to tools and resources which can be used to facilitate learning. Considering the fluid nature of ICT and the vast amount of information available, questions arise as how to best integrate the use of ICT in education.

Research (Hartnett, St. George & Dron 2011, Wilson 2012, Caird & Lane 2013, Prinsloo & Coetzee 2013, Zawacki-Richter 2014, Naidu 2014b) highlights that the use of ICTs has been widely deployed in institutions of higher education in the form of online learning. This has not proved to be an easy task, however, as there are a number of factors that both influence and hinder the integration of online learning. With specific reference to developing countries, in which the context of this study is based, there are a range of factors which impacts online learning. Among these factors are the digital divide, which results in varying degrees of ICT literacy levels among students (Brown 2012:43). In addition, access is a challenge due to the fact that students from different socioeconomic groups have varying degrees of access to ICTs, as well as varying capabilities of both students and staff to utilise ICTs. Another contributing factor is the lack of infrastructure to cater for a diverse student population with varying digital literacy levels (Prensky 2005:8, Guri-Rosenblit 2012:6, Littlejohn, Beetham & McGill 2012:547, Bharuthram & Kies 2013:412).

Coupled with these challenges is the concern that while institutions have adopted online learning, it has not led to transformed pedagogical practices (Conole & Alevizou 2010:4, Lwoga 2012:93, Caird & Lane 2013:2, Teras & Herrington 2014:233). Thus, the focus appears to be on the technology itself, while the pedagogical dimensions such as how and what students learn have been neglected.

In light of the above, this study was driven by the need to find ways of integrating pedagogically sound online learning in distance education (DE). What follows below is a discussion of the background against which this study was positioned.

## **1.2 BACKGROUND**

This study was framed by an open and distance learning (ODL) institution in South Africa. At the outset, the relationship between DE and ODL should be made. O'Rourke (2003:13) describes DE as a form of education in which students are physically separated from the education institution. As such, communication takes place through either writing, verbally or in situations where students meet with the education provider. DE provides a platform for learning for students who cannot access education through other channels (Baggaley 2008:39). ODL as described by O'Rourke (2003:13) refers to learning primarily through the use of resources instead of attending class. The University of South Africa's (Unisa) ODL Policy (2008:2) describes ODL as being multidimensional in nature and aimed at reducing physical, monetary, learning, social and communication distance between all parties involved in the learning process. Unisa's ODL policy (2008:2) additionally outlines that ODL pays attention to flexibility in the learning process, placing the student at the core and providing student support with the goal of student success. Attention is also given to barriers that might prevent students from accessing learning. Accordingly, ODL is a form of DE that embraces the concept of openness. In this context, openness is characterised by a variety of aspects such as, both access and openness in the manner in which knowledge is constructed and coordinated (Heydenrych & Prinsloo 2010:7). Open learning makes it possible to offer education beyond the barriers of time and place, it embraces the principles of accessibility and flexibility, and focuses on the student as its core business of delivering teaching and learning (Baggaley 2008:44, Wei 2010:48).

A reflection on the above definitions brings to light that both DE and ODL provide learning opportunities through several modes, with the key aspect being that the student and the lecturer do not have to be in the same place at the same time (Prinsloo & Coetzee 2013:1356-1357). ODL, however, has a distinct mandate in that it is targeted at providing flexible and accessible learning opportunities to students. These characteristics of accessibility and flexibility are what make ODL student-centred in nature.

In determining which would be the most appropriate term to use for this study, the argument put forward by Moore and Kearsley (2012:3) was used as a rationale for making this decision. Moore and Kearsley (2012:3) point out that terms associated with DE are *open education*,

*open learning*, *ODL* and, more recently, *open and distance e-learning (ODEL)* (Arinto 2013:167). They postulate that all of these terms are covered by the term *DE*. In addition to this, Prinsloo and Coetzee (2013:1356-1357) point out that all ODL institutions are DE institutions as well. It is within this context that term *DE* will be used for this study.

Considering that this study looked at the use of online learning made possible through ICTs in a DE context, the technological advances that have influenced DE are briefly reflected on. According to Moore and Kearsley (2012:23), DE was first deployed through postal correspondence, better known as correspondence education. The use of radio and television followed, with open universities appearing next. Wei (2010:46) maintains that the concept of open universities became necessary as new media became available and thus it was within this context that DE was broadened to support open learning. In the 1980s, the offerings of DE were made available through audio and video conferencing. The current era of DE has evolved significantly since then and includes the use of ICTs to carry out its operations (Moore & Kearsley 2012:23). These generations indicate that DE evolved parallel to the developments of the time. DE also changed according to the needs of society and was linked to the context it was positioned in at that time. It is evident from these generations that technological advances have been part of DE since the 1980s and continue to be part of the architecture of DE to the current day.

According to Guri-Rosenblit (2014:113), online learning through the use of ICTs has the ability to overcome three significant challenges of traditional DE. The first is its ability to provide interaction between the student and the institution, thereby eradicating the isolation that DE students face. The second is the potential that online environments offer to students in having a gateway to libraries and other sources of information at their disposal. The third is the ability to keep self-study materials relevant and current as well as accessible and reusable. Naidu (2014b:266) points out that social media tools, online messaging, audio and video conferencing and email have enabled instant communication between the student and the institution. In addition, online learning offers DE institutions several opportunities to facilitate the teaching and learning process. These possibilities include the opening up of educational opportunities, instant communication between educators and students, interactive learning environments and critical thinking, collaboration and the ability to form networks with peers (Naidu 2014b:269, Venkatesh, Croteau & Rabah 2014:111, Conole 2014:230).

As the preceding paragraph indicates, online learning holds much potential for higher education and as such has been integrated in DE institutions. However, as alluded to in the introduction (see section 1.1), pedagogical practices have not changed significantly. Haughey

and Evans (2014:134) point to a further challenge in the field of DE: in online learning the fundamental question remains as to what is the most effective approach that will ensure both success and an excellent standard of education. Conole (2014:20) proposes several issues that need to be addressed in this regard. The first is the shortage of studies that are solidly grounded in theory; the second is the divide between research results and the impact these results have on practice; while the third refers to institutional barriers that influence the use of online learning.

The work of the cited scholars (Conole & Alevizou 2010:4, Lwoga 2012:93, Caird & Lane 2013:2, Teras & Herrington 2014:233) brings to light several challenges regarding the use of online learning. These challenges include the focus on the technology and not on the pedagogy, as well as the burning question of what are the best approaches to integrate online learning while still ensuring quality and success for students. In addition, there is a lack of studies that have a strong theoretical foundation, while research results that do not translate to practice also pose a further challenge.

The rationale and motivation for this study developed in consideration of these challenges and are discussed below.

### **1.3 RATIONALE AND MOTIVATION**

The motivation for this study stems from three driving forces. The first is my personal experience working as a lecturer in DE. As a lecturer I am well aware of the contribution that online learning can make to teaching and learning. However, I often find myself asking questions relating to the way in which online learning should be effectively integrated. Secondly, after surveying the literature it appears that while online learning that is used appropriately holds much promise (Naidu 2014b:269, Venkatesh et al 2014:111, Conole 2014:230), there still remains challenges as to the implementation of online learning. As such, teaching practices have not changed significantly despite the use of online learning (Conole & Alevizou 2010:43, Lwoga 2012:93, Agariya 2012:501, Caird & Lane 2013:2).

The final driving force is the change agents evident as having an impact on higher education, including DE. The pertinent change agents have been noted as globalisation, ICTs that connect students and institutions in different ways, the information revolution, online learning, changing pedagogies and the fourth industrial revolution (Siemens & Matheos 2010:4, Wilson 2012:41, Prinsloo & Coetzee 2013:1356, Brinders 2014, Naidu 2014b:265, Johannessen 2018:3-5). These change agents signal a shrinking world in which students will be connected

to each other and exposed to reservoirs of information. They will have to become critical thinkers in a digital environment, with the ability to make the best choices regarding their learning. It is in this light that institutions of higher education should consider the practices for engaging their students in online learning environments that will best leverage the change agents that have an impact on them. Engaging with online learning will be beneficial for DE institutions, as is outlined in the discussion on the significance of the study which follows below.

#### **1.4 SIGNIFICANCE OF THE STUDY**

This study is particularly important for the field of DE. As a field, DE has the potential to reach out to a vast number of students spanning boundless geographical locations. This gives students who cannot study at traditional face-to-face institutions the opportunity to be equipped with high-level skills and knowledge on a par with traditional face-to-face students. Research in the field of DE that will improve practice is therefore fundamental.

Within the context of South Africa, the issue of integrating online learning in DE must be considered within the specific context of the country. This consideration is highlighted in Prinsloo (2019:67) who postulates that understanding the challenges and opportunities of educational technologies is context bound. The role of context is therefore essential and cannot be overlooked. In South Africa the progression from correspondence distance education to distance education characterised by online learning, is recent and in an emerging phase (Prinsloo 2019:67). There are several contextual factors that impact the use of online learning in DE. Among these factors are: the under-preparedness of students to cope with the demands of higher education, challenging socio-economic status which influence students' chances of success, a shortage of high-level skills which further threatens success, a lack of access to digital networks and the challenge of institutions not being able to provide adequate support to students. (Subotzky & Prinsloo 2011:177-178, Prinsloo 2019:78). Baijnath and Butcher (2015 as cited in Prinsloo 2019:77) furthermore postulate that limited bandwidth, inadequate infrastructure, professional development of staff and access to devices also serve as barriers to the integration of online learning in DE.

The above discussion highlights barriers that must be taken into consideration regarding the integration of online learning in the South African context. Nevertheless, if DE institutions are to remain competitive and relevant they need to explore best practices for integrating online learning. With specific reference to this study the use of online learning made possible through

ICTs has become an imperative in equipping students with 21st century skills that they can transfer to the working environment (Venkatesh et al 2014:110). This study is therefore significant as it explores the integration of online learning in a developing country. The research is grounded in pertinent theory and literature (see chapters 2 and 3) from both distance education and online learning. Furthermore, the research methods employed were well suited in enabling the research questions to be answered. The findings of the study is therefore significant as it offers a framework (see section 6.5), which guides practitioners regarding the integration of online learning in DE.

## **1.5 PROBLEM STATEMENT**

The need for DE institutions to use online learning has already been referred to in this chapter. However, scholars have pointed out that the use of online learning has not necessarily changed pedagogical practices (Conole & Alevizou 2010:43, Lwoga 2012:93, Agariya 2012:501, Caird & Lane 2013). Boling, Hough, Krinsky, Saleem and Stevens (2011:118) state that a significant number of studies have highlighted that teaching online requires a different pedagogy and a different set of skills from those demanded by the traditional classroom. They highlight the importance for research to be conducted which will pay specific attention to the manner in which institutions of higher education can support their staff in obtaining suitable pedagogical strategies that will enable the development of effective online environments.

Haughey and Evans (2014:134) reiterate this point, stating that in DE the question remains as to the best way learners learning in online environments may receive education of a high standard with the best chances of success. Bujak, Baker, DeMillo and Sandulli (n.d.:9) furthermore point out that for higher education the use of technology within online learning environments must be coupled with solid approaches to learning. It is within this context that the crux of this study lies.

Accordingly, there is a need for research that will pay specific attention to the most suitable ways of integrating online learning in DE. Such research will add to the existing body of research on online learning. Within this context this study addressed the following research questions:

Main research question:

***How can online learning be integrated in distance education?***

The main research question was addressed by exploring the following sub-research questions:

- 1 How are lecturers currently integrating online learning in distance education?
- 2 What are the opportunities and challenges regarding the integration of online learning?
- 3 What are best practices for integrating online learning in distance education?

## **1.6 RESEARCH AIMS**

The main research aim of this study is stated as follows:

***To determine how to integrate online learning in distance education.***

In order to reach this primary aim the following secondary aims were targeted:

- 1 To explore the current use of online learning by lecturers in distance education.
- 2 To identify the challenges and opportunities regarding the integration of online learning.
- 3 To develop a framework for the integration of online learning in distance education.

The above research questions were guided by a particular research design and research methods, as outlined below.

## **1.7 RESEARCH DESIGN AND METHODS**

This research design and methods section provides an outline of the research paradigm and the research approach followed in this study, as well as the research type selected. The sources from which the data were collected as well as the data collection methods and analysis follow next. The section concludes with a description of the manner in which trustworthiness was ensured in this study.

### **1.7.1 Research paradigm**

A constructivist paradigm (see section 4.3) guided this study. I immersed myself in the research by personally collecting the data and building rapport and relationships with the research participants. This ties in with the ontological assumption of constructivism, namely,

that knowledge is constructed through lived experiences and through interactions with members of society (Lincoln, Lynham & Guba 2011:103). Methodologically, qualitative methods are favoured in constructivism (Angen as cited in Lincoln et al 2011:105), which was the research approach used in this study. The first step of the empirical research involved administering questionnaires to understand participants' overall experiences regarding online learning in DE. This was followed by interviews to follow up on questionnaire items that needed clarity and more depth of information to further explore the research phenomenon. Finally, I carried out a document analysis of the participants' online teaching practices. The combination of these data collection methods afforded me the opportunity to experience the research phenomenon from the participants' perspectives based on their lived experiences, which ties in with the epistemological assumption of constructivism (Lincoln et al 2011:104).

### **1.7.2 Research approach**

A qualitative approach (see section 4.5) was followed in carrying out this study. Online learning in DE was explored by interacting directly with the participants (McMillan & Schumacher 2010:12, Denzin & Lincoln 2005:3-4) as the data collection proceeded. Personally interacting with the participants through the data collection methods (see section 4.6.3) allowed me to be immersed in the fieldwork (McMillan & Schumacher 2010:12) and understand the participants' experiences of online learning. As I collected data I did so in an open-ended manner (Yin 2011:8) by not rigidly adhering to the research instruments, but instead allowing the participants to express their views on topics I had not anticipated. All the data gathered from the study were analysed inductively. This means that categories and patterns emerged from the data instead of being imposed on the data beforehand, which also ties in with qualitative research (McMillan & Schumacher 2010:367).

### **1.7.3 Research design**

The nature of this research lent itself to a case study (see section 4.4). The phenomenon of online learning in DE was explored within its everyday context (Yin 2011:17) by engaging with participants who make use of online learning in DE. The participants in turn shared their views and experiences of online learning based on how it occurred within their working environment. Their responses to the research questions were informed by their experiences (Stake 2005:454) of using online learning. The case study was instrumental in nature as the phenomenon of online learning was the main issue of interest, while the case itself (the participants at the research site) was regarded as secondary. Nevertheless, the context of the case was not overlooked, as a document analysis (see section 4.6.3.1) of all policies informing

online learning at the research site was completed. This document analysis contextualised online learning as it related to the research site. As is characteristic of a case study, questionnaires, interviews and document analysis (Yin 2009:101, 106) were employed to collect data which provided an in-depth understanding of online learning in DE (Creswell 2012:465).

#### **1.7.4 Research methods**

This section discusses the research methods applied, providing an account of the sources from which the data were collected, the methods employed to collect the data, the selection of participants, the manner in which the data were analysed and the procedures that were followed to ensure the trustworthiness of the study.

##### **1.7.4.1 Data sources**

The sources for obtaining the data involved staff members employed at the research site. Relevant literature as it related to the topic, as well as institutional policy documents belonging to the research site, were also consulted. Finally, online sites of selected modules at the research site were analysed.

##### **1.7.4.2 Selection of participants**

This study employed purposive sampling in terms of which participants were identified for inclusion if they were in a position to provide information on the integration of online learning in DE (McMillan & Schumacher 2010:327). To this end, inclusion criteria were developed which guided the inclusion of participants in this study. These inclusion criteria were useful for identifying participants who had knowledge and experience regarding integrating online learning in DE (Ritchie, Lewis & Elam 2003:78). Participants were selected from the research site (see section 4.6.1), which was an ODL university employing both academic and administrative staff. Academic staff were the primary participants included in the study because they were in a position to provide information regarding the integration of online learning in the respective modules they taught. As regards the administrative staff I deemed it necessary to interview a staff member working in a management position in the ICT department. The rationale for including this administrative staff member was related to the knowledge the staff member shared regarding the ICT infrastructure and administrative matters relating to online learning. The inclusion criteria employed are discussed below:

The inclusion criteria for participants who worked in an *academic role* included the following:

- Lecturers who were teaching one or more module.
- Lecturers who made use of online learning in their module/s on a weekly basis.
- Lecturers who had exposure and experience of working with online learning.

The inclusion criteria for the staff member working in an *administrative role* included the following:

- The staff member had to be working with matters relating to online learning.
- The staff member had to possess knowledge about the ICT infrastructure at the institution.

I selected academic participants from across the university using a snowball sampling method, which falls under purposive sampling (Cohen, Manion & Morrison 2011:158) in terms of which I primarily identified participants through referrals. In this regard, I wrote an electronic mail to staff members working in management positions in the university who referred me to prospective participants.

The administrative staff member was selected using purposive sampling and employing the inclusion criteria discussed above. (see section 4.6.2 for a detailed explanation of participant selection).

#### **1.7.4.3 Data collection**

Data from academic staff members were collected using questionnaires, semi-structured interviews and documents (see section 4.6.3). The questionnaires, which were administered to participants who made use of online learning, included open-ended questions, which participants were invited to answer in a manner that suited them best (Cohen et al 2011:382). Once the questionnaires had been returned, participants were invited to follow-up interviews. These interviews were necessary as they allowed me to clarify responses to questionnaire items that needed more information and to further explore the research questions. On completion of the interviews I asked the participants for permission to access to their online module sites. I subsequently completed a document analysis of each module site to corroborate the results gleaned from the questionnaires and the interviews. A document

analysis of institutional online learning policies (see section 4.6.3.1) at the research site was also carried out.

#### **1.7.4.4 Data analysis**

This study employed an inductive approach to analysing the data (see section 4.6.3.1 and 4.7). In this regard, categories and patterns emerged from the data rather than being imposed on the data beforehand (McMillan & Schumacher 2010:367). Thus, the data analysis process occurred both during and following the fieldwork. Analysing the data in this manner provided an opportunity to seek permission to return to the field if additional data were needed. The data analysis process itself involved coding and categorising of the data and then establishing the themes that emerged from the categories. The final step involved writing up the findings of the data analysis in the form of narrative structures (McMillan & Schumacher 2010:368).

#### **1.7.4.5 Trustworthiness**

I used the model of trustworthiness proposed by Lincoln and Guba (1985:601). This model addresses four components of trustworthiness, namely, credibility, transferability, dependability and conformability (see section 4.9 for a detailed explanation). To ensure credibility in the study all the research procedures employed were documented (see section 4.6.3). Transferability was achieved by corroborating the research findings through the use of multiple data sources (see section 4.6.3). Chapter 4 documents the manner in which the empirical part of this study was carried out to ensure dependability. Conformability was achieved by checking and rechecking the data using the technique of member checks as well as aligning the data analysis to the theoretical boundaries of the study (Lincoln & Guba in De Vos 2005:346).

### **1.8 ETHICAL CONSIDERATIONS**

As qualitative research tends to be intrusive, ethics (see section 4.8) was regarded as important (McMillan & Schumacher 2010:338). Issues regarding informed consent, confidentiality and anonymity, and caring and fairness need to be considered when engaging in such research (McMillan & Schumacher 2010:339). In the context of this study, written informed consent was sought from every participant who participated. In terms of confidentiality and anonymity the participants are not named in the study. Instead pseudonyms are used to protect the participants. As regards caring and fairness, McMillan and Schumacher

(2010:339) argue that this can be achieved through discussions which are open in nature and through negotiation. In the context of this study, the interviews were conducted in an open manner, with room left for negotiation for discussing aspects that might not have been considered in the formulation of the interview questions. Additionally permission to carry out the research was obtained from the institution where the study was conducted (see Appendix A) as well as ethical clearance (see Appendix B).

## **1.9 OPERATIONAL CLARIFICATION OF TERMS**

The following section provides a description of the key terms used in this study.

Distance education:

O'Rourke (2003:13) describes DE as a situation in which students are geographically separated from the education provider. As such, communication takes place through the medium of writing, verbally or through face-to-face tutorials. Moore and Kearsley (2012:3) provide a description of a similar nature in which DE is described as a form of teaching and learning where the teaching situation and the learning situation are geographically separated. Communication therefore has to be created through technologies of various forms.

Open distance learning (ODL):

Unisa's ODL policy (2008:2) describes ODL as a form of education which is geared to bridging the distance between students and their institutions, students and academics, students and courseware, and students and peers. The nature of this distance may include geographical, economic, social, educational and communication distance. ODL is characterised by the removal of the barriers to accessing learning, flexibility in learning provision, student-centeredness, supporting students and constructing learning programmes with the expectation that students can succeed. Shale (2010:105) explains that the term ODL describes a type of learning that is meant to extend access to educational opportunity to people who would be otherwise excluded.

Online learning:

Kreber and Kanuka (2006:111) describe online learning as utilising internet communication technologies to support and enhance learning in higher education. Hence, technology-enhanced learning, blended learning and learning which is delivered through distance

education falls within the spectrum of online learning. Cleveland-Innes and Garrison (2010:19-20) also state that online learning includes practices that are based on the internet. Online learning has the ability to provide communication which is both synchronous and asynchronous in nature. Such communication can take place in an environment with a group of people or just one individual. Online learning goes beyond accessing information on the Web; instead it integrates interaction and independence with the potential of combining various types of communication.

Information and communication technology (ICT):

ICT relates to those technologies that are used for accessing, gathering, manipulating and presenting or communicating information. Such technologies may include hardware (e.g. computers and other devices), software applications, and connectivity (e.g. access to the internet, local networking infrastructure, and videoconferencing) (Lloyd 2005).

Integration:

The *Oxford Advanced Learner's Dictionary* (2005) describes the term *integration* as the “act or process of combining two or more things so that they can work together”. Within the context of this study, integration refers to combining online learning and DE so that they can work together. Integration in the context of this study also refers to leveraging the benefits of online learning to teach learners in DE, thereby increasing student–student and lecturer–student interaction.

## **1.10 CHAPTER DIVISION**

This section outlines the content that is presented in each chapter of this study.

**Chapter 1:** This chapter has outlined the orientation and background to this study. The rationale and motivation for undertaking the research and the significance of this study were also discussed. In addition, the chapter provided the problem statement, research questions, aims and objectives. The research design and methods that will be used for the empirical leg of this study were also outlined in this chapter. In conclusion, all operational terms relevant to this study were defined and the chapter concludes with a summary.

**Chapter 2:** This chapter addresses the pertinent theories that are relevant to this study. The chapter begins by unpacking the theorists who have made important contributions to the field

of DE. These theorists include Otto Peters, Borje Holmberg, Charles Wedemeyer, Michael Moore and Desmond Keegan. What follows is a contextualisation of teaching and learning in DE. The major learning theories, including behaviourism, cognitivism and constructivism, as discussed in the literature are subsequently explored. The chapter concludes with a discussion of heutagogy and the community of inquiry.

**Chapter 3:** This chapter begins by unpacking all national policies relating to the research topic. The chapter includes an explanation of the term *DE*, followed by a discussion on the generations of DE. The manner in which teaching and learning occurs in online DE contexts is thereafter addressed. This is followed by an explanation of the term *online learning* and a discussion of the affordances and challenges of online learning. The chapter concludes by giving a number of examples of best practices for online learning in institutions of higher education.

**Chapter 4:** This chapter outlines the research methodology employed in this study. The chapter begins by describing the rationale for empirical research. This is followed by a discussion of the research paradigm applied. The research design and research approach used are subsequently explored. A discussion on the research methods, the research site, the manner in which participants were selected, the data collection methods and the procedures for analysing data follows. The chapter concludes with an explanation of the approach taken to ensure ethics in the research and the trustworthiness in the study.

**Chapter 5:** This chapter presents and discusses the findings of the empirical research. The empirical research comprised four phases: Phase one involved a document analysis of institutional policies at the research site. This was followed by phase two in which I administered a questionnaire comprising open-ended questions to participants. Phase three involved conducting follow-up interviews with the participants who had completed the questionnaire. During the final stage of data collection I requested the participants to allow me access to their online module sites to corroborate the findings from the questionnaires and the interviews.

**Chapter 6:** This chapter presents the summary, conclusions and recommendations of the study. The chapter begins by summarising the literature review and the empirical study. This is followed by a synthesis of the research findings. The conclusions of the study are thereafter discussed followed by the limitations and recommendations of the study. The chapter concludes with a number of suggestions for further research.

## **1.11 SUMMARY**

This introductory chapter has provided a summary of the issues this study will address. An orientation and background to the study was provided, the rationale and motivation for undertaking the study as well as the importance of the research. The problem statement that guided this study was also outlined. From this problem statement a number of research questions and aims were formulated. The research design and methods employed in this study were also briefly elaborated. The operational terms that underpin this study were defined and a summary of each chapter of this study was provided. The chapter that follows provides a discussion of the theoretical underpinnings that guided this study.

## **CHAPTER 2**

### **THEORETICAL FRAMEWORK**

#### **2.1 INTRODUCTION**

This chapter presents a description of the theories and principles that underpinned this study. As this study was positioned in the context of DE the chapter begins by paying attention to the pioneering theorists who have made valuable contributions to the field of DE. Reflecting on the work of these scholars is important as it provides a foundation for what is already known about how teaching and learning happen in a DE context. Establishing this foundation was further regarded as important because the study aimed to look at the manner in which online learning can be used as a vehicle for teaching DE students. In addition to this, some of the work of these theorists has had a direct influence on the theory of transactional distance, which is one of the theories that guided this study.

A discussion of the major learning theories as outlined in the literature then follows. This discussion is important because the study dealt with concept of online learning, therefore the fundamental ideas on how learning takes place had to be established. Moreover, a description of these learning theories was regarded as important because these theories include social constructivism, which is the research paradigm that guided this study. The chapter concludes with a discussion on heutagogy and the community of inquiry as its principles, which also guided this study.

#### **2.2 PIONEERING DISTANCE EDUCATION THEORISTS**

As this study was positioned within the context of DE, it was considered important to discuss the views of the theorists who have shaped the field of DE. Saba (2003:4) proposes that in attempting to differentiate DE from other education offerings, theorists such as Borje Holmberg, Charles Wedemeyer and Michael Moore focus primarily on the student, paying attention to students and their interaction with other stakeholders in the learning process. These theorists highlight the essentiality of positioning the student at the centre, as this centrality, they argue, is what makes DE different from other forms of learning. Other pioneering theorists include Otto Peters and Desmond Keegan, who share a commonality in that they both theorise DE by paying attention to the field itself. Accordingly, they pay attention to structural issues that have an impact on the teaching and learning process (Saba 2003:4).

In the following section, the manner in which each of these theorists have theorised the field of DE is briefly described.

### **2.2.1 Otto Peters: an industrial model of DE**

In attempting to define DE, Peters (1967) compared DE to industrial education, a view of education that formed the foundation of DE. In unpacking the rationale for this comparison, Peters takes the principles of industrialisation and compares them to DE. Cleveland-Innes and Garrison (2010:15) point out the industrial model of DE has become a landmark for reflecting on practice in the field of DE. In comparing the principles of industrialisation to DE, Peters (1967) refers to the principles of rationalisation, mass production, division of labour, mechanization, assembly line, preparatory work, planning, organization, scientific control methods, formalization, standardization, change of function, objectification and concentration and centralization as principles that are mirrored in DE. These principles are briefly outlined below.

#### **2.2.1.1 Rationalisation**

In DE, the principle of rationalisation is related to the teaching process, which is divided in terms of labour. Various specialists are responsible for different aspects of the teaching process; for example, responsibility for the development and design, production and dissemination of study materials are assigned to different directorates in the institution. Secondly, the use of technical equipment such as machines makes it possible to mass produce study materials, bulk deliver the materials to students and streamline the organisation systems used in DE, thus enabling the teaching to be delivered from the lecturer to a large number of students (Peters 1967). This mirrors a form of mass production that is characteristic of industrialisation. The underlying organisational principles that guide DE and the use of alternative support such as technology that replaces the lecturer in certain areas also point to the rationalisation of DE (Peters 1989). Peters (1967) also points out that should the number of students enrolled for DE far surpass the number of lecturers available, the concept of rational thinking should be able to find ways of dealing with this situation.

#### **2.2.1.2 Mass production**

Peters (1967) argues that the use of technology and the postal delivery system make it possible to reach a large number of students spanning multiple geographical locations. This

has a massification effect on the way certain aspects of the teaching process occur. The production of DE from an economical point of view is also typical of mass production. Accordingly, this mass production of DE makes profitability possible through the registration of and course offerings for large numbers of students.

#### **2.2.1.3 Division of labour**

Peters (1967, 1989) argues that the very nature of DE is characterised by a division of labour. It is this division of labour that makes DE possible. In this regard, there are various departments that are responsible for ensuring that the end goals of DE are realised, as lecturers would not on their own be able to undertake their teaching responsibilities to students. There are thus a number of support functions that make the teaching process as a whole possible.

#### **2.2.1.4 Mechanization**

Peters (n.d.) argues that the nature of DE is dependent on the use of mechanization in the form of machines, ICTs that enable communication and electronic data-processing installations. In this regard mass students are communicated with through ICTs like telephone, e-mail, learning management systems, social media and so forth. The use of machines is also significant in the mass production of study materials.

#### **2.2.1.5 Assembly line**

Peters (n.d.) relates DE to the nature of the assembly line with specific reference to study materials. In this regard, the study material is developed by the lecturer, and thereafter passes through various areas of responsibility for approval and despatch. When the students receive the study material they complete the necessary assessments and sent it back to the university. Once again the assessment passes through various areas of responsibility to record the students' performance. The teaching and learning process therefore occurs without the student and the institution needing to make contact, yet the desirable result is achieved. This effect resembles that of the assembly line.

### **2.2.1.6 Preparatory work**

DE institutions offer various qualifications in different fields of specialisation. Therefore, study materials must be developed to cater for each respective qualification. In order to produce these study materials an adequate amount of preparatory work is required. This process involves consultation whereby subjects specialists consult with relevant advisors and tutors in the preparation of the study material. This can be compared to a company that has to produce a variety of goods (Peters n.d.), where adequate planning and research is also required before the product is developed.

### **2.2.1.7 Planning**

The principle of planning is related to preparatory work. In this regard, the study material in its entirety must be planned for. This implies that each study unit must be decided upon as well as the relation each study unit will have to form a coherent whole. In cases where occasional classes will be held, this must also be planned for and integrated in the study material (Peters n.d.). This type of planning also occurs in the manufacturing process which requires careful planning of all operations.

### **2.2.1.8 Organization**

In DE the principle of organization is important due to the large scale on which DE is often offered. Organization allows the operations of DE to be carried out effectively. Some examples of organization refer to students receiving their study materials at planned periods of time and attending tutorial classes and writing examinations at predetermined venues and times. Peters (n.d.) points out that productivity in industry is also dependent on the concept of organization.

### **2.2.1.9 Scientific control methods**

Scientific control methods in the context of DE refers to evaluating the success of a qualification. This involves the use of research, to determine the challenges and successes of a qualification. In the same manner industry analyses their systems in a scientific manner to increase productivity (Peters n.d.)

#### **2.2.1.10 Formalization**

Peters (n.d.) points out that in the manufacturing process there is a need to formalise the various functions for the process to function effectively. The same principle applies to distance education, where each operation must be formalised for the system to operate efficiently. Examples of formalisation involves the allocation of academics to subjects, the allocation of administrative staff to tasks, the role and responsibility of the students, the role of management and so forth (Peters n.d.).

#### **2.2.1.11 Standardization**

DE caters to students on a large scale. Peters (n.d.) therefore argues that the principle of standardization is important. This relates to standardizing each phase of the teaching and learning process. If each phase of the teaching and learning process is standardized students are more likely to succeed in accessing the relevant phase. A similar situation exists in the manufacturing process, whereby many types of the same product is produced to save costs and increase their suitability.

#### **2.2.1.12 Change of function**

According to Peters (n.d.) the role of the lecturer has changed due to a division of labour. The lecturer in DE often has support staff to deliver the teaching materials in the form of tutors and markers who assist with teaching and assessment. This relates to industry where technology and advanced machinery appears to be replacing some of the functions of human beings (Peters n.d.).

A reflection on Peters' (1967) description of DE brings to light a very structured form of education, characterised by mass production. As an industrial form of education, DE is offered in a structured and what appears to be a rigid manner. This is because, in an industrial model, the functioning of effective DE can only be successful through careful planning and coordination.

Although Peter's description of DE helped to form the foundations of DE and is recognised in the field, a criticism regarding the industrial model of DE is that it mirrors aspects of separation and autonomy while issues related to teaching and learning are not given attention (Garrison 2000). Consequently, scholars in the field began to focus their attention more closely on the aspects of teaching and learning in DE. Garrison suggests that this was an attempt to move

away from the organisational assumptions of the industrial model (Garrison 2000). Theorists who focused on teaching and learning include Borje Holmberg (1981) and Michael Moore (1993). The work of these scholars is outlined below. As the work of Michael Moore was influenced by Charles Wedemeyer, the work of Wedemeyer is discussed first followed that of Moore.

### **2.2.2 Borje Holmberg: theory of guided didactic conversation**

Borje Holmberg proposed his theory of guided didactic conversation in 1960 and is premised on the importance of facilitating conversation in DE (Holmberg 1981:30, Moore & Kearsley 2012:211), as the theory holds that conversation that is characterised by the underpinning aspect of guidance is central to learning in DE (Holmberg 1981:30). Holmberg (1981:11) describes DE as a teaching method characterised by physical distance between the lecturer and the student, in which teaching is offered through print, mechanical or electronic devices. Guided didactic conversation is prescriptive in nature in that it outlines the strategies that should be in place for DE to be effectively employed.

According to Holmberg (1977:95, 1981:31), conversation must inform the goals, learning materials, teaching methods and assessment in DE. In guided didactic conversation, the student's role is regarded as central in that they should be regarded as a critical thinker who plays an active role in the conversation. This active role can be achieved by the student responding critically to study materials and formal and informal assessments. Guided didactic conversation pays attention to the way courses are delivered to the students. This implies that questions regarding the outcomes that need to be achieved on completion of the course, the study material to be used, the methods used to deliver the study material and the assessment techniques to be used become crucial components of the conversation (Holmberg 1977:97). Holmberg (1977:98-99) points out that there are three aspects that guide the guided didactic conversation. The first focuses on the student, who should be independent and able to make critical choices regarding their learning. Holmberg (1977:98) acknowledges that this independence will be limited regarding the choice of outcomes, learning materials, teaching methods and assessment. However, independence can be exercised by the student in terms of where, when and what place they study.

The second aspect focuses on the teaching organisation. Responsibility for guiding the student is vested in the teaching organisation, which should offer the student suitable study materials. The use of such study materials, formulated using a conversational style, will guide the student successfully to attain the outcomes of the course (Holmberg 1977:99).

The third aspect focuses on the interaction between the independent student and the organisation. As the student gradually moves to working independently of the aims of the organisation, the organisation will be regarded as functioning effectively. This interaction is important as it signals synergy between the student and the organisation (Holmberg 1977:99). Holmberg (1977:97) proposes several postulates that embody guided didactic conversation. These postulates pay attention to a conversation that must be created between the lecturer and the student. This conversation must be personal in nature as it will motivate the student, which will in turn lead to the successful achievement of the course outcomes (Amundsen 1993:64). Lecturers should therefore strive to hold a meaningful conversation and consider methods for fostering this conversation by making critical decisions about the course outcomes, materials and assessments.

In addition to these postulates, Holmberg (1981:31) highlights several characteristics that underpin guided didactic conversation. These characteristics bring to light a strong focus on the aspect of guidance. Accordingly, students should be consciously borne in mind in the development of study materials. Hence, a student-centred approach should be employed whereby study material development takes into account an approach that will enable the student to unpack the study material successfully. Critical thinking should also be encouraged when engaging with the study material and the course, therefore the student is given opportunities to interact and ask questions about their course. Finally, students should feel a personal connection to both their course and their study material as this will make for better achievement of the course outcomes. Garrison (2000) points out that although Holmberg focused primarily on teaching, his attention to the role of learning independently through study materials restricts teaching to one-way communication. Moreover Paulsen (n.d.) points out that Holmberg's theory is individualistic and does not consider communication in groups.

### **2.2.3 Charles Wedemeyer: the student as an independent agent in DE**

Cleveland-Innes and Garrison (2010:14) point out that Wedemeyer's work may be regarded as fundamental in providing a theoretical understanding of DE. In his book *Learning at the Back Door* (1981:54), Wedemeyer states that the terms *DE*, *non-traditional learning*, *independent study*, *distance and open study* have all come to represent a single development in education. Wedemeyer (1975:10) in highlighting his views on the student argues strongly for the student to display independence.

Wedemeyer (1981:67, 74) suggests that independent learning is a key ingredient of learning in DE and is the only answer to learning in a DE context. His work pays specific attention to

the teaching and learning process, rather than on the distance found in DE. Independent study creates a platform for students to practise autonomy and self-direction, which should extend beyond issues of physical distance, the teaching methods used and the setting of the institution (Wedemeyer 1975:11). In this independent style of learning, students should be presented with opportunities to be involved in decisions regarding course outcomes, study materials and assessment. This is a natural response as DE students are adult students who are in a position to make decisions about their learning (Wedemeyer 1981:78).

Students should also be given opportunities to reflect on their learning. The aspect of freedom is therefore relevant in this regard (Wedemeyer 1981:62). The lecturer is not seen as the holder of all knowledge but rather as a guide or facilitator. Lecturers should also work in interdisciplinary teams, where knowledge and specialisation are shared to create effective courses (Wedemeyer 1981:81). In this regard authority should also be negotiated and shared (Wedemeyer 1975:17-18). Wedemeyer (1981:80) also highlights the issue of self-concept, postulating that the lecturer should be aware of the student's motivations and goals as this will signal a synergy between the lecturer and the student and make for meaningful learning.

In arguing for the importance of independence in teaching and learning, Wedemeyer (1973:3) maintains that dependency creates a number of undesirable traits in students. Dependent students are not able to think critically and are unable to formulate goals for themselves. This hampers them in locating suitable resources to achieve the goals as well as the inability to reflect on whether goals have been achieved. It is within this context that it is preferable to have an independent student who is able to make informed decisions regarding his or her learning. A defining characteristic of Wedemeyer's work is the focus on a student who learns independently. Garrison (2000) mentions that one disadvantage of this is that learning takes place under the geographical and temporal control of the learner. This will work well only if the learner possesses the characteristics to take independent control of their learning.

#### **2.2.4 Micheal Moore: theory of transactional distance**

According to Moore and Kearsley (2012:209), transactional distance theory is a combination of Peter's view of DE as being industrial in nature and Wedemeyer's views on a student-centred approach to learning. Moore's theory of transactional distance is a theory drawn on by many scholars when studying the field of DE (Dron & Anderson 2014:62). In his theory, Moore (1993) paid particular attention to the "distance" in DE and offered a different view from the traditional physical "distance" that is usually associated with DE.

In this view, Moore postulates that the “distance” in distance education should be studied in terms of the results this distance has on the teaching and learning process (Moore 1993:22, Moore & Kearsley 2012:209). These results can be viewed in terms of “the interaction between lecturers and students, on the design of courses and on the organisation of human and technological resources” (Moore & Kearsley 2012:209). The distance in DE should be viewed in terms of a “psychological” or “communications” gulf between the student and the lecturer, which is measured on a scale of dialogue and structure. This psychological and communications space is what is known as transactional distance (Moore 1993:22).

According to Dron and Anderson (2014:62), transactional distance that is high will lead to distance and separation between students and lecturers and between students and the course materials. It must be noted, however, that this does not imply that transactional distance that is high will result in poor achievement of the course outcomes; rather it means that there is a greater transactional distance between the lecturer and the student (Dron & Anderson 2014:62).

This theory is underpinned by the three dimensions of transactional distance, that is, structure, dialogue and autonomy, which are outlined below:

#### **2.2.4.1 Structure**

This dimension focuses on the lecturer and pays attention to the courses offered in DE. The components that make up DE courses include the learning outcomes, media and content selection, as well as the degree of activity that occurs in a course (Moore 1993:26). Moore and Kearsley (2012:218) argue that the quality of DE courses will depend on how well the courses are structured, as they vary in terms of the degree of structure they represent. For example, some courses might require students to do a number of set activities at a specified time using prescribed resources. A course designed in this manner thus reflects a high degree of structure. On the other hand, other courses might allow students to explore their own resources, ask for assistance when they deem it necessary and submit their assessments when they feel ready to do so. Such a course reflects a lower degree of structure (Moore & Kearsley 2012:212).

Structure is influenced by a number of factors. These include the teaching ideals of the teacher, the values and beliefs of the organisation, the academic proficiency of the students and aspects relating to the course such as the content and resources used to deliver it (Moore & Kearsley 2012:212). In relating transactional distance to structure, Moore (1993:27)

suggests that a highly structured course leads to a higher degree of transactional distance, whereas a course which is more loosely structured will reflect a lower degree of transactional distance.

#### **2.2.4.2 Dialogue**

This dimension focuses on both the lecturer and the student. Moore and Kearsley (2012:211) point out that this dimension is based on Vygotsky's (1926) theory of learning. According to this theory, Vygotsky (1926) postulates that language is key and is central to the way in which students construct knowledge. In terms of dialogue the interaction between the lecturer and the student is important and Moore (1993:24) points out that there are a number of factors that influence this interaction. These factors may include the number of students in a class, where more dialogue will exist between a lecturer and an individual student, rather than between a lecturer and a specific student in a group. Interaction is further influenced by the values and ideals of the lecturer and the other specialists designing the course, as well as the content of the course.

Moore and Kearsley (2012:210) point out that in an online learning environment technology such as audio conferencing by telephone and web-based conferencing such as Skype allows for a high degree of dialogue. Email also provides a degree of dialogue, but is more structured in nature as the dialogue occurs in the form of writing. In relating transactional distance to dialogue, Moore and Kearsley (2012:212) point out that the less dialogue a course fosters the higher the transactional distance; where dialogue does exist the transactional distance will be lower.

#### **2.2.4.3 Autonomy**

The dimension of autonomy is related to that of independence. This dimension acknowledges that students are independent thinkers and they each bring into the learning encounter different levels of capabilities that can be used to make decisions regarding their learning. Autonomy refers to the self-determination of students (Peters 2001:46). What this implies is that each student is able to some extent to decide on their own learning path and outcomes, to allocate the resources to complete the learning and to reflect on whether the learning path has been achieved. This should be viewed as a resource in the learning process and lecturers should draw on this (Moore & Kearsley 2012:213). In relating the dimension of autonomy to

transactional distance, Moore (1993:27) postulates that the higher the transactional distance, the greater autonomy the student will have to practise.

#### **2.2.4.4 Relationship between structure, dialogue and autonomy**

Structure, dialogue and autonomy influence each other (Moore 1993:27). A course that represents a high degree of structure and a lower degree of dialogue will expect the student to exercise a higher degree of autonomy. Distance courses can be regarded as successful if they encourage dialogue between the lecturer and the student and are accordingly structured. Moore (1993:28) acknowledges that this is not an easy task and will be influenced by a range of factors including “content, level of instruction, and student characteristics, such as the extent to which students can practice autonomy” (Moore 1993:28).

The above discussion highlights that the theory of transactional distance pays attention to various dimensions that should be considered in DE. Paying attention to the dimensions of structure, dialogue and autonomy will assist DE lecturers to present courses in which transactional distance is lowered thereby bringing the student and the lecturer closer together. As DE is characterised by distance between the student and the institution it is worth finding ways of bridging this distance, which is what transactional distance theory aims to do.

#### **2.2.4.5 Rationale for selecting the theory of transactional distance for this study**

Various criticisms of transactional distance theory are documented in the literature (Reyes 2013, Goel, Zhang & Templeton 2012). These criticisms state that the interrelationship between structure, dialogue and autonomy is not evident and claim the theory is not a valid scientific one, but rather prescriptive in nature (Garrison 2000, Gorsky & Caspi 2005 as cited in Reyes 2013:46). Goel et al (2012:1122) points out that the challenge with the theory of transactional distance is measuring transactional distance and the elements of dialogue, structure and autonomy. Despite these criticisms there is evidence in the literature (Gokool-Ramdoo 2008, Peters 2001, Moore & Kearsley 2012) to support the theory of transactional distance as a suitable theory for referring to DE environments.

Gokool-Ramdoo (2008:2) states that the theory of transactional distance is a suitable theory for DE environments characterised by technology. Peters (2001:65) and Moore and Kearsley (2012:219) additionally state that success in DE is influenced by three elements: the first includes courses that are structured accordingly; the second refers to the dialogue that should

occur between the student and the lecturer and the third refers to students' autonomy, which should be acknowledged and used as a resource in teaching and learning. Transactional distance theory offers a lens to explore all three of these elements with the end goal of improving DE teaching and learning practices. The theory has also been used extensively as a theoretical framework for carrying out research in DE environments (Moore & Kearsley 2012:216). Several empirical studies (Chen 2001, Clouse 2001, Rovai 2000, Rovai 2002, Edstrom 2002, Williams 2003, & Pruitt 2005 all cited in Moore & Kearsley 2012:217) have specifically applied the theory of transactional distance to study and make recommendations to improve online DE environments.

The work of the cited authors discussed above supports the use of the theory of transactional distance as a suitable theory for referring to DE environments that make use of technology for online learning. As such it has been used widely for conducting research in DE and various empirical studies have used it to research online DE environments (Chen 2001, Clouse 2001, Rovai 2000, Rovai 2002, Edstrom 2002, Williams 2003, & Pruitt 2005 all cited in Moore & Kearsley 2012:217). Since this study will explore the integration of pedagogically sound online learning in DE environments, transactional distance theory is deemed suitable as it has been shown to be relevant for application when researching online learning in DE environments.

The final theorist that will be given attention is Desmond Keegan, whose also work paid attention to minimising the distance between the lecturer and the student. Keegan's work is discussed below.

### **2.2.5 Desmond Keegan: reintegration of the teaching acts**

Keegan (1993:130) maintains that theory in DE should seek to create a link between the course materials used and the student's learning. The issue involved in creating this link can be addressed by a "reintegration of the teaching acts". This reintegration necessitates two-way communication between the lecturer and the student. Such a reintegration of the teaching acts assists students to learn from their course materials. Keegan (1993:131) highlights that in this reintegration the focus should be on the teaching acts, as learning can occur at any geographical location at any time. In this regard emphasis will be placed on the course materials used to deliver to course, which leads to the eventual achievement of the course outcomes.

The approach taken to designing the course materials should be one that fosters interpersonal communication aimed at bridging the gap between the lecturer and the student. The delivery

of the course materials should be coupled with communication using mediums such as the telephone, online discussions, feedback on assessment and the like (Keegan 1993:131). To achieve this, Keegan (1993:118) stressed the importance of interpersonal communication, highlighting that the absence of communication makes DE impossible. Amundsen (1993:67) maintains that if a successful merging occurs between teaching and learning, drop-out rates will decrease and the standard of education offered by DE will improve. This in turn will improve the status of the institution involved.

It is evident that for Keegan communication is key in bridging the distance between the lecturer and the student. In this regard, Keegan postulates that specific attention should be given to the design of course materials such that these materials promote communication between the lecturer and the student. Keegan also advocates for the use of technology to foster communication between the lecturer and the student (Birochi & Pozzebon 2011).

The work of all of the above theorists highlights different characteristics and propositions relating to the field of DE.

To provide an overview of the theorists discussed in this section, a summary is presented in Table 2.1 below.

**Table 2.1: Main views of DE theorists as highlighted by Saba (2003)**

Name of theorist	Views on DE	Fundamental characteristics of views	Focus of views
Otto Peters	DE as an industrial form of education	<ul style="list-style-type: none"> <li>• Rationalisation</li> <li>• Mass production</li> <li>• Division of labour</li> <li>• Use of technology to create communication between student and institution</li> </ul>	The system of DE as a field
Borje Holmberg	Guided didactic conversation	<ul style="list-style-type: none"> <li>• Student-centred</li> <li>• Conversation between student and lecturer</li> <li>• Guidance provided to student</li> <li>• Student as critical/ independent thinker</li> <li>• Student to have personal connection to institution and course materials</li> </ul>	Teaching and learning in DE
Charles Wedemeyer	Student as independent agent in DE	Student: <ul style="list-style-type: none"> <li>• Independent</li> <li>• Autonomous</li> <li>• Self-directed</li> <li>• Reflective</li> </ul>	Teaching and Learning in DE

		<p>Lecturer:</p> <ul style="list-style-type: none"> <li>• Facilitator</li> <li>• Authority negotiated</li> <li>• Works in interdisciplinary teams</li> </ul>	
Michael Moore	Transactional distance	<p>Structure:</p> <ul style="list-style-type: none"> <li>• Highly structured courses lead to higher degree of transactional distance</li> </ul> <p>Dialogue:</p> <ul style="list-style-type: none"> <li>• Language is key</li> <li>• Less dialogue leads to higher transactional distance</li> <li>• More dialogue leads to lower transactional distance</li> </ul> <p>Autonomy:</p> <ul style="list-style-type: none"> <li>• Higher transactional distance leads to student having to practise more autonomy</li> </ul>	Teaching and learning in DE
Desmond Keegan	Reintegration of the teaching acts	<ul style="list-style-type: none"> <li>• Interpersonal communication</li> <li>• Two-way communication</li> <li>• Use of technology to foster communication</li> </ul>	The system of DE as a field

### **2.2.6 Relating the work of Peters, Holmberg, Wedemeyer, Moore and Keegan to this study**

Although the theory of transactional distance was selected as one of the primary theories underpinning this study, the work of the above-mentioned theorists was also included albeit in a secondary role. The reason for this is that these theories highlight several views that are relevant to DE. These views include the importance of communication (Peters, Holmberg, Wedemeyer and Keegan) and independence (Holmberg and Wedemeyer), the use of technology to bridge distance (Peters and Keegan) and student-centeredness (Holmberg).

The above theories offer guidance in terms of DE and the role of played by the student and the institution. Although they address issues of teaching and learning, they do not look at how learning takes place in detail. As the research questions for this study focus on online learning in DE, I deemed it necessary to look at a number of theories that focus solely on learning. Accordingly, a discussion of the learning theories outlined in the literature follows below.

## **2.3 LEARNING THEORIES**

A discussion of learning theories was deemed necessary for this study because in essence the study aims to draw up best practices for students to learn successfully within an online DE environment. The learning theories to be discussed include behaviourism, cognitivism and constructivism, as these are the major schools of thought associated with learning (Bryceson 2007:192). Constructivism, and in particular social constructivism, will be given more attention and detail in this chapter because this is the research paradigm that guided this study. It is, however, necessary to look briefly at the learning theories of behaviourism and cognitivism, as they have influenced constructivism.

### **2.3.1 Behaviourist views of learning**

The underlying tenet of behaviourist theories is that they address learning with regard to environmental events (Schunk 2004:29). In theorising the manner in which individuals learn, behaviourist theorists focus their attention on observable behaviours. What follows is a brief description of behaviourist views of learning.

### **2.3.1.1 Behaviourist theorists**

In proposing that learning occurs through associations between stimuli and responses, Thorndike (1913:171-172) postulated the law of effect, arguing that the concept of trial and error forms the basis for learning. In this regard, responses will be made to a stimulus. This will take place over a period of time until a successful response is made in association to the stimulus. A negative response to the stimulus will result in the behaviour not being likely to be repeated in future (Thorndike 1913:171-172). In presenting his views on learning, Pavlov (1927, 1928 as cited in Schunk 2004:81) proposed the concept of classical conditioning. Classical conditioning holds that a neutral stimulus, which will initially prompt no response, can be paired with an unconditioned stimulus (which can be regarded as a stimulus that evokes a response in a natural manner). Through this process the neutral stimulus will eventually elicit a conditioned response (Slavin 1994:154-155, Schunk 2004:39). Skinner (1974) proposed the theory of operant conditioning, stating that behaviour is likely to be strengthened if it is reinforced. Behaviour is strengthened by its consequences – if the consequence is positive, the behaviour is more likely to occur again (Skinner 1974:44, 1978:19). Guthrie (1942 as cited in Schunk 2004:81), in his theorising on the nature of learning, proposed that learning takes place when a stimulus and a response are coupled. He argued for the concept of repeated practice and proposed that learning will take place when responses made to stimuli lead to desired outcomes.

As this discussion indicates, in theorising how learning takes place behaviourism focuses solely on observable behaviour. Schunk (2004:81) states that behaviourism is criticised in that it does not pay attention to important mental processes that human beings undergo; behaviourism does not consider the “thoughts, feelings and beliefs” (Schunk 2004:81), as observable behaviour is the focal point. In response to this criticism, cognitive views of learning pay attention to the mental processes that are involved in learning, as outlined below.

### **2.3.2 Cognitive views of learning**

Cognitive theorists pay specific attention to the mental capacity and internal processes that human beings undergo and use this as a basis for describing learning. They also ask questions about the manner in which information is taken in, processed and retained (Slavin 1994:186). Questions of this nature are important as they guide educators in terms of understanding and leveraging the processing of information retrieval and storage. In theorising

the manner in which learning takes place these theorists propose information-processing models outlined below.

### **2.3.2.1 Information-processing models**

Gagne (1985) proposed instructional theory. This theory entails the study of mental occurrences, explaining them in terms of the manner in which information is transformed from input to output. Gagne (1985:9-11) argues that information is first deposited in the working memory. Thereafter a process of coding occurs, which involves the integration of new information with existing information. This is followed by the storing of that information in the long-term memory, which can be retrieved at a later stage. The retrieval information from the long-term memory is assisted by a response generator. Accordingly, teachers can assist students to retrieve information from the long-term memory by providing certain cues. This information can subsequently be generalised by providing students with practise in the use of skills using various content in various contexts.

Craik and Lockhart (1972 as cited in Slavin 1994:197) and Craik (1979 as cited in Slavin 1994:197) developed the levels-of-processing theory. They postulated that stimuli that are received will be exposed to various levels of mental processing but the only information that will be retained is that which has undergone in-depth mental processing (Slavin 1994:197). Paivios (1971 as cited in Schunk 2004:185) and Clark and Paivios (1991 as cited in Schunk 2004:185) proposed the dual code theory of memory. This theory suggests that information is more likely to be retained if it is stored both verbally and visually (Slavin 1994:198, Schunk 2004:185).

While the information-processing models briefly highlighted above differ in the way in which they theorise learning, they all focus on the manner in which information is received, made meaning of and maintained. Schunk (2004:191) highlights that one of the shortcomings of information-processing models are that they merely “describe” rather than “explain” the process of learning. In response to this, metacognition, a term commonly associated with cognitive theories of learning, assists in explaining the process of learning. Metacognition and the manner in which it relates to cognitive views of learning are explained below.

### **2.3.2.2 The link between metacognition, cognitive views of learning and online learning environments**

Minnaar (2012:240) describes metacognition as a form of higher-order thinking that is related to knowledge that is gained through cognitive processes. In the learning situation thinking about how to complete an assignment, reflecting on how well a subject is understood, evaluating the progress of assignment completion and so forth are all regarded as metacognitive activities. Metacognition assists in ensuring that cognitive outcomes are realised. Flavell (1979:3) suggests that metacognition influences the ability to comprehend the written word, writing, the ability to solve problems and the ability to retain and remember information and self-instruction.

With specific reference to online learning environments, as is relevant to this study, Minnaar (2012:241) highlights that such environments are well suited to harnessing metacognitive activities. West, Hannafin, Hill and Song (2013:125) agree with this, suggesting that information processing constructs including metacognition, scaffolding and motivation can be harvested in these environments. To achieve this, the approaches used in the online learning environment should assist students to engage in meaningful and deep learning.

Azevedo and Aleven (2013:2) highlight that working in online environments requires students to determine strategies for achieving learning goals, to reflect on whether the learning goals are being achieved and modify their strategies if these learning goals are not achieved. Engaging in these practices requires metacognitive skills. Therefore, in the online learning environment, tools such as assessment tools, learning tools, collaborative and communication tools, content creation and delivery tools should be used in such a way that they support metacognition (Dabbagh & Kitsantas 2013:197). The design and structure of the courses should include well-organised information with tools and resources being allocated to assist in the completion of tasks (West et al 2013:131). In addition, metacognitive strategies such as reflection, dialogue, critical thinking and awareness should be fostered (Minnaar 2012:242). This is important as cognitive approaches to learning can improve online learning environments, provided they are correctly designed (West et al 2013:138).

The work of the above cited authors brings to the fore that students require metacognitive skills when working in the online environment. Online environments should therefore be designed in such a manner that they foster the use of metacognitive activities as this in turn can improve the online environment.

According to Schunk (2004:285), cognitivism did well in responding to the shortcomings of behaviourism by looking at the mental processes that human beings undergo during learning. However, it failed to explain the multifaceted nature of human learning. The school of constructivism responded in this regard by studying the construction of knowledge beyond merely mental processes.

### **2.3.3 Constructivism**

According to Von Glasersfeld (1996:3), constructivism stems largely from the work of Piaget (1964) and Vygotsky (1926). The underlying tenet of constructivism rests on the assumption that meaning is constructed by people. Constructivism therefore places a special focus on meaningful and in-depth understanding of concepts (Fosnot 1996:10). From a constructivist perspective knowledge is built in the minds of individuals. The construction of knowledge is influenced by experience and will differ from one person to the next (Vygotsky 1926:47).

The physical and social environments play an important role in knowledge construction. Constructivism holds that individuals learn by teaching themselves (Vygotsky 1926:47). Accordingly it favours students who are critical thinkers and commence learning the required skills from a complex level (Slavin 1994:225). In terms of this theory, a sense of community should be encouraged whereby students negotiate meaning in a shared environment and reflect on their learning. Fosnot (1996:29) highlights that applying constructivism to education implies that learning is developmental and students formulate meanings for themselves.

There are two main schools of thought associated with constructivism. These include cognitive constructivism, which is associated with the work of Jean Piaget, and social constructivism, which is associated with the work of Lev Vygotsky. The work of these scholars is briefly outlined below.

#### **2.3.3.1 Jean Piaget**

Piaget regarded the role of language as a vehicle for thinking and learning. Language according to Piaget is a tool that reinforces thinking (Piaget 1964:22,89). Piaget postulated that human beings construct schemes that assist them to make sense of the world which they encounter (Piaget 1964:103). In constructing these schemes the aspects of assimilation, accommodation and equilibration play a role (Piaget 1964:103). When human beings encounter new experiences in trying to make sense of these experiences they relate it to their previous experiences, which assist them in their search for new knowledge. The merging of

both old and new experiences leads to a process of assimilation. Through this process the new experience might alter existing interpretation and this leads to a state of disequilibrium. This is when our schemes are altered, which calls for accommodation. Once this occurs equilibration is restored again (Piaget 1964:103). In this regard, as human beings our schemes are always under construction.

### **2.3.3.2 Lev Vygotsky**

Vygotsky focused on education in terms of the relationship the individual shares with society. In this regard education is influenced by the individual's social environment (Vygotsky 1926:47). In terms of education Vygotsky postulated that the students' role in the education process is fundamental, as students should educate themselves. He or she should therefore be regarded as an independent and active player in the education process (Vygotsky 1926:48). Education should not merely be about perceiving knowledge; the student should be able to do something with the knowledge gained (Vygotsky 1926:48).

A reflection on the work of these scholars reveals that both Piaget and Vygotsky postulated that knowledge is constructed by individuals. Piaget did so by focusing on the mental occurrences in the construction of knowledge and this ties in with cognitive constructivism. Vygotsky, on the other hand, focused on the social context in which knowledge is constructed. Knowledge construction for Vygotsky is more of a social collective experience, while for Piaget knowledge construction is cognitive and individualistic in nature. This study was guided by social constructivism (see section 2.3.4.1 for the rationale) as is explained below.

### **2.3.4 Social constructivism**

Kim (2001) highlights that from a social constructivist perspective reality is constructed collectively by members of society. Knowledge construction and learning take place in a social context through interaction with others. Therefore, the social context that members of society bring with them cannot be overlooked as it has a direct influence on the construction of knowledge and the act of learning (Kim 2001, Risse 2004). Social constructivists believe that words and language significantly contribute to the way in which knowledge is constructed. Students share knowledge construction by progressing from one zone of proximal development to the next, guided by individuals who have already moved beyond that zone (Dron & Anderson 2014:42). While there are different variants of social constructivism, Dron

and Anderson (2014:42-43) highlight the following as being common to all forms of social constructivism:

### ***Multiple perspectives and engagement that includes dialogue***

From a social constructivist perspective meaning is shared and negotiated through discussion and debate. In this way an individual's understanding is tested against the understanding of others and eventually refined.

### ***Learning in authentic contexts***

Social constructivists argue that learning in authentic contexts will result in meaningful learning. Even for discipline-based knowledge, students should from the outset be able to make a link between the discipline-based knowledge and the outside world.

### ***Inquiry and problem solving***

Inquiry-based learning that is positioned in an authentic context provides direction to the learning process as well as interest to the student. This type of environment challenges students to be creative in their problem solving and the solutions they arrive at.

### ***Learning is open ended and ill structured***

Constructivism argues that it is preferable for learning to be positioned in contexts where there is no one solution to a problem. This will provide a platform for students to be challenged and draw on various strategies to solve the problem at hand.

A reflection on the above discussion indicates that social constructivism focuses on the shared construction of knowledge through social interaction. In addition, it favours students who are critical and creative thinkers. Within a social constructivist environment students are encouraged to apply their minds in various ways to solve the problem at hand. Learning should be extended beyond the chosen discipline knowledge so that students may apply the discipline based knowledge to the outside world.

This concludes the major learning theories that have been outlined in the literature, which I regarded as applicable to this study. To obtain an overview of the main views of these learning theories, a summary is tabulated below.

**Table 2.2: Summary of Learning Theories**

<b>Theory of learning</b>	<b>Theorist</b>	<b>Main views</b>	<b>Fundamental characteristics of learning theory</b>
Behaviourism	Thorndike	Law of effect: learning occurs through associations between stimuli and responses.	Learning is based on observable behaviours.  The interaction between stimuli and responses is studied to understand learning.
	Pavlov	Classical conditioning: responses can be conditioned through pairing of stimuli	
	Skinner	Operant conditioning: behaviour is strengthened through reinforcement.	
	Guthrie	When stimulus and responses are coupled learning takes place.	
Cognitivism	Gagne	Instructional theory: learning is explained in terms of how information is transferred from the working memory to the long-term memory.	Learning is based on mental capacity and internal processing.  Information-processing models are used to describe learning.
	Craik and Lockhart	Levels of processing theory: information that is retained will be the information that has gone through in-depth mental processing.	
	Clark and Paivios	Information that is retained must be stored both verbally and visually.	
	Bransford and Bransford et al	Information that is retained should be explained in terms of the manner in which the information was retained.	
Constructivism	Piaget	Individuals construct schemes to makes sense of their world.  New experiences are merged with old experiences.  Our schemes are always under construction.	Learning is based on the construction of knowledge.  Social interaction in a social environment leads to learning.

	Vygotsky	<p>Zone of proximal development: individuals are guided in each zone by another individual who has moved beyond that zone.</p> <p>Scaffolding: support is given during learning and gradually removed.</p> <p>Role of language is fundamental in thinking and learning.</p> <p>Knowledge is co-constructed by people in a social environment.</p>	<p>Language and communication are catalysts for learning.</p>
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The above table highlights that behaviourism, cognitivism and constructivism have distinguishing characteristics in terms of the manner in which they theorise learning. While behaviourism focuses on observable behaviour, cognitivism focuses on mental processing to understand learning and constructivism advocates that knowledge is constructed by individuals.

As this study is contextualised in an online DE environment, constructivism and in particular social constructivism are well suited for use as the research paradigm guiding the study as a research paradigm. A discussion of this rationale is provided below.

#### **2.3.4.1 Rationale for the use of social constructivism to guide this study**

Kivunja (2014:84) argues that social constructivist approaches were more suitable for the previous industrial age, which was, “compartmentalized and specialised” and argues that it is not relevant for the skills required by 21st century online learning. Research has however shown that the use of social constructivist approaches in online DE environments has positive outcomes for learning.

Shackelford and Maxwell (2012:233,240) found that online group activities that feature social constructivist approaches can assist in developing trust and building relationships among students. Moreover they reported that exchanging resources online helped students to build knowledge as they had to be responsible for their own learning. Social constructivist approaches favour social interaction for knowledge construction. In relating this to online learning, Yang, Yeh and Wong (2010:304) and Moreillon (2015:51) state that social interaction in online courses leads to positive and successful learning experiences and contributes towards course retention. Moreover, social interaction between students and lectures can serve as a mechanism for enhancing DE and can be created using synchronous and asynchronous tools (Bryant & Bates 2015:18). Yang et al (2010:304) found that scaffolding, which is commonly associated with social constructivism, has positive effects for online learning. In this regard students serve as scaffolds for each other, with each student being assigned a task to help another student, which will assist in completing the overall task. Zhu, Valcke and Schellens (2009:167) furthermore found that social constructivist approaches in online DE environments contributed to increased motivation, higher-order thinking and independent students who regulated their own learning. Sharing a similar view as regards self-regulated learning is Anderson (2013:89,100), who points out that for students to succeed in online DE environments they must practise some degree of self-regulation. Self-regulation is

commonly associated with constructivist approaches to learning, which can be fostered in online DE environments (Moore & Kearsley 2012:215, Dron & Anderson 2014:43).

Based on the above discussion it becomes apparent that social constructivist approaches have positive learning outcomes when applied to online DE environments. It is therefore valuable for DE practitioners to explore the best ways in which social constructivist approaches may be fused into online DE environments.

Other theories which have been shown to be effective when exploring online learning and which tie in with constructivist approaches to learning (Blaschke 2012, Garrison & Arbaugh 2007, Swan 2010) are the theories of heutagogy and the community of inquiry, which are the final two theories which will guide this study. A description of these theories is given below.

## **2.4 HEUTAGOGY**

The term *heutagogy* was coined by Stewart Hase and Chris Kenyon (2001a). It is regarded as the progression of pedagogy to andragogy, finally resulting in heutagogy (see section 2.4.1 below). Heutagogy is regarded as a theory of self-determined learning, in which the student is placed at the centre of the learning process. Terms such as independence and reflection are commonly associated with heutagogy (Dron & Anderson 2014:48).

In the study of heutagogy, the student is regarded as an active agent in the learning process, with the responsibility to make critical decisions regarding their own learning (Hase & Kenyon 2001a). The instructor's role is that of a facilitator who provides both resources and guidance to the student, but the responsibility for learning remains with the student. This implies that the student accepts responsibility for learning and has to make independent decisions about what will be learnt and the manner in which it will be learnt. The concept of flexibility is regarded as an important heutagogical principle (Hase & Kenyon 2001a).

Hase and Kenyon (2001a) point out that the aspect of "how" to learn is fundamentally important in heutagogy, in that students should be placed in a position that enables them to make decisions about the manner in which they learn. This therefore implies that the process of learning is more important than the outcome of learning. This raises the issue of competencies and capabilities. Competencies, as described by Hase and Kenyon (2001a), refer to the possession of skills and knowledge. Hase (2000) describes capabilities on the other hand as the ability of people to make decisions about the manner in which they learn as

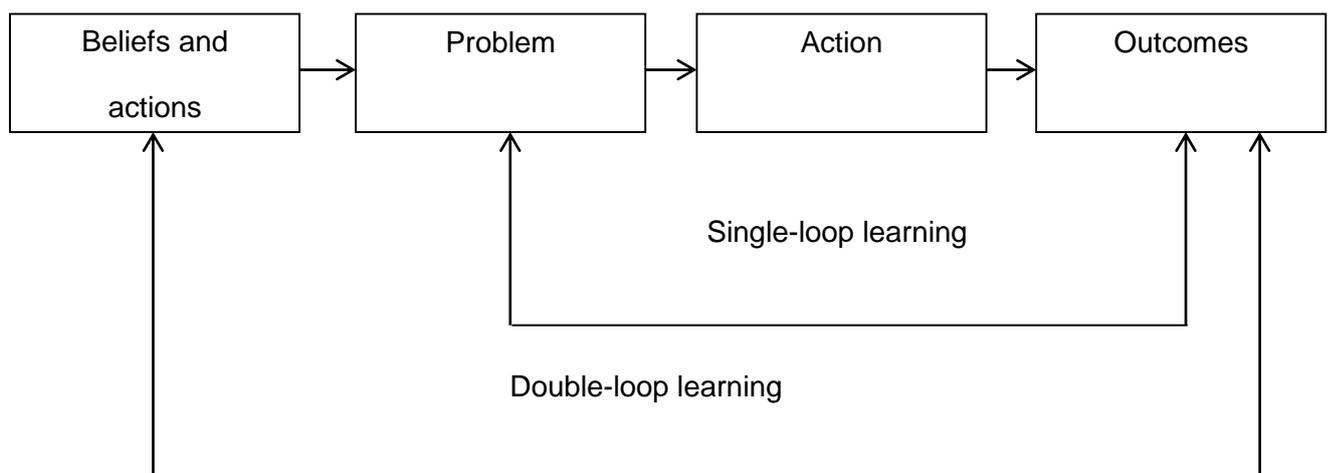
well as their ability to use their competencies in varied situations and circumstances, including both the familiar and the unfamiliar. Capable people are able to collaborate and work well with others and have a high level of self-efficacy.

From a heutagogical perspective the mere possession of competencies is not sufficient; what is important is the meaningful application of these competencies in both simple and complex situations. It is in the application of competencies that the issue of capabilities is relevant, as capable people will be in a position to apply their competencies in varied circumstances.

Hase (n.d:4) postulates that a heutagogical approach to the curriculum implies that assessment should be adaptable to change and negotiation. The student should be given the opportunity to produce content that is suited to the learning situation. In addition, there should be communication between the lecturer and the student and a sense of working together should be fostered.

An important term associated with heutagogy is double-loop learning. Double-loop learning implies that the student engages in the exercise of reflection. When they are presented with a problem, they will unpack the problem and consider solutions to the problems. They will go on to consider the outcomes that will result from implementing the respective solution. This problem-solving process will influence the student's beliefs and actions (Blaschke 2012:59).

The figure below represents a visual presentation of double-loop learning.



(Eberle 2009 as shown in Blaschke 2012:59)

**Figure 2.1: Double loop learning**

As the above discussion indicates, a heutagogical perspective advocates for active students who display an independent nature by taking responsibility for their own learning. The role of the lecturer should accordingly become that of a facilitator who works in partnership with the student in the learning encounter. Within this learning encounter students must engage in problem solving and demonstrate the ability to apply their competencies in various contexts and situations. It is evident that the core principles of heutagogy lie in an independent, responsible and critical thinking adult student. This stands to reason, as adults do not have the same levels of dependency as children do. They are therefore in a position to make decisions regarding their own learning that best satisfy their respective circumstances. Heutagogy thus accounts for the need of the adult student to be independent. It is in this light that is regarded as a progression from pedagogy and andragogy. A description of this progression is outlined below.

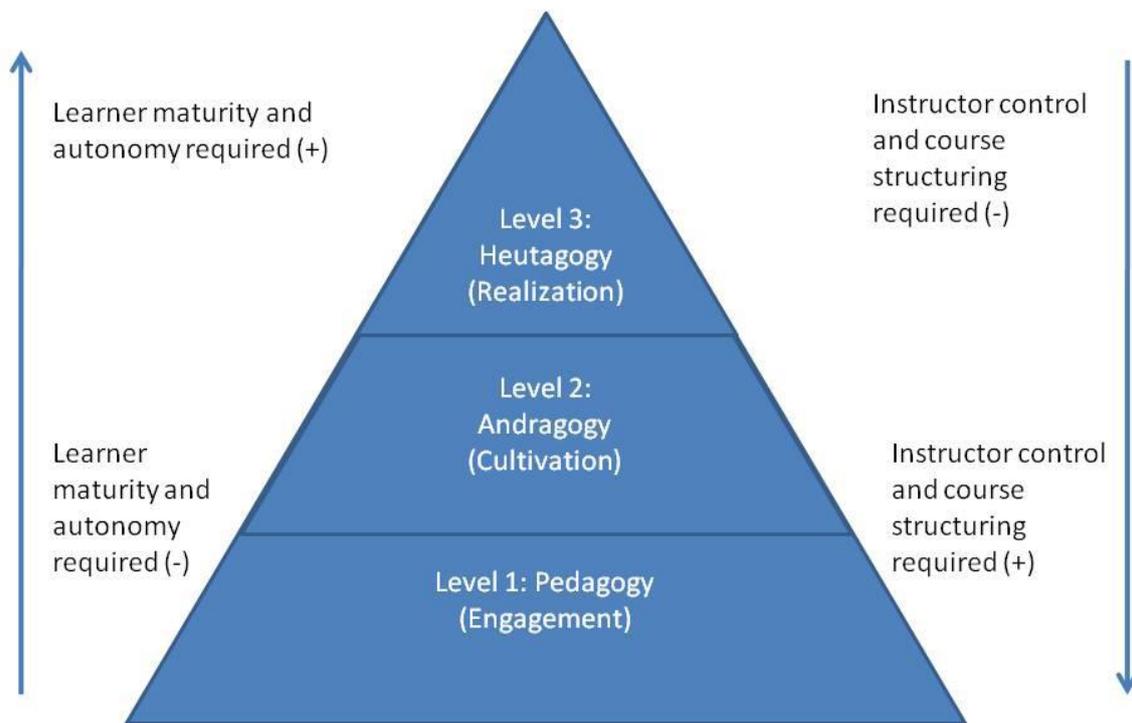
#### **2.4.1 The progression from pedagogy to andragogy to heutagogy**

Hase and Kenyon (2001b) discuss the progression from pedagogy to andragogy to heutagogy. They show that various shifts in education have taken place. Traditionally, education was seen as a pedagogic relationship in which the teacher directed the learning path. Knowledge was imparted to the student and the teacher was the key decision maker in the learning process. Subsequently, Knowles (1973), in moving away from a pedagogical approach to learning, coined the term *andragogy*, which referred to his view that adults learn inherently differently from children. From an andragogical perspective, adults are regarded as being self-directed, with a readiness to learn, plan and direct their learning according to identified needs in their lives (Knowles 1973:43). This implies that adults do not require dependency as children do and therefore educating them in the same way as children is not appropriate. The andragogical lecturer is therefore regarded as a facilitator or consultant. The role of this facilitator or consultant is to create a climate that is conducive to learning with an environment that displays mutual planning between the adult student and the facilitator (Knowles 1973:102). The needs of the adult student must be diagnosed to plan accordingly and learning should be evaluated to determine whether any needs have to be re-diagnosed.

Although widely adopted and referred to as a theory of adult learning, Hase and Kenyon (2001b) argue that andragogy still echoes a teacher-centric approach to learning. They postulate that the current world in which we live is constantly in flux and therefore a teacher-centric approach to learning is no longer suitable. Accordingly, this world requires the type of student who is able to make decisions from a wide range of available options in an independent manner (Hase & Kenyon 2001b). It is in this light that they argue that heutagogy

can serve as a suitable approach in gearing students to function optimally in the rapidly changing society that precedes us. Heutagogy is regarded as an extension of andragogy (Hase & Kenyon 2001b). This therefore implies that heutagogy builds on andragogical principles and adds principles of: student capabilities, engaging in reflection, action learning in collaboration with others and self-directed learning. This enables the student to become an active agent in the learning process (Hase & Kenyon 2001b).

The figure below gives a visual representation of the progression from pedagogy to heutagogy.



Blaschke (2010:60)

**Figure 2.2: Progression from Pedagogy to Heutagogy**

The table below shows heutagogy as a continuum of andragogy.

**Table 2.3: Heutagogy as a continuum of andragogy (Blaschke 2012:61)**

<b>Andragogy (Self-directed)</b>	—————→	<b>Heutagogy (Self-determined)</b>
Single-loop learning	—————→	Double-loop learning
Competency development	—————→	Capability development
Linear design and learning approach	—————→	Non-linear design and learning approach
Instructor-learner directed	—————→	Learner-directed
Getting students to learn (content)	—————→	Getting students to understand how they learn (process)

The above discussion indicates that heutagogy as a theory takes into consideration the current world we live in. This world is a shrinking one in which students are exposed to reservoirs of information and choices through the use of technology. Seen in this light, students must become active agents in the learning process, equipped with critical thinking skills that can be transferred to the world of work. The lecturer therefore can no longer be the key decision maker in the learning process but has to form a partnership with students and negotiate decision-making. Within this context it becomes evident that heutagogy ties in well with online DE environments. A discussion of the link between online DE environments and heutagogy is provided below.

#### **2.4.2 The link between online distance environments and heutagogy**

Hase and Kenyon (2001b) argue that heutagogy has specific implications for DE. In DE there should be a shift from a focus on learning content to a focus on the process of learning. The learning path should be one in which the student learns how to learn. In this regard, heutagogy can serve DE well as it postulates that students should engage in higher-order thinking by thinking about their learning and which practices are best suited to successful learning. Blaschke (2012:57) similarly postulates that heutagogy relates to DE as they share common principles which include student autonomy and self-directness. Blaschke (2012:57) proposes that self-determined learning is also a feature of DE and that both DE and heutagogy target adult students. In further arguing why heutagogy is suited to DE, Blaschke (2012:61) outlines that online learning holds promise for DE in terms of fostering critical, creative and independent thinking. Studies (Anderson 2011 & Wheeler 2011 as cited in Blaschke 2012:61) have therefore identified heutagogy as a possible theory for the application of online learning

in DE. Furthermore, as DE students generally study from home and do not attend structured contact sessions at a pre-determined time they must practise a high degree of independence to succeed in their studies. The fact that the principles of heutagogy encourage independent thinking makes it even more suited to DE.

The above discussion thus shows that heutagogy as a theory is well suited for application to online DE environments. It is therefore one of the primary theories that underpinned this study. A further discussion on the rationale for selecting heutagogy for this study is outlined below.

### **2.4.3 The rationale for selecting heutagogy for this study**

The decision to select heutagogy was made by paying attention to both the criticisms of this theory and its suitability for this study. McAuliffe, Hargreaves, Winter and Chadwick (2008:6) postulate that changing the role of the lecturer by giving power to the student, as is advocated by heutagogy, is not always practicable. These authors argue that while heutagogy is positive in that it affords freedom and independence to the student, the role of the lecturer still remains fundamentally important in the learning process. The lecturer's role should be that of guiding students in a balanced manner, still granting the students a degree of freedom. In a study conducted with undergraduate students, McAuliffe et al (2008:88) found that students were hesitant to be taught using heutagogical principles and preferred to have their learning directed by the lecturer. The students who participated in the study pointed out that they wanted to be informed about what they needed to know as regards assessment. This does not fit in with principles, which highlight that assessment should be negotiated and flexible (Hase n.d:4). Another factor to consider is that certain professions have to adhere to specified stipulations as dictated by both internal and external stakeholders, which makes the flexible and open principles of heutagogy impractical (McAuliffe et al 2008:5).

Peters (2001:85), on the other hand, points out that in DE students are not bound to physical locations, times or their lecturers. This results in them having to accept responsibility for their learning. In this regard students have to plan the way in which they will complete the assigned tasks of the course to reach completion. Engaging in this type of independence requires both self-direction and autonomy (Peters 2001:85), which ties in with the principles of heutagogy.

A study conducted by Bozkurt et al. in 2015, regarding trends and issues in DE, found that theories which focused on learner dedication, such as "self-directed learning, self-regulated learning and motivation theory" (Bozkurt et al 2015:344), were being used increasingly by scholars in the field of DE. These theories were drawn upon to understand the manner in

which learning occurs in DE contexts including that of online environments (Blaschke 2012, Bozkurt et al 2015). Based on the work of these scholars, which highlights the suitability of heutagogy for use in online DE environments, it will be selected as a theory for this study.

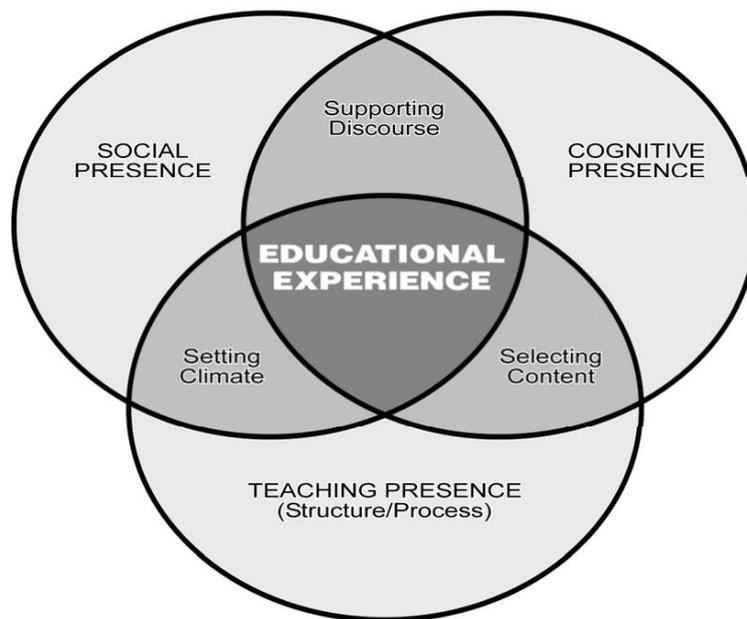
What follows below is a discussion on the community of inquiry, which was the final framework that underpinned this study.

## **2.5 COMMUNITY OF INQUIRY**

According to Garrison and Akyol (2013:105), the community of inquiry (Col) was developed to give direction and guidance to studying online learning environments in distance and higher education. The overarching purpose of the Col is to harvest deep and meaningful learning (Garrison & Akyol 2013:105). Conditions should therefore be created where students are given the opportunity to engage in critical and higher-order thinking (Garrison 2007:61, Garrison & Akyol 2013:106).

The Col views communities of inquiry as crucial in the learning encounter (Garrison 2007:61). Within this context, a Col consists of a collection of people who communicate in a critical manner to form meanings and reach mutual understanding (Garrison & Akyol 2013:105). Communication is therefore key for effective communities of inquiry. The Col advocates that constructivist experiences that are collaborative in nature must be formulated through the existence of three presences (Garrison & Akyol 2013:105). The three presences need to be equally represented in the online learning encounter to develop higher-order thinking and create a platform for inquiry. The three presences include the social presence, the cognitive presence and the teaching presence (Garrison & Arbaugh 2007:158).

The figure below gives a visual representation of the three presences. As is noted the three presences overlap and should work together.



(Garrison 2007:62)

**Figure 2.3: Community of Inquiry Framework**

### 2.5.1 The social presence

A fundamental characteristic of the social presence is that it should have an underlying cognitive presence. Although forming relationships with other online students and facilitators forms part of the social presence, it should be extended beyond the forming of relationships. Opportunities should be created whereby students are given opportunities to voice their opinions and thoughts on higher-order tasks (Garrison & Akyol 2013:107). Social presence implies that students should have a sense of belonging and identification with their classmates and their course of study. Students must engage in dialogue in an environment where they feel safe and develop relationships while expressing their personalities.

Garrison (2007:63) and Garrison and Akyol (2013:108) outlined three categories that contribute to social presence, with examples of indicators for each category. The first is that of affective communication. Affective communication can include the use of emoticons, capitalisation, punctuation, self-disclosure and humour. The second category refers to open communication. Indicators in this category may include students responding to engaging questions and comments from other students. The final category is group cohesion. Group cohesion is influenced by both affective communication and open communication. Indicators that encourage group cohesion are when the group displays a sense of belonging by referring to themselves as we and when collaboration is encouraged among members of the group (Garrison 2007:63, Garrison & Akyol 2013:108). If harvested effectively in online learning

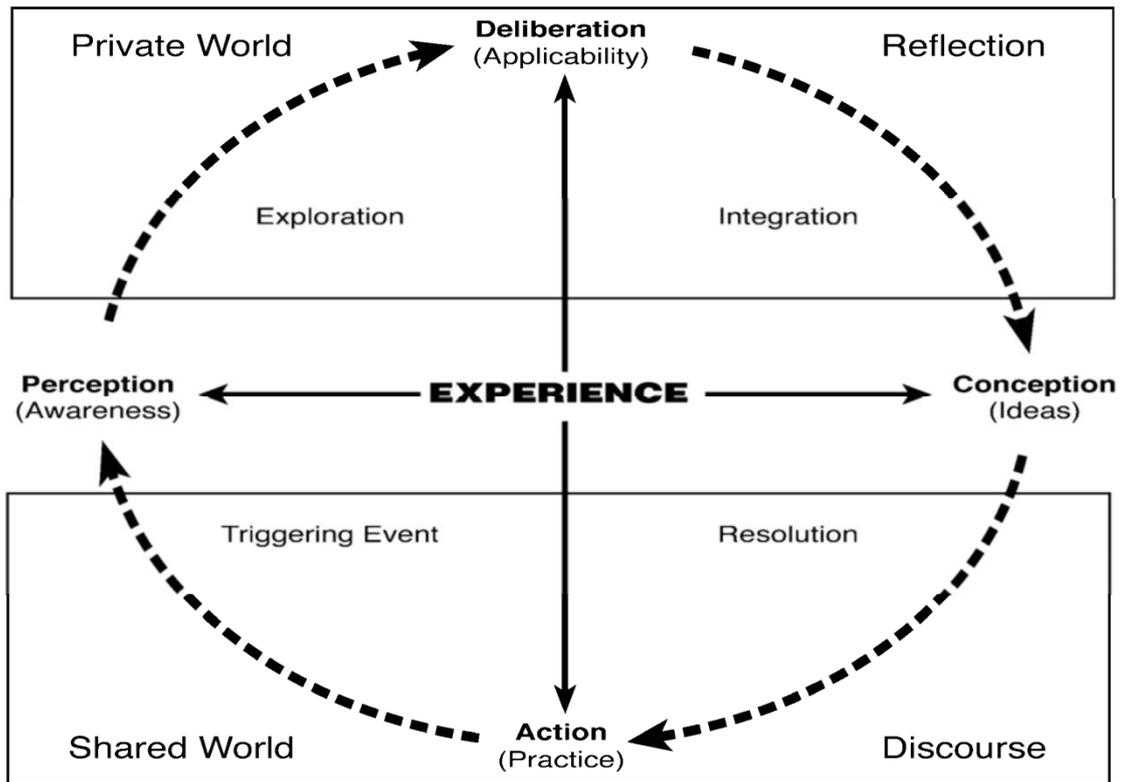
environments, the social presence can lead to the development of critical discourse among facilitators and students, and students and students (Garrison & Arbaugh 2007:160).

### **2.5.2 The cognitive presence**

The cognitive presence is grounded in critical thinking and is operationalised by the practical inquiry (PI) model (Garrison & Akyol 2013:108). The PI model consists of four phases which reflect critical inquiry. These include a triggering event, exploration, integration and resolution (Garrison 2007:65). The first phase, which is referred to as the triggering event, should be carefully planned by the facilitator. This implies that the facilitator should design the tasks that the students are presented with in a purposeful manner. The tasks should possess characteristics that initiate students' curiosity and allow them to ask questions. The second phase involves that of exploration. This refers to an unpacking of the problem. During this stage, students will engage in dialogue with their fellow peers. By engaging in exploration, students will move between the reflective and shared worlds with their peers to solve the problem at hand. The third phase refers to that of integration and should be purposeful and structured. During this phase, students look for solutions to problems. They should be presented with opportunities to construct meaning in a critical manner and engage in dialogue. Engaging in this manner will help develop understanding. The final phase refers to deciding on a solution to the problem. Once an appropriate solution has been identified the solution will be tested by implementing it and checking whether it works (Garrison & Akyol 2013:109).

A reflection on the above discussion indicates that the four phases of the PI model allow students to engage in critical thinking, construct meaning and find solutions to problems. The process should be carefully planned by the facilitator to ensure that students engage in higher-order thinking.

The figure below gives a visual representation of the PI model.



(Garrison 2007:63)

**Figure 2.4: The Practical Inquiry Model**

The cognitive presence is regarded as the crux of Col. The establishment of the cognitive presence requires an active and present facilitator, who is able to establish higher-order thinking and objectives (Garrison, Anderson & Archer 2001:7). The facilitator has the responsibility to evaluate the discourse among students and adjust and shape it according to the critical thinking cycle advocated by the PI model. A metacognitive awareness of critical thinking can harvest cognitive presence. This implies that students must have an understanding of the process of inquiry. Opportunities should be created where students relate content to social contexts as it will help make learning authentic and help them progress through phases of critical thinking (Garrison & Akyol 2013:110).

### 2.5.3 The teaching presence

The teaching presence leads to the integration of the social and cognitive presence in the process of inquiry (Garrison & Arbaugh 2007:163, Garrison 2007:67). This presence requires several tasks of the facilitator. Firstly, it includes selecting the appropriate societal knowledge. Secondly, opportunities must be created to facilitate communication and reflection. Finally, learning objectives must be diagnosed and evaluated (Garrison & Akyol 2013:111).

Garrison and Akyol (2013:111) point out that there are three categories that relate to the teaching presence. The first is that of design and organisation. In this regard, within a constructivist context, students should be given a platform in order to exercise choice in their studies. That is, they should have options in terms of what is included in their studies and the manner in which content can be mastered. Design and delivery should therefore be flexible in nature and be able to respond to the changing needs of the student.

The second category refers to facilitating reflection and discourse. In this regard, students should construct personal meaning and form a sense of mutual understanding. This means that the facilitator should guide students' discussion by responding on the discussion forum, prompting students to solve the problem at hand and essentially guide the discourse among the students (Garrison 2007:67).

The final category refers to that of direct instruction and relates to the facilitator. The facilitator must direct learning and guide students accordingly. This implies that the online facilitator must play an active role in the online learning encounter by communicating and collaborating with the students. If conducted, correctly the teaching presence can lead to higher-order thinking within the online learning environment.

A reflection on the above highlights that the Col is premised on creating a sense of community within the online learning environment. This sense of community should be carefully planned and structured by the online learning facilitator by incorporating the social, teaching and cognitive presence. The Col if manifested accordingly can lead to higher-order thinking. Within the context of this study the Col is thus a suitable framework to use. A discussion of the rationale for using the Col for this study is outlined below.

#### **2.5.4 The rationale for selecting the Col for this study**

The rationale for selecting the Col for this study is related to the problem statement (see section 1.5). The problem statement outlines the importance for research to be conducted that will pay attention to the manner in which institutions of higher education can support their staff in attaining suitable pedagogical strategies that will enable the development of effective online environments, coupled with solid approaches to learning (Boling et al 2011:118, Bujak et al n.d.:9). The Col offers guidelines for integrating online learning effectively, which is linked to the primary aim this study set out to achieve.

Garrison and Arbaugh (2007:157-8) point out that the Col is being increasingly used by scholars to understand the online learning process. Research done by Garrison and Arbaugh (2007) and Swan (2010 as cited in Garrison & Akyol 2013:113) highlights that the Col has been shown to be effective in explaining the appropriate use of online learning in DE.

Garrison and Akyol (2013:113) postulate that the Col can respond to the challenges posed by online learning. These challenges include the adoption of online learning in institutions of higher education that has not led to transformed pedagogical practices (Conole and Alevizou 2010:43, Lwoga 2012:93, Caird & Lane 2013) and understanding online learning from a pedagogical perspective which leads to higher-order learning outcomes (Garrison & Akyol 2013:12). In light of these challenges, Garrison and Akyol (2013) propose that the Col is a suitable framework for understanding the complex nature of online learning.

Criticisms levelled against the Col include the work of Shea, Hayes, Uzuner-Smith, Gozza-Cohen, Vickers and Bidjerono (2014:10), who point out that the teaching, social and cognitive presences do not account for the attitude, capabilities and behaviours that students bring to the learning experience. Rourke and Kanuka (2009) and Maddrell, Morrison and Watson (2011) additionally point out that there is a lack of empirical evidence that the framework leads to deep and meaningful learning outcomes. Despite these criticisms, Garrison and Akyol (2013), as stated above, propose the Col as a suitable framework to refer to when attempting to understand the complex nature of online learning.

This chapter concludes with a summary of the three primary theories that underpinned this study. The purpose of this summary is to highlight the fundamental characteristics of each theory and to extrapolate the common views that have emerged from them. This summary is shown in tabular form below.

**Table 2.4 Summary: Transactional Distance, Heutagogy and the Col**

Name	Proponent	Fundamental characteristics	Common views
<p><b><i>Theory of Transactional Distance</i></b></p>	<p>Moore (1983)</p>	<p>Distance in DE viewed as a psychological and communications gulf.</p> <p>This gulf is referred to as transactional distance.</p> <p>High transactional distance leads to greater distance between facilitator and student.</p> <p>Transactional distance is influenced by the following:</p> <p><i>Structure:</i> Courses that are highly structured have a high degree of transactional distance. Courses that are flexible/loosely structured have a low degree of transactional distance.</p> <p><i>Dialogue:</i> Interaction between facilitator and student.</p> <p>More dialogue leads to lower transactional distance.</p>	<p><b>Theme 1: Independence</b></p> <p><i>Theory of transactional distance:</i></p> <p>Independence is evident through structure and autonomy. Loosely structured courses are flexible and allow students to make choices about their learning, thus having to be independent and accept responsibility for their learning. As regards autonomy, independence is encouraged as a resource to be used by facilitators.</p> <p><i>Heutagogy:</i></p> <p>Independence is evident through self-determined learning. Students are encouraged to make decisions about their learning.</p> <p><i>Col:</i></p>

		<p>Less dialogue leads to higher transactional distance.</p> <p><i>Autonomy:</i> Ability of students to practise independence.</p> <p>Higher transactional distance – greater autonomy to be executed by student.</p> <p>Lower transactional distance: less autonomy to be displayed by student.</p>	<p>Independence is evident through students having to engage in constructive dialogue through social presence.</p> <p>The emphasis on constructivist experiences also requires independent thinking as students construct meaning.</p> <p><b>Theme 2: Communication</b></p>
<b><i>Heutagogy</i></b>	Hase & Kenyon (2000)	<p>Self-determined learning</p> <p>Independence</p> <p>Reflection</p> <p>Students encouraged to make choices regarding their learning.</p> <p>Process of learning, not outcome of learning, is important.</p> <p>Double-loop learning: engage in problem solving through action and reflection.</p>	<p><i>Theory of transactional distance:</i></p> <p>Communication is evident through dialogue, where more dialogue leads to less transactional distance.</p> <p><i>Heutagogy:</i></p> <p>Communication is evident as the facilitator and the students work in a partnership to make choices about the learning path.</p>
<b><i>Community of Inquiry</i></b>	Garrison, Anderson, Archer (2001)	<p>Higher-order thinking in online environments is key.</p> <p>Communication among a community of individuals is important.</p>	<p><i>CoI:</i></p> <p>Communication is key to the CoI. Through the social presence dialogue is encouraged among</p>

		<p>Constructivist experiences to be created in online environment through three presences.</p> <p>Three presences</p> <p><i>Social presence:</i></p> <p>Facilitator and students engage in dialogue.</p> <p><i>Cognitive presence:</i> Facilitator establishes higher-order thinking and objectives.</p> <p><i>Teaching presence:</i> Facilitator to select appropriate knowledge, foster communication, diagnose and evaluate objectives.</p>	<p>students. The teaching presence also encourages the facilitator to direct dialogue and discussion in the online learning environment.</p> <p><b>Theme 3: Metacognition (higher-order thinking, see section 2.3.2.2)</b></p> <p><i>The theory of transactional distance:</i></p> <p>Higher order thinking is evident through structure and autonomy. In courses that are structured in a flexible manner, students will be expected to plan their time and resources accordingly to succeed. This requires higher-order thinking. Practising autonomy also requires students to engage in higher-order thinking.</p> <p><i>Heutagogy:</i></p> <p>Higher-order thinking is evident through self-determined learning and independence.</p> <p><i>CoI:</i></p> <p>The CoI is premised on creating higher-order thinking through social, cognitive and teaching presence.</p>
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Common views which have emerged from these theories are: independence, communication and metacognition. Independence is evident in the theory of transactional distance in terms of courses which are flexible in nature. In this regard, the student must practise autonomy in making decisions about the course. Examples could include; what materials to use to complete assessments, how to complete assessments; how to study each section of the learning materials and so forth. Independence is also one of the key fundamentals of heutagogy. Self-directed learning requires of students to make decisions regarding their learning that will best help them achieve the learning outcomes of the course. Students will therefore have to practice independence in making these choices. The Col also advocates for independence as students engage with their peers and lecturer, while making meaning of the course material.

Communication also emerged as a common view that emerged from table 2.4 above. Within the theory of transactional distance; communication is encouraged through the dimension of dialogue. Dialogue requires of lecturers to create a space for students to engage with them and with their fellow peers. The role of the lecturer becoming a facilitator is clearly articulated in heutagogy. In this regard the lecturer and the student become partners in the learning encounter and learning takes place through various communication channels. Communication is vital as regards the Col as the creation of the teaching, social and cognitive presence in the online learning environment, requires communication of various degrees and types.

The aspect of metacognition finally emerged as a common view from table 2.4 above. The theory of transactional distance speaks to the dimension of autonomy. This implies that students must make choices regarding their learning, which will require of them to apply their minds. Self-directed learning as advocated for in heutagogy requires higher-order thinking as students are expected to make informed decisions regarding their learning, which will best help them achieve the desired learning outcomes. The teaching, social and cognitive presence is premised on the concept of higher-order thinking in engaging students toward successful achievement of the learning outcomes.

A reflection on the above highlights that while the cited theorists have different views on learning in online and DE contexts, there are commonalities in their work, which can be referred to when drawing on the work of these theorists.

## **2.6 CONCLUSION**

This chapter began by unpacking the pioneering theorists who have laid the foundation for the manner in which teaching and learning occurs in a DE context. This discussion included the

work of Otto Peters, Borje Holmberg, Charles Wedemeyer, Michael Moore and Desmond Keegan and highlighted their views on DE. Of particular importance is the work of Michael Moore, who postulated the theory of transactional distance, which is one of the primary theories underpinning this study. Subsequently, the major learning theories outlined in the literature were discussed. Behaviourist and cognitive views of learning and constructivism followed. Social constructivism, which guided this study, was also discussed. The chapter concluded with a discussion of heutagogy and the CoI.

The implications of this chapter for the empirical study were particularly important in the analysis of the data and the resulting findings. With regard to the data analysis (see sections 4.6.3.1 and 4.7), I analysed the data bearing in mind the fundamental principles emanating from the theory of transactional distance, heutagogy and the CoI. As social constructivism guided this study, I furthermore analysed the data in relation to the core principles underpinning social constructivism. Moreover, I drew on the main principles relating to the theory of transactional distance, heutagogy, the CoI and social constructivism in the synthesis of the findings and the research conclusions of this study (see sections 6.4 and 6.5).

The next chapter comprises a literature review that provides an overview of national policies relating to online learning and DE. The trajectory that the field of DE has taken is explored, with a specific focus on how pedagogical practices have been changed through the different trajectories. A discussion on the way in which teaching and learning occur in online DE contexts follows. The affordances and constraints of online learning in a DE context are subsequently explored. The chapter concludes with examples of best practices that have proved to be successful for online learning in institutions of higher education.

## **CHAPTER 3**

### **CONCEPTUAL FRAMEWORK**

#### **3.1 INTRODUCTION**

This chapter will begin by unpacking national policies relevant to the research topic. What follows is a discussion of the term *distance education*, as well as an explanation of the generations of distance education. Coupled with this are some examples of how teaching and learning takes places in DE. An explanation of the term *online learning* follows next and the affordances and challenges of online learning are subsequently explored. The chapter concludes with a global review of examples of best practices for online learning in institutions of higher education as outlined in the literature.

#### **3.2 NATIONAL POLICY OVERVIEW**

An overview of the national policies applicable to the research topic of the study was undertaken. This included a review of the following policies: the White Paper for Post-School Education and Training (2013), the Policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Post-School System (2014), the National Development Plan: Vision for 2030 (2011), South Africa's Broadband Policy (2013) and the National e-Skills Plan of Action (2012). These policies were selected firstly because they are relevant to this study as they contextualise the role and position of ICTs in South Africa. Secondly, institutions of higher education are recognised as one of the role-players that are identified as having a task in responding to some of the policy directives. As this study is positioned in a higher education context the role that higher education institutions have in meeting the directives as outlined in the respective policies must be considered. Each policy was studied with the specific intention of extrapolating policy directives regarding the use of ICTs for online learning in institutions of higher education. A summary of the directives as outlined in each policy follows below.

##### **3.2.1 White Paper for Post-School Education and Training**

The White Paper for Post-School Education and Training was developed with the intention of providing a framework that specifies the focus and key priorities of the Department of Higher Education and Training. Among these foci and priorities, the role of ICTs in fostering online learning in institutions of higher education, including DE institutions, is clearly articulated. The use of ICTs is recognised as an indispensable tool in an ever-shrinking globalised world

(Department of Higher Education and Training 2013:53). As digital technology becomes more accessible in South Africa, institutions of higher education must explore ways of integrating ICTs for online learning in the provision of education (Department of Higher Education and Training 2013:48). This integration of ICTs in online learning must be pedagogically grounded (Department of Higher Education and Training 2013:53). In this regard, the Department of Higher Education and Training is in favour of the use of ICTs and intends to invest in the development of staff for online learning programmes (Department of Higher Education and Training 2013:48,52).

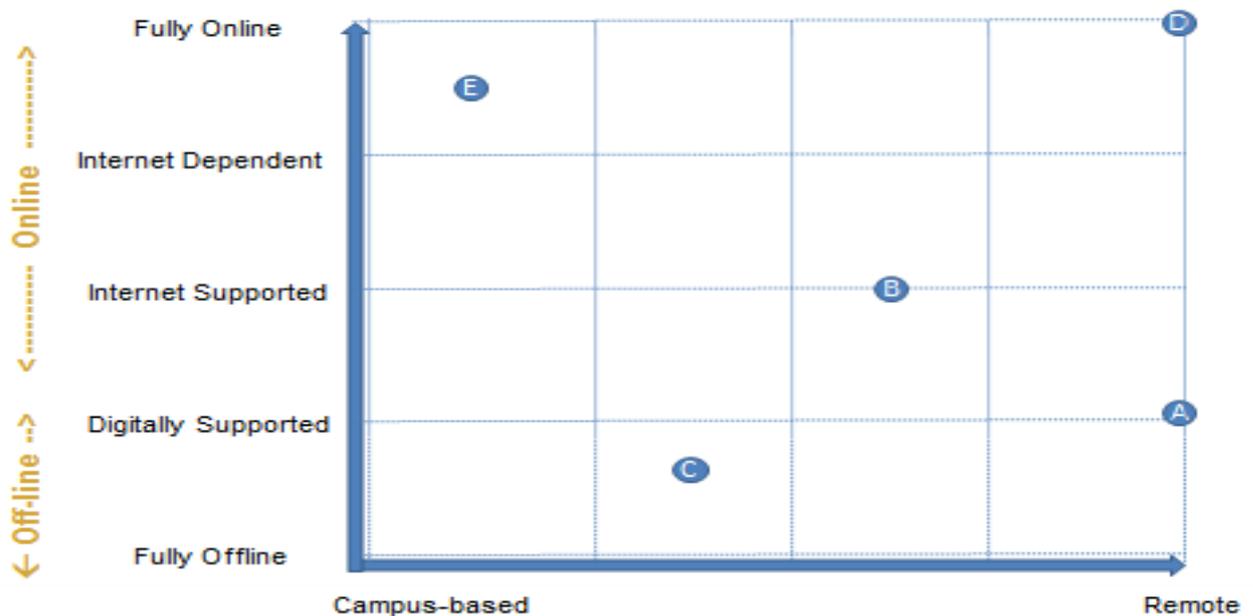
Online learning is furthermore advocated in the White Paper for Post-School Education and Training to overcome geographical and employment barriers and to improve the engagement of students in institutions of higher education through communication online using ICTs (Department of Higher Education and Training 2013: 51-52). However, the challenge to achieving this lies in the uneven distribution of ICTs, which results in institutions of higher education being faced with issues relating to how best to use ICTs for teaching and learning. The Department of Higher Education and Training acknowledges these challenges and aims to respond to them in various ways. The response mechanisms include making bandwidth affordable and accessible by collaborating with the Department of Communications. Hardware devices like laptops will also be given consideration by engaging with relevant stakeholders regarding affordability. In addition, institutions of higher education will be equipped with reliable and sufficient infrastructure. An ICT plan will be developed which will guide the Department of Higher Education and Training in terms of the use of technology, as well as providing access that is equal in nature. Finally, ICT support centres will be developed and facilitated for people in remote areas (Department of Higher Education and Training 2013: 53).

The above discussion highlights that institutions of higher education have to engage with the use of ICT for online learning. Any online learning that is offered must be well planned and pedagogically grounded and ultimately aim to improve the learning experience for students. The Department of Higher Education and Training will assist institutions of higher education to effectively integrate ICT for online learning by tackling issues of access.

A policy with similar expectations regarding online learning for institutions of higher education, and in particular DE, is the Policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Post-School System, which is discussed below.

### 3.2.2 Policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Post-School System

The policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Post-School System has been developed in response to two driving forces. The first is the White Paper for Post-School Education and Training and the second is the proliferation and affordability of ICTs. The policy states that the availability and affordability of ICTs creates a platform for DE institutions to use ICTs in online learning environments to improve the quality of DE. This improvement in DE quality will take place because online learning environments will provide an opportunity for communication across geographical locations and support for students and will allow students to actively engage in the online learning encounter (Department of Higher Education and Training 2014:10). Furthermore, online learning environments have the potential to prepare students for the world of work which is digitally dominated (Department of Higher Education and Training 2014:10). In this regard, the policy states that DE institutions must make informed decisions about the use of ICTs based on their individual contexts and circumstances (Department of Higher Education and Training 2014:8). As such, a provision grid has been provided in the policy as proposed by Strydom and Mentz (2010 as cited in Department of Higher Education and Training 2014:8) as shown below.



Strydom and Mentz (2010 as cited in Department of Higher Education and Training 2014)

**Figure 3.1: Provision grid**

In terms of the grid, point A represents a programme that is offered through DE which makes use of various media, but does not use the internet. Point D, on the other hand, represents a programme that is offered online to students who are separate from the institution offering the programme. This means that institutions of higher education will have to make decisions that are strategic in nature regarding the provision of ICT, as such provision will have to meet the needs and contexts of their students. This can change as time passes, however, as is represented by point B. Point E represents a course that is offered online in the institution's labs to students who are registered both full time and part time. In terms of the policy the requirements lean more toward the right-hand side of the figure, as it is assumed that students and the institution are generally separated. Point C represents a programme that is offered on a large scale, where the possibility of economies of scale is possible. In this regard, student support will have to be given careful consideration so as to cater to the large numbers of students in such a course (Department of Higher Education and Training 2014:8-9).

The policy goes on to state that online programmes made possible by the use of ICTs will only be approved if the programme is pedagogically sound. In this regard, all pedagogic assumptions underpinning the programme must be explained (Department of Higher Education and Training 2014:14). The policy states that the use of ICT for online learning must be suitable for learning, the student body and the context of the institution. DE institutions must also realise that internet availability remains a challenge in South Africa and as such institutions must consider the ability and skills of their students to engage in online environments and issues of access for students in remote areas (Department of Higher Education and Training 2014:15).

A reflection on the above discussion clearly highlights that institutions of DE must engage in online learning that is pedagogically sound. It must also be well planned, taking into consideration the context and the student body of the institution. In light of the policy, DE institutions therefore have a pivotal role to play in creating online learning opportunities that could essentially improve the quality of DE. The National Development Plan: Vision for 2030 shares similar expectations for institutions of higher education, as discussed below.

### **3.2.3 National Development Plan: Vision for 2030**

The core focus of the National Development Plan: Vision for 2030 is to build the capabilities of South Africa and its citizens. Within this context the plan outlines that education is central to the development of South Africa. In this regard, institutions of higher education are recognised as a driver of the information and knowledge society made possible through ICTs

(National Development Plan: Vision for 2030 2011:262). According to the National Development Plan: Vision for 2030, by driving the information and knowledge society universities will support the economic development of the country. It is in this light that good technology and information systems become a crucial part of the architecture of institutions of higher education, as ICTs are recognised as a change agent that the country needs to respond to (National Development Plan: Vision for 2030 2011:9).

Technology and innovation systems will provide opportunities for students to learn and to solve problems outside the learning encounter (National Development Plan: Vision for 2030 2011:262). The National Development Plan: Vision for 2030 does, however, acknowledge that the high cost of broadband creates barriers for citizens to benefit from the possibilities that technology holds (National Development Plan: Vision for 2030 2011:9). This is a challenge that has been highlighted in all policies discussed thus far. It is in this light that South Africa's Broadband policy was studied with the intention of determining the state of broadband in the country. The key points as stated in the policy are discussed below.

#### **3.2.4 South Africa's Broadband Policy**

South Africa's Broadband Policy is a response to the National Development Plan: Vision for 2030, as discussed above. The broadband policy focuses specifically on the National Development Plan: Vision for 2030 that envisages an infrastructure that will contribute to a society that is informed coupled with a knowledge economy. The policy lays out the current context of broadband in South Africa by outlining the challenges that currently face the country and also envisages strategies to overcome them. These challenges include a shortage of reliable bandwidth, which has had a negative impact on the ability of the country to compete globally. This is coupled with an uneven distribution of access across the country. The cost of fixed broadband, which is generally high, is a further challenge and has resulted in an increase in the use of mobile broadband. In addition, infrastructure in underdeveloped areas is poor which poses a further challenge. Finally, South Africa is not considered the leader on the continent in terms of broadband and internet (Department of Communications 2013:5, 28).

In response to these challenges a national project called South Africa Connect is envisaged to connect South Africans both nationally and globally (Department of Communications 2013:6). South Africa Connect will aim to make broadband accessible to all citizens by making it affordable through a seamless network of networks (Department of Communications 2013:7). The overall vision is that by 2020 all citizens will have access to broadband at 2.5% or less of the population's monthly income (Department of Communications 2013:15). The

policy realises that access to broadband for all citizens is essential if South Africa is to function as a knowledge society (Department of Communications 2013:24). In this regard, the policy articulates the role of institutions of higher education in response to the low levels of e-literacy skills (Department of Communications 2013:51) by equipping students with the skills to operate in online environments. Equipping citizens with the skills to operate in digital environments is high on the agenda of national government. This is evident in the National e-Skills Plan of Action as outlined below.

### **3.2.5 National e-Skills Plan of Action**

The National e-Skills Plan of Action gives expression to the National Development Plan: Vision for 2030 (see section 3.2.3) which focuses on developing the capabilities of South African citizens. The National e-Skills Plan of Action highlights that the World Economic Forum global e-readiness report of 2012 shows that South Africa has dropped from 47th place in 2007 to 72nd place in 2012 in terms of e-readiness (Department of Communications 2012:3). This brings to light the shortage of e-skills in South African society, limiting its ability to operate effectively in a world dominated by ICTs (Department of Communications 2012:3). Within this context the National e-Skills Plan of Action lays out plans to e-skill, which refers to the “ability of people to use and create all forms of ICT to achieve equitable prosperity and global competitiveness and to improve life opportunities” (Department of Communications 2012:10) in all sectors of society.

Universities are recognised as one of the vehicles that can assist in e-skilling the nation by integrating ICTs for online learning in their offerings (Department of Communications 2012:4). The National e-Skills Plan of Action highlights that at present ICTs are not fully integrated in all levels of education including tertiary education (Department of Communications 2012:22). This highlights that universities must begin to critically engage with ways to integrate ICT into their offerings so that students can become e-skilled. E-skilling the nation is regarded as important as it will assist the country to become a global competitor as well as improving prosperity for all (Department of Communications 2012:67).

A specific focus on the use of ICTs in higher education to build a knowledge economy is evident across all policies. The use of ICTs that will result in online learning must be planned carefully according to the needs and contexts of the higher education institution involved. This focus, as stipulated in the above mentioned policies, ties in with the problem statement which guided this study (see section 1.5).

Conclusively, it is evident from the policies that institutions of higher education have a mandate to make ICTs part of their architecture by engaging in online learning. If students are to meet the demands of the digitally globalised world we find ourselves in, they will have to possess the necessary knowledge and skills. Institutions of higher education, including DE institutions, must therefore begin to leverage the affordances of ICTs meaningfully to engage in online learning.

The term *DE* has been briefly described in chapter 1 (section 1.2). However, as this study is framed within a DE context a detailed description of DE as used in this study follows.

### **3.3 DEFINING DISTANCE EDUCATION**

Moore and Kearsley (2012:3) point out that the term *DE* is associated with several other terms. Common terms associated with DE are *open learning* (OL) and *open and distance learning* (ODL). More recently, the term *open distance and e-learning* (ODeL) (Arinto 2013:167) has also become associated with the term *distance education*. As these terms are associated with the term DE they are firstly unpacked to identify the manner in which they relate to DE, after which a definition of DE as used in this study follows.

Peters (2001:63) describes OL as acquiring knowledge, abilities and attitudes which are open in nature. OL is associated with concepts such as equality, lifelong learning, curricular that are open in nature, learner-relatedness, autonomous learning, learning through interaction and communication and learning that is related to everyday life (Peters 2001:97). Categories of openness include creating access for students, institutions that are located independently geographically and methodologies that are flexible in nature (Peters 2001:100).

Shale (2010:105) explains that the term *ODL* describes a type of learning that is meant to extend access to educational opportunities for people who would be otherwise excluded. Openness can refer to open admission standards, recognition of prior learning and extended time to complete courses (Shale 2010: 96). Msweli (2012:97) explains that ODL is a form of learning that blends the design and the delivery of the curriculum with student support. In addition, ODL pays attention to opening opportunities for students to learn and to recognise their previous learning. Arinto (2013:169) on the other hand describes ODeL as an extension of ODL that includes the adoption of online learning methodologies.

A reflection on the above terms indicates that there are common themes that emerge from the terms *OL*, *ODL* and *ODeL*. These include the notion of openness in terms of access, the

curriculum and the manner in which students learn. The overarching principle of openness is therefore what distinguishes OL, ODL and ODeL from other forms of education. In deciding which would be the most appropriate term to use for this study, the advice of Moore and Kearsley (2012:3) was referred to. These scholars point out that the terms OL and ODL all fall within the domain of DE. They (Moore & Kearsley 2012:3) argue that DE is the appropriate term to use because it is superior to the other terms in that it integrates the use of technology and is grounded in a different pedagogy as opposed to that of the classroom. In addition, the term *DE* has a long history and is based on organisational forms which are distinctive in nature therefore, within the context of this study the term *DE* will be used to describe teaching and learning that is characterised by the institution and the student being separated (Keegan 1980:33). This geographical separation calls for the use of technologies to be used, as well as institutional organisation, that facilitate the creation of communication (Keegan 1980:33, Moore & Kearsley 2012:3). This definition is appropriate as it acknowledges the use of ICTs to engage in online learning in a DE context, which is where the core of this study lies.

The use of ICTs has been part of the trajectory of DE since its inception. This is evident in the generations of DE which are outlined below.

### **3.3.1 Generations of distance education**

As the literature (Lauzon & Moore 1989, Garrison 1995, Guglielmo 1998 & Taylor 1999 as cited in Heydenrych & Prinsloo 2010:8-9) shows, DE has evolved through several generations. These generations refer to time periods and the manner in which different technologies influenced the specific time period. Anderson and Dron (2011:82), Moore and Kearsley (2012:23-44) and Simonson, Smaldino and Zvacek (2015:36-40) outline the following generations of DE as it has evolved through various technological advancements.

#### **3.3.1.1 First generation: correspondence study**

The first generation of DE began in the early 1880s and was characterised by instruction that was delivered via the postal system. This generation of DE primarily aimed to open up opportunities by using the technology of the post for people who did not have access to education and had not been given opportunities to learn. This form of education offered an individualised form of instruction to students via materials they received through the post (Anderson & Dron 2011:82, Moore & Kearsley 2012:23-44, Simonson et al 2015:36-40).

### **3.3.1.2 Second generation: broadcasting**

The early part of the twentieth century saw the use of broadcasting to offer instruction to students. Broadcasting was done via radio and television thereby adding a visual and oral element to the instruction. Broadcasting allowed for interaction between the lecturer and the student; however, this interaction was very limited in nature (Anderson & Dron 2011:82, Moore & Kearsley 2012:23-44).

### **3.3.1.3 Third generation: open universities**

During the late 1960s and early 1970s the face of DE changed significantly with the introduction of open universities. Open universities were autonomous institutions aimed at offering independent degrees to students. The mandate of open universities was to open up opportunities for adults who could not engage in full-time study. Open universities combined audio and video and correspondence study with face-to-face tutorials to offer instruction (Anderson & Dron 2011:82, Simonson et al 2015:36-40).

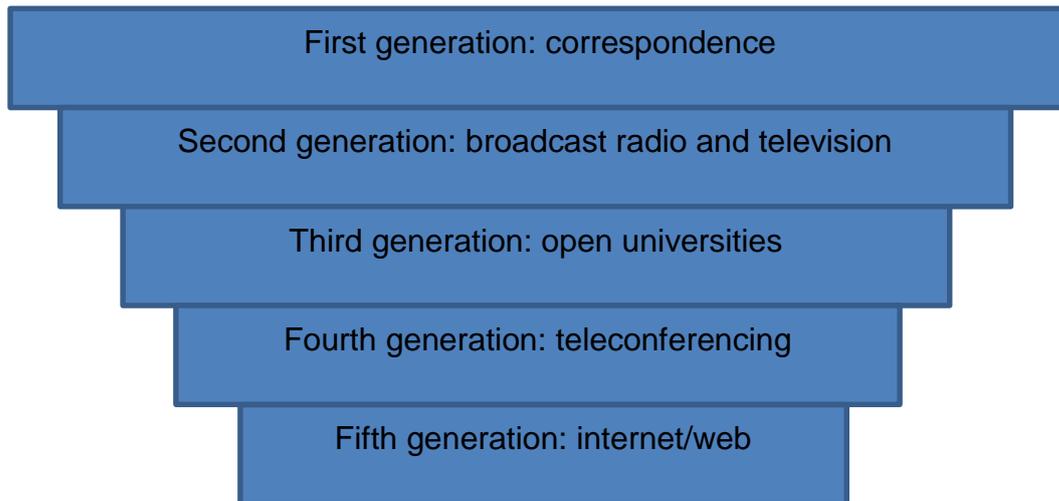
### **3.3.1.4 Fourth generation: teleconferencing**

In the 1980s, a form of DE emerged that made use of the technology of teleconferencing. This generation of DE differed from the previous generations in that it enabled real-time interaction between the student and the lecturer. The first type of technology that was used in teleconferencing was that of audio-conferencing. Audio-conferencing allowed a large number of students to be linked together simultaneously and also allowed them to respond to the conversation, thus creating interaction between the student and the lecturer (Anderson & Dron 2011:82, Moore & Kearsley 2012:23-44).

### **3.3.1.5 Fifth generation: computer and internet-based virtual classes**

The fifth generation of DE is the current era of DE, which is characterised by online learning. Online learning enables text, audio and video to be combined on a single platform. This allows a variety of interaction among the lecturer and the student and offers the opportunity to engage in collaborative learning which is constructivist in nature (Anderson & Dron 2011:82, Moore & Kearsley 2012:23-44).

Below is a visual representation of the five generations of DE



(Adapted from Moore & Kearsley 2012: 24)

A reflection on the above discussion reveals that the evolution of DE, according to Moore and Kearsley (2012), is primarily explained in terms of the technology that underpinned DE during each respective generation. Heydenrych and Prinsloo (2010:5), however, argue that explaining the trajectory of DE in terms of technology alone is not sufficient. They postulate that when looking at the trajectory of DE, issues like “pedagogy, context, technology and the broader educational project” (Heydenrych & Prinsloo 2010:5) should be taken into consideration. In this light Heydenrych and Prinsloo (2010:14-21) offer a different perspective on the generations of DE as tabulated in table 3.1 below. Table 3.1 as adapted from Heydenrych and Prinsloo (2010:14-21) offers an overview of the generations of DE taking into account the following: the **time period** of each generation, the **key features** that are synonymous with the respective generation, the **nature of the pedagogy** identified with the individual generation, the **type of interaction** that occurred in the specific generation, the **medium** used to deliver the educational content and the **mode of delivery** used to communicate with the student.

**Table 3.1 Generations of DE**

<b>Period</b>	<b>Key features</b>	<b>Nature of pedagogy</b>	<b>Interaction</b>	<b>Medium</b>	<b>Delivery</b>
1451–1916 CE: First generation	Printing press to correspondence	Behaviourist	Content dominated by print technology Mass delivery of DE	Text and images Advent of film	Mail system
1918–1955: Second generation	Progress in media recording, film, animation, radio & television, mass media and technologies	Behaviourist Cognitivist	Limited interaction Mass delivery of DE	Text, images, sound, video Start of instructional television	Mail system/television/telephone/sound playback equipment
1956–1968: Third generation	Multimedia, computer animation and computer assisted learning-interactive content	Behaviourist Cognitivist Constructivist	Mostly asynchronous with limited interaction	Text, images, sound, video, instructional & live television	Mail system/television/telephone/computers/video and sound playback equipment First computers used to send batches of data
1969–2005: Fourth generation	Video-conferencing, audio-graphics, the internet and WWW – sharing of resources, asynchronous and live communication – integration of media and technology for multiple platforms (freedom to select) – student and teacher options	Behaviourist Cognitivist Constructivist Social Constructivist	Asynchronous and synchronous interaction – mass delivery becomes problematic and demands for interaction challenge ICTs	Text, images, sound and video	Mail system/television/telephone/computers/video and sound playback equipment Computers starting to become a generic device and WWW (Internet) as a generic platform

<p>Present day: Fifth generation</p>	<p>Video-conferencing, audio-graphics, the Internet and WWW – sharing of resources, asynchronous and live communication – integration of media and technology for multiple platforms (freedom to select) – learner and teacher options – the rise of Web 2 technologies</p>	<p>Behaviourist Cognitivist Constructivist Social Constructivist</p>	<p>Asynchronous and synchronous interaction – mass delivery becomes problematic and demands for interaction challenge ICTs</p>	<p>Text, images, sound and video</p>	<p>Mail system/television/telephone/computers/video and sound playback equipment Computers starting to become a generic device and WWW (Internet) as a generic platform</p>
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*Adapted from Heydenrych and Prinsloo (2010:14-21)*

The table above, based on Heydenrych and Prinsloo (2010), presents five generations of DE. The first generation was print dominated and focused on behaviourist pedagogies. The second generation was characterised by media such as radio and television, although interaction was still limited. As regards learning theories, behaviourism and cognitivism were favoured in the second generation of DE. Constructivist approaches to learning made an appearance in the third generation of DE through computer-assisted learning. Interaction occurred asynchronously, however it was still limited. The fourth and fifth generations of DE are described by Heydenrych and Prinsloo (2010) as being characterised by communication that takes place asynchronously and synchronously and is made possible through the internet and technology. Social constructivist approaches to learning appeared in the fourth and fifth generations of DE.

A reflection on the above table shows that as technologies evolved so did the manner in which DE was offered. Where DE was once offered solely by means of print technology, today DE is offered through various ICTs with communication taking place both online and offline. The table above further illustrates that as technological advancements altered the way in which DE was offered, pedagogies changed in parallel to these technological advancements. Behaviourism and cognitivism, which focus on learning in an individualistic manner (see sections 2.3.1 and 2.3.2), featured largely in the first two generations of DE, which made use of mass delivery. As ICTs became available, interaction increased and was coupled with constructivist and social constructivist approaches (see section 2.3.3 and 2.3.4) to learning.

A comparison of the above perspectives on DE as described by Moore and Kearsley (2012) and Heydenrych and Prinsloo (2010) reveals that the most recent era of DE is characterised by online learning made possible through ICTs and the internet. In this regard, Anderson and Zawacki-Richter (2014:490) point out that online DE may be regarded as a natural extension of DE into another medium. In the next section, the way in which teaching and learning occurs in online DE environments is discussed.

### **3.4 TEACHING AND LEARNING IN ONLINE DISTANCE EDUCATION CONTEXTS**

Swan (2010:109) maintains that where DE was once characterised by an industrial form of education, today DE occurs in a post-industrial era characterised by online learning. Online learning in DE is student-centred and fosters collaboration and inquiry-based approaches. Swan (2010:109) furthermore argues that online learning in DE environments employs social constructivist epistemologies. In agreement with this are Cleveland-Innes and Garrison (2010:18), who highlight that the post-industrial form of DE is characterised by two trends, the

first is the adoption of the internet and ICTs and the second is a shift in pedagogical underpinnings and approaches. These underpinnings and approaches foster the development of communities of inquiry made possible through online learning environments (Cleveland-Innes & Garrison 2010:19). Through these online learning environments students can engage in interaction at any time and place, and this fosters the development of sustainable communities of inquiry (Cleveland-Innes & Garrison 2010:19).

A reflection on the above highlights that the post-industrial era of DE adopts an online approach to learning. Coupled with this online approach to learning is social constructivist methods that are inquiry based and focus on the student. Fostering online communities of inquiry is also characteristic of the post-industrial era of DE.

Swan (2010:110-113) argues that in DE, teaching and learning in online environments is made possible by certain trends which include access to information, multimedia integration, collaboration and constructivism. These trends are outlined below:

#### **3.4.1 Access to information**

The World Wide Web (WWW) has made it possible for lecturers to adopt pedagogical approaches that directly engage students in the learning situation. Lecturers no longer merely have to transmit information to students. Instead, through the WWW, students are exposed to vast amounts of information which they have to process and use in such a way that they generate knowledge themselves.

#### **3.4.2 Multimedia Integration**

Multimedia enables information to be accessed, evaluated, manipulated, created and shared in a variety of forms. Multimedia tools such as YouTube, for example, provide lecturers with the opportunity to engage students by requiring them to draw on a different set of intellectual skills. Lecturers should therefore leverage the affordances of multimedia tools to engage students in higher-order thinking.

#### **3.4.3 Collaboration**

Innovative technology has led to the development of applications that can foster the development of digital knowledge in a collaborative manner. One such example is the online encyclopaedia Wikipedia, which allows contributors to generate digital knowledge on virtually

any subject. Knowledge is created in a social constructivist manner favouring collaborative pedagogical approaches.

### **3.4.4 Constructivism and online learning**

Swan (2010) provides a discussion of the relationship between online learning and constructivism. In doing so, Swan (2010:114-120) has taken the four characteristics as postulated by Bransford et al (2000 as cited in Swan 2010:114-120) that make environments constructivist in nature and used these as a background in order to relate constructivism to online environments.

These four characteristics include student-centred learning environments, knowledge-centred learning environments, assessment-centred learning environments and community-centred learning environments, as discussed below.

#### **3.4.4.1 Student-centred learning environments**

A student-centred learning environment focuses on the prior experiences that students bring to the learning situation. The fact that each student will interpret learning differently is acknowledged and encouraged. In essence, the focus is on how students learn as opposed to how students are taught. Swan (2010:116) argues that the use of online discussions can harvest the development of knowledge in a constructivist manner. Online discussions provide an opportunity for all students to contribute their opinions and thoughts about the subject matter and to negotiate meaning in an open environment.

#### **3.4.4.2 Knowledge-centred learning environments**

From a constructivist perspective knowledge-centred learning environments foster deep and meaningful learning that challenges and engages students. In this way the material that students learn will be integrated individually for each student. Online learning environments can be designed to foster knowledge-centred learning environments by including creative and challenging materials and activities (Swan 2010:115).

#### **3.4.4.3 Assessment-centred learning environments**

Constructivists believe that the use of consistent feedback assists students to learn. Through feedback students can reflect and reconstruct meaning accordingly. In this regard the nature

of assessments should lead to student learning. Online learning environments provide a platform for assessment-centred learning environments through the use of e-portfolios and discussion forums as examples. Peer-assessment and self-assessment can also be incorporated in the online activities, thus providing an opportunity for feedback (Swan 2010:118-119).

#### **3.4.4.4 Community-centred learning environments**

Learning communities support the construction of knowledge socially. Learning is therefore meaningful in a community environment which allows the voices of all the students to be heard. Within this community meaning should be negotiated among members of the community. Learning in communities also allows students to draw on their own experiences in an authentic environment. Swan (2010:120-121) argues that community-centred learning environments can be created in online learning environments through the use of the World Wide Web, where a community of users makes contributions to issues through online discussions and all students are given a platform to discuss and debate the topics under discussion.

A reflection on the above discussion highlights that themes that emerge from the various trends that make online learning possible in DE are the use of technologies coupled with constructivist learning environments. As the post-industrial era of DE is primarily characterised by online learning, the concept of online learning as well as its challenges and affordances are discussed below.

### **3.5 DEFINING ONLINE LEARNING**

According to Cleveland-Innes and Garrison (2010:19-20),

*online learning represents a range of practices based on the internet that provides synchronous and asynchronous communication in a personal and group environment. Online learning goes beyond accessing information on the Web. It is the integration of connectivity (interaction, discourse) with asynchronicity (independence) as well as the potential to combine different forms of communication (text, verbal, visual).*

Kreber and Kanuka (2006:111) describe online learning as “the use of internet communication technologies to enhance and/or support learning in higher education, including technology-enhanced learning, blended/hybrid, and fully distance delivered”.

A reflection of these definitions reveals that online learning is a form of learning that is made possible through the internet, which enables communication to take place between the student and the institution. Through online learning users will have the opportunity to interact with each other and engage in and combine different forms of communication. If implemented correctly, online learning can both enhance and support learning.

Online learning offers many affordances as outlined below.

### **3.5.1 Affordances of online learning**

Olson and Carroll (2012:51) maintain that online learning environments provide a platform for rich educational resources to be offered in several media types and can support communication both synchronously and asynchronously. In DE environments particularly, online learning is useful in bridging the distance between the institution and the student by providing immediate access to study materials and the lecturer (Gulati 2008:2, Olson & Carroll 2012:52, Bhuasiri, Xaymoungkhoun, Zo, Rho & Ciganek 2012:843, Venkatesh et al 2014). Moreover Olson and Carroll (2012:53-55) state that online learning environments provide an opportunity for the lecturer to act as a facilitator. This allows the students to engage in interactive learning as they are able to engage with each other, thereby learning from each other (Boling et al 2011:124, Guri-Rosenblit 2012:6, Council on Higher Education 2014:6). This form of engagement creates a sense of community learning and collaboration (Palloff & Pratt 2001:32-33, Veletsianos 2010:69, Cleveland-Innes & Garrison 2010:148, Minnaar 2011:484, Boling et al 2011:124, Council on Higher Education 2014:39, Venkatesh et al 2014). On the issue of collaboration, Palloff and Pratt (2001:32-32) assert that collaborative learning is beneficial as it creates an opportunity for students to establish shared goals. By establishing shared goals, students will engage in shared exploration and shared meaning making, which in turn promotes critical thinking (Council on Higher Education 2014:39).

Online learning environments can additionally support reflective learning (Veletsianos 2010:69, Palloff & Pratt 2001:33, Council on Higher Education 2014:39). Reflective learning is important as it allows the student to engage with the course and assists in developing lifelong learning skills within the student. West et al (2013:137) maintain that online learning environments have the potential to harvest both intrinsic and extrinsic aspects of motivation

which influences persistence when learning independently at a distance (Naidu 2014b:2). Means, Bakia and Murphy (2014:38) and Bhuasiri et al (2012:843) suggest that online learning environments can foster interactivity by immersing learners in real-life environments. Online learning environments also offer the possibility of customisation regarding the pacing of the course, the content used in the course and the amount of scaffolding provided to students (Bhuasiri et al 2012:843, Means et al 2014:38). Conole (2014:218) postulates that online learning environments have the potential to promote interpersonal communication and social activity.

Open practices, such as using open educational resources (OERs) and massive online open courses (MOOCs), are also possible in online learning environments (Conole 2014:224-226). Online learning furthermore has the potential to provide a platform for creating democratic and accessible educational opportunities and can lower the costs in developing countries to reach students who are excluded from education (Gulati 2008:1, Kajee & Balfour 2011:188). Venkatesh et al (2014:111) point out that online learning environments have the potential to promote communication between the student and the lecturer, as well as to foster feedback in the learning encounter.

A reflection on the above discussion highlights that online learning offers many affordances. These affordances as extracted from the above literature are summarised in table 3.2 below.

**Table 3.2: Affordances of online learning**

<b>Main ideas emerging from the literature as regards the affordances of online learning:</b>
Synchronous and asynchronous communication
Access
Interactive learning
Community learning
Collaboration
Critical thinking
Reflective learning
Motivation
Open practices
Communication
Feedback

Online learning is made possible through several ICTs. Conole (2014) highlights a list of several ICTs that can be utilised in the online learning environment as well as the affordances these ICTs offer. A list of these technologies and their affordances follows next.

**Table 3.3: Technology plus affordances**

<b>Technology</b>	<b>Affordance</b>
The Web	Social mediation, user-generated content
Tools for sharing e.g. Flickr, YouTube, SlideShare, Instagram	Sharing images, videos, presentations
Blogs, wikis, micro-blogging	Content production, communication, collaboration
Social networking e.g. Facebook, Elgg, Ning	Connects people and supports communities of practice
Smart phones, tablets, e-books	Provide access to a plethora of learning materials and the possibility of sharing and discussing materials
Game-based learning	Authentic, role-based and immersive learning
Open educational resources (OER)	Open practices
Learning analytics	Provide evidence to support effective learning environments

*Adapted from Conole (2014:220-228)*

The above table highlights a range of technologies available for use by lecturers and students alike in the online learning environment. Conole (2014:233) advises that when deciding which technology to select, lecturers should consider their needs and make informed decisions based on these needs.

Although online learning offers many affordances it also presents a number of challenges.

### 3.5.2 Challenges of online learning

Despite the affordances that online learning offers, it presents challenges as well. Khan, Hasan and Clement (2012:62) point out that in developing countries online learning is faced with several challenges. These include a lack of ICT infrastructure such as reliable electricity and up-to-date hardware and software, as well as a lack of high speed internet connectivity (Khan et al 2012:63). In this regard, Brown (2012:43) points out that in developing countries a pertinent challenge is finding a balance between using ICTs for online learning in such a way that students are not further disadvantaged, while at the same time offering students opportunities to participate in the current globalised, knowledge-based society. In these countries, the ability to engage in online learning is also hindered by a lack of funds as many people live below the international poverty line and therefore have challenges accessing the necessary hardware and software (Khan et al 2012:68). Users' lack of education and skills to navigate the online environment is a further challenge identified by Khan et al (2012:70). In addition, lecturers' attitudes and beliefs about online learning influence their likeliness to engage in online learning environments. In addition, lecturers are faced with the challenge of insufficient time to design, develop and integrate online learning practices (Khan et al 2012:71-72).

Conole and Alevizou (2010:23) points to the issue of digital literacies and explains that working online requires a new set of skills and a new way of thinking. The term *digital literacies* refers to more than just the ability to use software and operate digital devices. To be digitally literate requires a range of cognitive, sociological and emotional skills that allows one to effectively function effectively in a digital environment (Elt-Alkhalai 2004:93). Conole and Alevizou (2010:23) point out that digital literacies must be addressed so that users can navigate the online learning environment effectively. Conole and Alevizou (2010:24) further explain that in online learning environments the boundaries between formal and informal learning are blurred. Another challenge to online learning as identified by Oye, Salleh and Iahad (2011:43) and Todhunter (2013:239) is the issue of the digital divide, which refers to the gap between people who have access to ICTs and the people who do not, as well as to issues of usage and usage benefit (Compaine 2001:321, Fuchs & Horak 2008:99). Oye et al (2011:43) further explain that the limited expertise of staff members in institutions of higher education also poses a challenge to online learning.

Gibbs (2004) and Kelly and Mills (2007, as quoted in Brindley 2014:300) highlight that online learning requires students to practise self-directedness and maturity, which all students are not able to display. The issue of quality is addressed by Latchem (2014:313), who states that

the quality of courses can be compromised in online education and argues that stakeholders must provide evidence that online education is equivalent to traditional forms of education. In discussing the challenges to online learning, Mtebe, Dachi and Raphael (2011:289) identify first-order barriers, which they refer to as technical and administrative support, and second-order barriers, which they refer to as individuals' readiness to accept change and their belief systems about online learning, as posing challenges to online learning.

The above discussion reveals several challenges that influence the success of online learning. These challenges, as extracted from the above literature, are summarised in table 3.4 below.

**Table 3.4: Challenges of online learning**

<b>Main ideas emerging from the literature as regards the challenges of online learning:</b>
ICT infrastructure (reliable electricity, hardware/software, internet connectivity)
Lack of skills/education to navigate the online environment
Attitudes and beliefs about online environments
Lack of time
Blurred boundaries between formal and informal learning
Digital literacies
Digital divide
Inability to practise self-direction or a lack of maturity
Issues of quality
Readiness to accept change

As the above discussion indicates, online learning presents a number of challenges, however the affordances it offers make it a viable form of learning. What is important is to implement online learning in an appropriate manner using best practices. In this regard, a discussion of examples of best practices that have been identified as successfully implementing online learning in institutions of higher education follows below.

### **3.6 EXAMPLES OF BEST PRACTICES FOR ONLINE LEARNING IN INSTITUTIONS OF HIGHER EDUCATION**

In order to determine examples of best practices for online learning in institutions of higher education, a literature review was undertaken. Literature from the years 2011 to 2019 was included which focused on examples where online learning had been used successfully in institutions of higher education in different countries. I selected literature from these specific

years as I wanted to look at literature that would still be topical when the findings of the study were published. Below is a summary of the primary findings of the literature review grouped according to the various continents.

### **3.6.1 Asia**

Hou and Wu (2011) conducted a study in Taiwan which paid particular attention to discussions in online environments. The study concluded that online discussions can be improved if lecturers facilitate the discussion process. In this regard lecturers, should encourage participation, ensure that discussions are related to the course and when necessary introduce incentives to encourage participation. Additionally, lecturers should provide guidance to students that will enable them to engage in social knowledge construction (Hou & Wu 2011:1466).

Oncu and Cakir (2011), who present views from Turkey, suggest that for online learning to be successful students need to collaborate and engage with each other. In addition, reliable and valid methods of assessments should be developed by lecturers to determine the achievement of students and their levels of engagement (Oncu & Cakir 2011:1106).

Yildirim and Adnan (2019) also discuss online learning in DE in the context of Turkey and point out several factors that are important for success in this regard. Within the online DE environment, careful planning which is strategic in nature is important. A technological infrastructure that is robust is also important. As regards students and lecturers, they must be adequately trained to function effectively in the online DE environment. Finally, the design and development of online teaching and learning materials must be carefully planned and must be of a high-quality (Yildirim & Adnan 2019).

In a study conducted in Korea with undergraduate students in two distance learning institutions, Sung and Mayer (2012) found that online learning environments can be improved by fostering social presence within the online environment. They propose that social presence is improved when learners' efforts are respected within the online environment and when online instructors and learners share personal information in order to build social relationships (Sung & Mayer 2012:1745). They recommend that online instructors should create an open and welcoming online environment in which learners can openly express their opinions and that online instructors and learners need to be aware of each other's identity by addressing each other by name to establish a feeling of connectedness.

Another study in Korea carried out by Lee, Choi and Kim (2013) with students in an online distance course concluded that for students to be successful in an online course they need to be in a position to practise metacognitive self-regulation skills. It is therefore important for lecturers to assess these skills at the outset of an online course to determine whether learners are in a position to practise metacognitive self-regulation skills (Lee et al 2013:334).

Also in South Korea Lim, Lee and Choi (2019:93) highlight that student enrolment in online programmes increased because the online environment was designed to expose students to curricular that can be transferred to the working environment. They highlight that students showed interest in qualifications that developed knowledge and skills, which are directly related to the working environment.

In discussing online education in DE in China, Li and Chen (2019) refer to the issue of quality. Li and Chen (2019:15-17) highlight that high-quality related strategies for teaching online and the use of high-quality OERs are important factors for success in online DE environments. Interactive video classrooms and learner support are also identified as beneficial in the online DE context.

In India Mythili (2015 as cited in Panda & Garg 2019:32) highlight that the Indira Gandhi National Open University offers an online Postgraduate Diploma in e-learning. Factors that make this programme a success are independent study, students working in groups and collaborating with each other and the completion of practical projects and role-play.

### **3.6.2 North America**

In providing a Canadian view, Kanuka (2011) presents two case studies of online DE and concludes that to facilitate higher levels of online learning, instructional strategies need to be structured and the roles and responsibilities of students need to be specified. Students should also be encouraged to engage with each other by questioning the opinions of their classmates.

Also in Canada, in a study conducted with students in a graduate programme, Cleveland-Innes and Campbell (2012) concluded that emotional presence is present in online learning environments and that it is essential to acknowledge emotion in this environment (Cleveland-Innes & Campbell 2012:285). If lecturers acknowledge and pay attention to emotion in this environment it may lead to establishing a sense of security, well-being and confidence in the learner (Weiss 2000 as cited in Cleveland-Innes & Campbell 2012:286).

Another study conducted in the USA by Boling et al (2011) found that interaction and the establishment of online learning communities is important for successful online learning (Boling et al 2011:124).

Research undertaken by Sun and Rueda in 2012, with students registered for an online course in the USA, revealed that it is important for lecturers to foster emotional engagement in online courses as this increases interest among students. In addition, students who displayed higher levels of self-regulation were more engaged in online activities (Sun & Rueda 2012:202). It is therefore important for lecturers to develop activities that will foster self-regulation among students (Sun & Rueda 2012:201).

Kuo, Walker, Belland and Schroder (2013) investigated online learning environments with both undergraduate and graduate students. Their study found that student satisfaction in online courses is influenced by learner–instructor interaction, learner–content interaction and internet self-efficacy (Kuo et al 2013:33). In this regard they suggest that lecturers should pay attention to the design of their courses to improve learner–content interaction and provide consistent feedback to students to improve learner–instructor interaction (Kuo et al 2013:33). Kuo et al (2013:33) also suggest providing students with training to improve internet self-efficacy.

In a study conducted by Zhang (2013) with students enrolled in an online course in the USA, the results indicated that lecturers should create opportunities for learners to interact with each other in the online setting. Collaboration should also be encouraged between students from various cultural backgrounds and between national and international students (Zhang 2013:249).

A study conducted by Ku, Tseng and Akarasriworn (2013), with graduate students in an online course in the USA over a three-year period, revealed that students showed satisfaction when working collaboratively in the online environment. Students surveyed in the study reported that communicating with their peers assisted them in understanding the course assignments. The survey also revealed that students favoured regular communication among their peers, engaging with interactive software and in synchronous meetings. The survey revealed that students felt that instructors should create a collaborative learning environment by providing encouragement to learners, outlining course objectives, and providing resources and instruction that is structured in nature (Ku et al 2013:928). Online collaboration creates a foundation for interaction and the sharing of resources and activities that encourage higher-order thinking (Oliveira, Tinoca & Pereira 2011:1354). Moreover, online collaborative environments can lead to learning that is active and constructive in nature, the processing of

information at a high level, critical thinking and learning that is goal orientated in nature (Bernard, Rojo de Rubalcava & St-Pierre 2000, Law 2011 & Nam & Zellner 2011 as cited in Ku et al 2013:922).

Seiver and Troja (2014) report on their research conducted with students in an online course in two higher education institutions in the USA, concluding that student satisfaction in online courses is improved when students experience a sense of affiliation (Seiver & Troja 2014:98). They suggest that lecturers can increase affiliation in an online environment by creating opportunities for students to engage in off-topic discussions, allowing students to work collaboratively in groups and providing students with a personalised form of instruction (Chen & Wang 2009, Jung et al 2002, Bray et al 2008 & Nummenmaa 2008 as cited in Seiver & Troja 2014:98).

In a study with students registered in an online course in the USA, Lee (2015:69) reported that lecturers should foster technology self-efficacy among students, as an increase in technology self-efficacy leads to greater persistence in task completion, which eventually leads to better performance. With specific reference to online learning, increased levels of technology self-efficacy could lead to attrition rates being improved in online courses. Lee (2015:69) additionally reports that tasks in online learning environments should be designed in such a way that they are both challenging and interesting so as to engage students.

### **3.6.3 Europe**

A study conducted on an online course by Oliveira et al (2011) in Portugal concluded that online collaboration, in particular working in groups, leads to shared knowledge and knowledge equivalence among students in the online learning environment (Oliveira et al 2011:1355). Activities that fostered collaboration in group work included clarification of focus, reflection, revision and assurance over assessments. In this regard, it is suggested that the lecturer should play a pivotal role in establishing such activities (Oliveira et al 2011:1355-1356).

Research conducted by Capdeferro and Romero in Spain (2012), with distant students registered for courses which required them to complete online activities, concluded that for collaborative tasks to be successful in online learning lecturers should play an active role in the collaborative tasks. This can be done by providing assistance and feedback to students and evaluating the collaborative tasks. The lecturer therefore has a responsibility to ensure

that the group works effectively. Students should also be prepared and equipped with the skills to work collaboratively (Capdeferro & Romero 2012:37).

A study in Sweden undertaken by Viberg and Gronlund (2015), with students in an online distance course, concluded that students favoured self-regulated learning in online environments (Viberg & Gronlund 2015:14). They explained that students regarded feedback from their lecturer as well as interaction with resources as important in the online learning environment (Viberg & Gronlund 2015:14). These students also favoured the use of interactive learning materials in the online learning environment (Viberg & Gronlund 2015:15).

In the United Kingdom, research conducted by Rogerson-Revell (2015) on the use of online learning activities to enhance the learning and assessment experiences of learners in a DE programme found that for online learning to be successful emphasis should be placed on pedagogy and not on the technology. The design of online activities should therefore take the learning outcomes as its starting point and be clearly linked to both formative and summative assessments (Rogerson-Revell 2015:144). Rogerson-Revell (2015:144) highlights that online tasks should engage the students. If this is not the case the design and moderation of the task should be reviewed. Participation in interactive tasks should also be seen as part of the learning process (Rogerson-Revell 2015:145).

Walsh et al (2012) report that distance education institutions offering online courses should create opportunities for interactions that will lead to the development of online learning communities. Lecturers should therefore acquire the skills to encourage, evaluate and support collaboration in the online environment (Walsh et al 2012). Through the development of online learning communities, students will engage in the act of knowledge construction (Palloff & Pratt 2005 as cited in Walsh et al 2012). Walsh et al (2012) report that research conducted at a DE institution in Dublin found that synchronous online tutorials could be used as a mechanism to foster online learning communities, where social interaction and knowledge construction can occur.

#### **3.6.4 Australia**

Hartnett, St. George and Dron (2011) report that research conducted with students taking their courses at a distance found that motivation and recognising the value of a task is important for students engaging in online learning. In this regard, when designing learning activities lecturers should ensure that the activity is clearly linked to the objectives of the course. The relevance and value of completing the activity should be identifiable by students. Lecturers

should also engage in consistent communication with students to keep abreast of factors that might hamper learner motivation and they should respond to these factors accordingly (Hartnett et al 2011:33).

Research conducted by Exter, Rowe, Boyd and Lloyd (2012) on the use of Web 2.0 learning tools for distance education found that when making use of these tools the lecturer for the online course should guide their students consistently and offer clear instruction. The findings further suggest that the use of Web 2.0 tools in an online environment should tie in with the pedagogical goals of the course and the student context. Within this environment, students should also be given the opportunity to contribute. Central to their findings was the role of interaction between the lecturer and the student, the student and the student and both the lecturer and the student with the Web 2.0 online environment (Exter et al 2012:233).

In a study conducted with lecturers and students in three online courses it was discovered that a sense of connectedness in online courses can be fostered by creating an online community of inquiry through the Col framework (Jackson, Jackson & Chambers 2013:365). These authors report that by implementing the Col framework in the three online courses a noted improvement was evident in student satisfaction in terms of engagement with tasks and valuing of peers' perspectives. Students also reported a more positive attitude toward their lecturers after the Col was implemented. An increased level of interaction and recognition for the value of teamwork was also reported by students (Jackson et al 2013:362).

In New Zealand, research conducted by Fields, Lai, Gibbs, Kirk and Vermunt (2016) with students in an online course found that online communities of learning in DE provide both social and academic support to students, which students favoured. Fields et al (2016:65-66) propose that this support can manifest itself in various forms such as engaging socially, making available various viewpoints for discussions at both the course and social levels, developing connections among members of the courses and sharing ideas and coping mechanisms for course completion.

### **3.6.5 Africa**

Munguatosha, Muyinda and Lubega (2011) conducted research in Tanzania and subsequently recommended that for online learning to be successful certain aspects need to be taken into consideration. These aspects include self-efficacy, technical support, administrative support, infrastructure, system interactivity, budgeting, accountability and

organisational culture (Munguatosha et al 2011:317). It is therefore imperative for all stakeholders involved in the online learning experience to consider these factors.

In Nigeria, a study conducted by Eke (2011) concluded that online learning can be successful if the necessary ICT infrastructure is in place and if students are trained and equipped with the necessary online learning skills (Eke 2011).

A study conducted by Tarus, Gichoya and Muumbo (2015) in three Kenyan universities recommends that for online learning to be successful online content should be relevant and meet quality standards. They also recommend that the necessary ICT infrastructure needs to be in place. In addition, they suggest that institutions of higher education should formulate operational policies for online learning and that all lecturers should be adequately trained and equipped with online learning skills (Tarus et al 2015:134-135).

Mtebe (2015) studied research conducted in sub-Saharan Africa, concluding that online learning can be improved by the formulation and inclusion of online materials that are of a high-quality standard. Support services should also be rendered to both lecturers and students and all relevant policies related to online teaching and learning should be reviewed and implemented (Mtebe 2015:55-56). Mtebe (2015:58) furthermore suggests that social media like Facebook and LinkedIn can be used in conjunction with online learning, as social media offers tools that foster communication.

Liebenberg, Chetty and Prinsloo (2012) carried out research in South Africa that investigated students' access to technology and their capabilities to use technology in an ODL institution. The results of the research revealed that access to ICTs and the skills to use ICTs vary among students (Liebenberg et al 2012:265). It is therefore important for institutions of higher education to consider these factors if ICTs are to be used effectively for online learning (Liebenberg et al 2012:265).

Glennie and Mays (2013) offer a South African perspective on the successful implementation of online learning in DE. They propose that in the online environment students should be provided with clear guidance on the completion of tasks. Lecturers should ensure that they are actively present, and students should be given the opportunity to create an online presence (Glennie & Mays 2013:139). In addition, issues of access and students' online skills should be taken into consideration and both students and lecturers should be equipped with the necessary online skills (Glennie & Mays 2013:140).

Following research conducted in South Africa, Mbatl and Minnaar (2015) recommend that for online learning to be successful lecturers should be knowledgeable about the online competencies of learners as this will provide lecturers with prompts as to when intervention is needed. Students should also be given the opportunity to apply the knowledge they have gained. Additionally, students should be provided with support by means of feedback, formative assessments and scaffolding. Opportunities should also be created whereby students can learn in social contexts (Mbatl & Minnaar 2015:282).

Also in South Africa, a study conducted by Swart (2015) found that students who actively engage in the online environment proved to have better pass rates than students who were not active. The study further revealed that access to and support within the online environment played a role in student achievement. Considering this it is therefore important for institutions to leverage the benefits of online environments (Swart 2015:11).

Prinsloo (2019:77) highlights that compulsory online courses offered at the University of South Africa in various disciplines makes use of digitised teaching and learning resources. The creation of interactive learning environments between lecturers and students and students and students, has proved to be effective and beneficial for students.

### **3.6.6 Cross-continental research**

A study conducted by Zhu (2012) with students registered in both Chinese and Belgian universities concluded that online learning is improved when students learn with peers. Zhu (2012:134) postulates that peer learning improves students' individual performance and team performance. Through learning in groups students have been shown to formulate more effective ideas and thoughts (Zhu 2012:134).

Van den Berg, Joffe and Porto (2016), who conducted research with students taking a collaborative online course at the University of South Africa and the University of Maryland University College, concluded that for students to succeed in online courses they must receive adequate support. Student support should occur at the initial stages of the course when students are still learning to navigate the online learning system. Providing student support early on will assist students to move toward practising self-regulation and independence, which are characteristic of adult learning (Van den Berg et al 2016:205). Adequate time management was also identified as crucial for students to succeed in online learning environments (Van den Berg et al 2016:200). The academic culture of the institution including educational systems, pedagogy, the learning process, ethics, student behaviour, student

beliefs, and practices associated with students' working lives were furthermore cited as having an influence on online learning and should therefore be taken into consideration for successful online learning (Van den Berg et al 2016:205).

A reflection on the above literature shows that there are several examples of best practices in online learning. Among the best practices that have emerged from these examples, a link can be noted between some of these practices and the common views (independence, communication and metacognition) that have emerged from the primary theories that will guide this study (see table 2.4). These examples of best practices as well as their links with the common views from the primary theories (see table 2.4) are summarised and tabulated below.

**Table 3.5: Examples of best practices**

<b>Authors/Year</b>	<b>Continent</b>	<b>Emerging examples of best practices for online learning</b>	<b>Link between best practices and common views from primary theories (see table 2.4)</b>
Hou and Wu (2011)	Asia	Lecturers to facilitate online discussions (encourage participation, ensure relevant discussions, introduce incentives, provide guidance)	Communication
Oncu and Cakir (2011)	Asia	Foster collaboration and engagement Develop reliable and valid assessments	Communication  Metacognition
Sung and Mayer (2012)	Asia	Foster social presence	Communication
Lee et al (2013)	Asia	Students to practise metacognitive self-regulation skills	Independence and metacognition
Yildirim and Adnan (2019)	Asia	Strategic planning of online learning Robust technological infrastructure Adequate training for lecturers and students Well-planned high quality teaching and learning materials	No link between common views of primary theories and findings of this study
Lim, Lee and Choi (2019)	Asia	Curriculum that is focused on work related knowledge and skills	No link between common views of primary theories and this particular finding
Li and Chen (2019)	Asia	High-quality related strategies to teach online Use of high-quality OERs	Communication and metacognition

		Use of interactive video classrooms Learner support	
Mythili (as cited in Panda & Garg 2019)	Asia	Independent study Group work and collaboration Completion of practical projects	Independence, metacognition and communication
Kanuka (2011)	North America	Instructional strategies to be structured/specify roles and responsibilities of students Students to engage with each other	Independence Communication
Cleveland-Innes and Campbell (2012)	North America	Foster emotional presence	Communication
Boling et al (2012)	North America	Foster interaction and development of online learning communities	Communication
Sun and Rueda (2012)	North America	Foster emotional engagement and self-regulation	Communication, independence and metacognition
Kuo et al (2013)	North America	Foster learner–instructor interaction, learner–content interaction and internet self-efficacy	Communication and independence
Zhang (2013)	North America	Foster interaction and collaboration	Communication
Ku et al (2013)	North America	Foster collaboration, communication and engagement with interactive software	Communication and metacognition
Seiver and Troja (2014)	North America	Cultivate sense of affiliation	Communication
Lee (2015)	North America	Increase ICT self-efficacy Design challenging and interesting tasks	Independence Metacognition
Oliveira et al (2011)	Europe	Foster collaboration	Communication

Capdeferro and Romero (2012)	Europe	Lecturers to play active role in collaborative learning Students to be prepared for collaborative learning	Communication Independence
Viberg and Gronlund (2015)	Europe	Foster self-regulated learning Lecturers to provide feedback Students to engage with interactive learning materials	Independence Communication Metacognition
Rogerson-Revell (2015)	Europe	Emphasis to be placed on pedagogy not technology Creation of interactive tasks that engage students	Metacognition
Walsh et al (2012)	Europe	Develop online learning communities Foster collaboration	Communication
Hartnett et al (2011)	Australia	Value of tasks to be recognisable by students Motivation important variable in online learning	No link between common views of primary theories and findings of this study
Exter et al (2012)	Australia	Use of ICT to tie in with pedagogical goals  Interaction between lecturer and student, student and student and student with online tools	No link between common views of primary theories and this particular finding Communication
Jackson et al (2013)	Australia	Create connectedness by establishing communities of inquiry	Communication
Fields et al (2016)	Australia	Development of online communities	Communication
Munguatosha et al (2011)	Africa	Consider: self-efficacy, technical support, administrative support, infrastructure, system	No link between common views of primary theories and findings of this study

		interactivity, budgeting, accountability and organisational culture	
Eke (2011)	Africa	ICT infrastructure to be in place Students to be trained in online learning skills	No link between common views of primary theories and findings of this study
Liebenberg et al (2012)	Africa	Access to online learning and student online skills are important factors for online learning	No link between common views of primary theories and findings of this study
Glennie and Mays (2013)	Africa	Clear guidance to be provided to students Lecturer actively present Students to have an online presence Access to online environments Students' online skills to be considered Training to be provided to both lecturers and students	Communication Communication Communication and independence No link between common views of primary theories and these particular findings
Tarus et al (2015)	Africa	Online content should be relevant and of a high quality Institutions to have operational policies for online learning Lecturers to be trained for online learning	No link between common views of primary theories and findings of this study
Mtebe (2015)	Africa	Online material should be of a high quality Support services to be rendered to students and lecturers Coupling of social media and online learning	No link between common views of primary theories and findings of this study

Mbati and Minnaar (2015)	Africa	Lecturers to be knowledgeable about students' online competencies Students to apply knowledge gained Support to be provided to students Students to learn in social contexts	No link between common views of primary theories and this particular finding Metacognition Communication No link between common views of primary theories and this particular finding
Swart (2015)	Africa	Access to online environments is important for online learning Student support is important for success in online learning	No link between common views of primary theories and this particular finding Communication
Prinsloo (2019)	Africa	Digitised teaching and learning resources Interactive learning environments	Communication and metacognition
Zhu (2012)	Cross continental	Foster peer learning	No link between common views of primary theories and findings of this study
Van den Berg et al (2016)	Cross continental	Time management crucial for successful online learning Academic culture must be taken into consideration Students must receive student support	No link between common views of primary theories and this particular finding No link between common views of primary theories and this particular finding Communication

### 3.7 CONCLUSION

This chapter began by unpacking all national policies applicable to the research topic. This was followed by a discussion of the term DE followed by the various generations applicable to DE. Coupled with this was a review of the manner in which teaching and learning takes place in DE. A definition of the term *online learning* followed together with a discussion of the affordances and challenges that underpin online learning. The chapter concluded with a review of global best practices for online learning in institutions of higher education.

This chapter shaped the empirical study firstly with reference to the development of the research instruments (see Appendices C, F and G). The literature review highlighted teaching and learning in online DE contexts as well as the challenges and opportunities regarding online learning. These challenges in turn informed the design of the research instruments. This chapter secondly informed the findings and discussion of the empirical research (see chapter 5), as well as the synthesis of the findings (see section 6.4) and the research conclusions (see section 6.5).

The following chapter includes a discussion of the research design and the methods that were employed in this study.

## CHAPTER 4

### RESEARCH DESIGN AND METHODS

#### 4.1 INTRODUCTION

This chapter presents the empirical research conducted for this study. The rationale for the empirical research is addressed first. This is then followed by a discussion on the research design and approach. An account of the measures implemented to ensure trustworthiness is subsequently explored. The chapter concludes with the procedures that were followed to ensure the ethical soundness of the study.

#### 4.2 RATIONALE FOR EMPIRICAL RESEARCH

Online learning via ICTs is deployed in institutions of DE around the globe (Siemens & Matheos 2010, Hartnett et al 2011, Wilson 2012, Prinsloo & Coetzee 2013, Viberg & Gronlund 2015.). Despite this deployment and the affordances that online learning offers (Gulati 2008, Olson & Carroll 2012, Bhuasiri et al 2012, Guri-Rosenblit 2012, Venkatesh et al 2014), research has shown that online learning has not led to transformed pedagogical practices (Conole & Alevizou 2010, Lwoga 2012, Agariya 2012, Caird & Lane 2013).

In light of the above, research that pays specific attention to finding effective ways of employing online learning that is pedagogically sound will be beneficial. Abrami, Bernard, Bures, Borokhivski and Tamim (2011:84) furthermore postulate that research which focuses on DE and online learning garrwill be beneficial in advancing theory and practice. As regards online DE environments, Conole (2014:20) goes on to highlight that there is a shortage of studies that are solidly grounded in theory. It was in response to this identified need for research in online DE environments, that the empirical research for this study was conducted. This research aimed to identify best practices for integrating online learning in a DE context, with the aim of answering the following main and sub-research questions:

***How can online learning be integrated in distance education?***

***The main research question was addressed by exploring the following sub-research questions:***

- 1 How are lecturers currently integrating online learning in distance education?

- 2 What are the opportunities and challenges regarding the integration of online learning?
- 3 What are best practices for integrating online learning in distance education?

To answer the main and sub-research questions I carried out empirical research as is explained below.

### **4.3 RESEARCH PARADIGM**

A paradigm is described as a basic set of beliefs that guides action during research (Guba & Lincoln 1994:107). Paradigms are considered to be the manner in which the world is viewed. All paradigms are underpinned by certain ontological, epistemological and methodological assumptions (Guba & Lincoln 1994:107). Ontological assumptions deal with the form and nature of reality, as well as what can be known about reality (Guba & Lincoln 1994:108). Epistemological assumptions on the other hand deal with the relationship between the inquirer and the participants of a study (Guba & Lincoln 1994:108). Methodological assumptions, refer to the manner in which knowledge will be gained (Guba & Lincoln 1994:108). This study is grounded in constructivism (as mentioned in section 1.7.1), which is underpinned by certain ontological, epistemological and methodological assumptions as discussed below.

#### **4.3.1 Ontological assumptions**

Constructivism rests with the ontological assumption that realities are relative in nature (Guba & Lincoln 1994:110). This implies that realities are mentally constructed by individuals based on their experiences and their interactions with other members of society (Guba & Lincoln 1994:110). In terms of constructivism, social realities emanate from the intellect of the individual. As such, realities can be multiple and conflicting in nature (Guba & Lincoln 1994:111, Lincoln et al 2011:103). Because individuals construct their own and varied realities, researchers must participate in the research process together with the participants to ensure that the knowledge produced is indeed a true reflection of the participants' realities. Within the context of this study I immersed myself in the research process by personally collecting and analysing all the data. I employed various data collection methods (see section 4.6.3) to ensure that I received in-depth and valid data that matched the realities of the participants. Participating in the research process enabled me to obtain an in-depth understanding of the participants' views and experiences of online learning, which in turn enabled me to answer the research questions of the study.

### **4.3.2 Epistemological assumptions**

The epistemological assumption underpinning constructivism is that the investigator and the object of investigation should be linked in an interactive manner (Guba & Lincoln 1994:111). As such, the findings are created while the researcher is in the field. In light of this, I entered the field with no preconceived ideas of how the research questions should be answered; instead I searched for answers to the research questions as I interacted with the various data collection methods (see section 4.6.3). The participants were used as a source of knowledge, who provided me with both verbal and non-verbal accounts of their lived experiences (Lincoln et al 2011:104). This verbal and non-verbal interaction with the participants enabled me to establish findings which enabled me to answer the research questions.

### **4.3.3 Methodological assumptions**

Constructivism rests on the methodological assumption that for constructions to be produced and refined there must be interaction between the investigator and the respondent (Guba & Lincoln 1994:111). Interaction is therefore key to the production of knowledge. I interacted with participants through the various data collection methods (as described in section 4.6.3). By analysing the participants' questionnaires, interviews and online module sites I was able to gain an understanding of the way in which participants used online learning, as well as their overall experiences and challenges regarding online learning.

## **4.4 RESEARCH DESIGN**

I deemed a case study to be a suitable design as its characteristics are well suited to the research questions formulated for this study. Yin (2011:17) postulates that a case study explores a phenomenon in its everyday context. A case study is empirical in nature and studies human beings, with the questions that are asked being based predominantly on the experience of the participant (Stake 2005:454). McMillan and Schumacher (2010:344) explain that a case study is a detailed analysis of a single entity, which is bounded in nature. Creswell (2012:465) concurs, highlighting that key to a case study is the obtaining of an in-depth understanding of the phenomenon being explored. Hence, the scholars cited here agree that the purpose of a case study is to comprehensively explore a phenomenon within its real-life context. The phenomenon is explored primarily from the experience of others. This study ties in with the characteristics of a case study as its primary aim was to establish the manner in which online learning can be integrated in DE.

This case study was instrumental in nature because the primary issue of interest was to explore the manner in which online learning can be integrated in DE, while the actual case (the participants at the research site) was regarded as secondary (Stake 2005:445). Creswell (2012:465) furthermore explains that when an instrumental case study is employed the case is used to illuminate the phenomenon being explored. In this study, the participants at the research site were the case that enabled me to explore the phenomenon of online learning in DE. As the case was regarded as crucial for answering the research questions, the selection of the participants and the way in which they made up the case of this study is explained in detail (see section 4.6.2).

Data for the empirical research was collected using open-ended questionnaires, interviews and document analysis (see section 4.6.3), as is characteristic of a case study (McMillan & Schumacher 2010:345-346). While collecting data I did not merely focus on gathering surface information; instead I explored the primary phenomenon of integrating online learning in DE, by exploring the way in which the participants used online learning and what they regarded as opportunities, challenges and best practices. I obtained this information by interacting with the participants and consistently reflecting on the data (Stake 2005:45). Reflecting on the data helped me to unpack the phenomenon of integrating online learning in DE, thereby answering the main and the sub-research questions.

#### **4.5 RESEARCH APPROACH**

This study lent itself to a qualitative approach. Denzin and Lincoln (2005:3-4) postulate that qualitative research views the world in an interpretive and natural manner. Snape and Spencer (2003:3) concur with this, stating that qualitative research is naturalistic and interpretive in nature. This study was interpretive in nature as the research questions aimed to reveal and interpret how lecturers integrate online learning in DE by identifying the opportunities, challenges and best practices regarding the integration of online learning. This inquiry occurred in the participants' natural setting, i.e. their workplace, which is where they engaged in online learning.

To explore the research questions, I interacted directly with the participants to understand their views and experiences regarding online learning in DE, based on their social worlds (Snape & Spencer 2003:3, Yin 2011:8) Data were collected using questionnaires, interviews and online module sites in an open-ended and emerging manner, as is characteristic of qualitative research (Yin 2011:8). This implies that participants were not confined to the research instruments, but instead were open-ended questions that elicited responses in which they

could openly express their views and experiences (Yin 2011:8). During the interviews, I did not follow the interview schedule strictly (see Appendix C) because I found that topics emerged during that interviews that had not been covered in the interview schedule. I therefore allowed the participants to discuss topics that were not planned for, but were relevant to the main and the sub-research questions of the study.

As I engaged with the participants through the questionnaires and interviews and their online module sites, I became immersed in their worlds. I additionally studied the contextual conditions (Yin 2011:8) at the research site by conducting a document analysis (see section 4.6.3.1). Engaging with the various data collection methods (see section 4.6.3) allowed me to gain an in-depth understanding of the participants' views and experiences of online learning in DE (Yin 2011:8). Accordingly, I was able to present the findings in a manner that reflects the participants' realities (Yin 2011:8). In presenting the findings, I have not merely documented the findings as stated by the research participants but have also presented the findings in terms of the themes (see chapter 5 and 6) and patterns that emerged from the data, as is characteristic of qualitative research (Yin 2011:8).

## **4.6 RESEARCH METHODS**

This research methods section begins by describing the research site for this study. This is followed by an explanation of the selection of the participants and the sampling procedures that were followed. The chapter concludes with an account of the data collection methods that were used.

### **4.6.1 Research site**

The research site for this study was an ODL university situated in South Africa. This university is regarded as the largest of its kind and is the longest standing distance learning university in the world. The university was established in 1873 and became the first university globally to teach through the method of distance education. At present the university offers qualifications to over 400 000 students.

The university welcomes change and as such has recognised the changing context of the higher education landscape. Within this changing context the university has identified ICT as a change agent with the potential to prepare students for the technologically driven world we find ourselves in. Accordingly, one of the university's aims is to integrate ICT into its operations. The university hopes to do this by creating an environment that is paperless. This

will be made possible if all students have access to the necessary hardware and software. The use of online tutors and mentors has also been implemented to assist students. In addition, the university aims to create an environment that is characterised by open licensing in order for students to have access to a wide range of study materials.

In terms of teaching and learning the university employs an ODeL model. In terms of this model, lecturers make use of a blended approach to teaching and learning. At present every academic college requires students to register for and pass one online course. This is part of the university's goal of rethinking teaching and learning in terms of online learning.

I deemed this university to be a suitable research site because it is a DE institution in nature and has a special focus on the use of online learning. These characteristics directly tie in with the research questions for this study (see section 4.2) and as such it was well suited to the study.

#### **4.6.2 Selection of participants and sampling procedures**

McMillan and Schumacher (2010:325) highlight that qualitative sampling is purposeful in nature and involves selecting information-rich participants for study. In qualitative sampling, participants are chosen based on the fact that they are able to shed light and provide information on the topic of investigation (McMillan & Schumacher 2010:326). For this study, I identified information-rich participants to answer the main and the sub-research questions of the study using purposive sampling methods.

As mentioned above (see section 4.6.1) the research site for the study was an ODL university. The university houses various academic colleges. These include the College of Accounting Sciences, the College of Agriculture and Environmental Sciences, the College of Economic and Management Sciences, the College of Human Sciences, the College of Law and the College of Science, Engineering and Technology. These colleges will hereafter be referred to as college A, B, C and so forth. I initially intended working with lecturers who engage in online learning in each academic college; however, this was not possible as will be explained below.

To identify suitable participants to include in the study I initially made use of inclusion criteria. This involves accessing participants who have knowledge based on their expertise or experience and choosing participants who possess certain characteristics that make it possible to explore the research phenomenon (Ball 1990 in Cohen et al 2011:157, Ritchie et al 2003:78). In the context of this study the inclusion criteria were applied to both academic

and the administrative staff member employed by the university whom I regarded as being in a position to share beneficial information. The inclusion criteria for academic staff members included the following:

- Lecturers who were teaching one or more module.
- Lecturers who made use of online learning in their module/s on a weekly basis.
- Lecturers who had exposure to and experience of working with online learning.

The inclusion criteria for the administrative staff member included the following:

- The staff member had to be working with matters relating to online learning.
- The staff member had to possess knowledge about the ICT infrastructure at the institution.

I began the exercise of finding participants (academic staff members) for the study by making use of gatekeepers. Gatekeepers are people who play an official role at the research site and who can assist in locating suitable participants (Hammersley & Atkinson in Creswell 2012:211). In the context of this study, the gatekeepers were staff members who worked in executive management in each academic college. I wrote an electronic mail (e-mail) (see Appendix D) to the staff members working in this capacity in each of the colleges. The e-mail contained a brief description of the study and requested the recipient to provide me with the names of prospective participants who were engaging in online learning in their respective colleges. I therefore made use of snowball sampling a type of purposive sampling (Cohen, Manion & Morrison 2011:158), as this entails using individuals to make contact with participants who meet the criteria for inclusion in the study (Cohen et al 2011:158).

I received a personal response to my e-mail from four of the six executive management staff members in varying forms, as is explained below:

Staff member A: Provided the name of an academic staff member who could provide me with the names of prospective participants who engaged in online learning. I proceeded to send an email (see Appendix D) to the identified academic staff member, inquiring about the names of prospective participants who engaged in online learning. I received no response from this staff member.

Staff member B: Forwarded my email to a staff member who works in a management position dealing with teaching and learning in the college. This staff member provided me with the name of one prospective participant in the college who engaged in online learning.

Staff member C: Provided me with the names of five prospective participants in the college.

Staff member D: Forwarded my email to four staff members who work in management in the academic departments of the college. However, I did not get a response. After two weeks, I personally sent an email to these four staff members (see Appendix D).

The remaining two of the six staff members working in executive management in the academic colleges replied as follows:

Staff member E: My email was forwarded by an administrative staff member on behalf of the executive management staff member to a staff member working in a management position dealing with teaching and learning. This staff member requested the administrative staff member to forward my email to three members of staff who work in management positions in the academic departments. These staff members did not, however, reply. After two weeks I personally sent an email (see Appendix D) to these members of staff. Subsequently, two of the three replied. One provided me with the names of seven prospective participants, while the other referred me back to the staff member in the teaching and learning management position in the college.

Staff member F: Did not reply to the email. I then proceeded to send the email (see Appendix D) to a staff member working in a management position dealing with teaching and learning in the college. However, I did not receive a reply.

The initial attempt as described above for obtaining prospective participants to include in the study yielded a total of 13 prospective participants, as indicated in the table below:

**Table 4.1: Initial list of prospective participants**

College	Total number of prospective participants
A	0
B	1
C	5
D	0
E	7
F	0

The table above reflects that, initially, the total number of prospective participants was 13 from three of the academic colleges. As I planned to work across the university in every academic college, I had to consider alternate methods of obtaining more prospective participants.

I therefore contacted staff members working in the various colleges with whom I had previously completed a training programme to ask if they could refer me to prospective participants. I successfully contacted two of these staff members. One volunteered to be a participant herself as she engaged in online learning and the other suggested two staff members who engaged in online learning in his academic department. These staff members both belonged to College F. This meant that I still did not have any prospective participants from colleges A and D.

I discussed this with my research supervisor who heads a postgraduate degree that is fully online. She suggested that I contact the staff members who were currently registered for this programme as well as those who had already completed the programme. The second attempt coupled with the first attempt for identifying prospective participants is reflected in the table below:

**Table 4.2: Final list of prospective participants**

College	Total number of prospective participants
A	2
B	1
C	5
D	1
E	7
F	2

Having obtained a list of prospective participants I proceeded to send an email inviting the 18 prospective participants to participate in the study. The email provided a brief background to the study and a participant information sheet (see Appendix E). It also requested the prospective participants to inform me via email about their willingness to participate in the study.

A total number of 10 participants accepted the invitation to participate in the study. This group of lecturers worked in various academic colleges. Eight of the participants were female and 2 were male. The ages of the participants ranged between 30 and 59 years and they had between 3 and 30 years of teaching experience. While the demographics of the participants varied they all satisfied the inclusion criteria, as alluded to above, and therefore made up the case that enabled me to explore the research phenomenon of the study, i.e. integrating online learning in DE.

Regarding the administrative staff member who participated in the study, I interviewed one who works in a management position in the ICT department. An interview schedule (see Appendix F) was used to facilitate the interview. This interview was beneficial as it provided me with contextual information regarding the institution, which was directly related to the research phenomenon that I was exploring, which is important for a case study (Stake 2005:99).

#### **4.6.3 Data collection**

I collected data using three methods – document analysis, open-ended questionnaires and interviews. The manner in which each method was employed is explained below.

##### **4.6.3.1 Document analysis of institutional policies and online module sites**

I conducted a document analysis in two parts of the fieldwork. While the two parts followed the same approach they occurred as separate data collection methods. The first part entailed an analysis of selected institutional policies at the research site (see table 4.3) below, which provided the context within which the participants of the study operate. The documents also provided a background which was beneficial in gaining an understanding of the manner in which teaching and learning should take place at the research site, with specific reference to online learning. The documents additionally highlighted the factors that impinge on online learning at the research site (Bowen 2009:29-33).

Following the advice of Bowen (2009:33) I analysed certain policies. Bowen (2009:33) points out that when evaluating documents researchers should ascertain whether the documents relate to the research problem and the research aim of the study. Following this advice, I included policies which dealt with matters relating to teaching, learning and ICT, using these aspects as inclusion criteria. Based on these inclusion criteria the following policies were selected:

**Table 4.3: Selected policies**

Curriculum policy
Assessment policy
Tuition policy
Implementing the curriculum policy
Open distance learning policy
Framework for the Implementation of a Team Approach to Curriculum and Learning Development

The second part of the document analysis entailed an analysis of the online module sites of the participants who participated in the research. All participants were asked for permission to access their online module sites (see chapter 5, table 5.13) to corroborate what the participants had shared in the questionnaires and the interviews. Some of the modules occurred over a duration of 12 months, while other occurred over a duration of 6 months. I analysed all the content and activities that occurred on the online module sites over the respective period.

I followed the same approach to analysing the policies and the online module sites, as is explained below. The work of Bowen (2009) and McMillan and Schumacher (2010) was used to carry out the document analysis. I began this exercise by skimming through each policy and online module site individually (Bowen 2009:32). Skimming through each policy several times helped me gain an overall understanding of what the policy entailed, while skimming through each online module site provided me with an overview of the way in which the participants were using the site.

After I had finished skimming each policy, I read each policy carefully paragraph by paragraph, and divided each paragraph into segments (McMillan & Schumacher 2010:370). As I read I began to note ideas that became evident in these segments, which I subsequently highlighted in various colours and labelled in the margins of the documents as codes. These codes were

useful in highlighting the interesting ideas and meanings that emanated from the segments (Bowen 2009: 32, McMillan & Schumacher 2010:371).

After skimming through the online module sites, I had an idea of the primary tools the participants were using. These I noted in the form of lists. I confirmed my list against the tools the participants mentioned in the questionnaires (see appendix G). Using this list, I went back to each module site individually. I then analysed the way in which each tool was being used. Where I noted important information that emanated from the tools, I exported that information to a Word document. Subsequently, on reading through the Word document, I noted ideas which I highlighted and labelled as codes (Bowen 2009:32, McMillan & Schumacher 2010:371).

Upon completing the coding process for the policies and the online module sites, the codes were written in a list form using columns. Using the columns of codes, I compared the codes for duplication and overlapping descriptions (McMillan & Schumacher 2010:372). I then grouped similar codes together. These clusters of similar codes became categories (McMillan & Schumacher 2010:374). The categories represented the primary ideas of the grouped codes and each category was given a label. I thereafter began interpreting the meaning of each category by studying the codes in the categories by going back to the policies and interpreting the highlighted sections in the policies. For the online module sites, the extracted information in the Word document next to which the codes were written was interpreted. Interpreting and making sense of the categories also involved relating them to the primary theories that underpin this study (see chapter 2, table 2.4). While analysing and interpreting the categories, relationships became evident between the categories and, thus, some categories were merged, while others were grouped as secondary categories under the primary categories. The findings of the document analysis are presented in sections 5.4 and 5.5.4.

#### **4.6.3.2 Semi-structured questionnaires**

The questionnaires (see Appendix G) primarily took the form of open-ended questions, which as Creswell (2012:220) points out is a form of questioning when collecting qualitative data. Open-ended questions allowed the participants to respond in a manner that they felt was suitable (Cohen et al 2011:382). The nature of the questions further allowed participants to freely express their views and experiences of online learning in DE. This enabled the participants' responses to display depth and authenticity as their responses were based on their realities of online learning in DE, thereby making their responses characteristic of

qualitative research (Cohen et al 2011:393). I initially conducted a pilot study for the questionnaires, as is explained below.

#### **4.6.3.2.1 Piloting the questionnaire**

Pre-testing a questionnaire is regarded as fundamental to its success (Cohen et al 2011:402). The pilot study can test whether the questionnaire instructions and questions are clear and feedback can be obtained on the validity of the questionnaire items in terms of the main and the sub-research questions. The pilot study also assists in deleting repetitive questions, irrelevant questions, leading questions, commonly misunderstood questions and non-completed questions (Cohen et al 2011:402).

In light of the above, I piloted the questionnaire with three participants who met the inclusion criteria (as mentioned in section 4.6.2). This was done in the academic college in which I worked as I was familiar with three staff members who engage in online learning. I invited the prospective participants to participate in the questionnaire via email (see Appendix H). All three accepted the invitation, after which I forwarded the questionnaire to them. On receiving the completed questionnaires I analysed them. The analysis revealed that the layout of the questionnaire needed to be adjusted for three questions, as the initial layout was not user friendly for the participants. In addition to this, the analysis revealed that two questions were problematic as the respondents' answers did not relate to what I was trying to find out. I therefore rephrased the questions accordingly. The questionnaire was then regarded as final.

#### **4.6.3.2.2 Administering the questionnaire**

I forwarded the final questionnaire (see appendix G) to each participant who accepted the invitation to participate in the study via email. A 100 per cent return rate was received as all 10 participants returned the completed questionnaire. On receiving the questionnaires, I proceeded to analyse them (as is described in section 4.7). The findings of the analysis are documented in chapter 5 (section 5.5.4).

#### **4.6.3.3 Semi-structured one-to-one interviews**

I invited the 10 participants who completed the questionnaire to participate in a follow-up semi-structured one-to-one interview. Interviews were regarded as important because it allowed me to follow up on questionnaire responses that were unclear and required more information. In

addition, interviews are regarded as the chief method of collecting data in qualitative research (Greef 2005:287).

A total of eight participants agreed to participate in the follow-up interview. The interviews were semi-structured in nature, as I developed an interview schedule (see Appendix C) with a list of questions related to the main and the sub-research questions (Greef 2005:287). Prior to the interview, I conducted a preliminary analysis of each participant's questionnaire and noted the questions that required clarity or more elaboration. A total of seven interviews were conducted in the participants' offices, while one was conducted at a restaurant. The interviews lasted between 40 and 60 minutes. A digital voice recorder was used to capture the data collected during the interviews.

During the interviews, unforeseen and relevant topics emerged that had not been accounted for in the interview schedule. As the interview was semi-structured in nature I made room for an element of flexibility thereby engaging in these unanticipated topics with the participants (Greef 2005:296). The interviews provided me with an in-depth representation of the participants' beliefs, perceptions and accounts of online learning in their respective courses (Greef 2005:296).

A semi-structured interview was also conducted with a staff member working in a management position in the ICT department. I conducted this interview because I wanted to gain an understanding of the infrastructure and the processes that underpin the use of ICT at the research site, as is characteristic of a semi-structured interview (Greef 2005:296). An interview schedule (see Appendix F) was used during the interview, but provision was also made for the discussion of unforeseen topics relating to the research questions.

#### **4.6.3.3.1 The interview schedule**

I developed interview schedules (see Appendices C and F) beforehand as it gave me the opportunity to consider what to cover in the interview and to think about the challenges that might be encountered, such as the wording of questions and sensitive issues that might surface during the interviews (Greef 2005:296).

While drafting the interview schedule I considered the general issues to be covered during the interview. Using the research questions as the basis for the broad issues to be covered, I drew up a list of open-ended questions (Holsten & Gubrium 1995 in Greef 2005:296).

#### **4.6.3.3.2 Piloting the interviews**

The three participants who participated in the pilot study for the questionnaires were invited to participate in a follow-up interview, however, only one participant accepted the invitation. The interview was conducted in the participant's office and lasted for 50 minutes. The data from the interview were captured on a digital voice recorder. On completion of the interview I asked the participant to share her views on the interview itself. The participant indicated that the interview questions were clear and accessible. She did however state that the interview contained too many questions. I discussed this at length with the participant and discovered that because I was probing for more information in certain responses, the interview seemed bulky. I therefore decided to leave the interview schedule as it was because the questions were not problematic.

On completion of the interview I listened to the recording to determine whether there were any issues that might be problematic. I concluded that for the future interviews I needed to allow participants more time to respond to the questions in order to gather their thoughts. The pilot study therefore assisted in improving my fieldwork procedures (Yin 2011:37).

#### **4.6.3.4 Triangulation**

Triangulation was employed in this study by combining various data collection methods (see section 4.6.3), as advised by Rothbauer (2008:892). This is important as a case study gains credibility and objectivity by means of triangulation (Stake 2005:443). Collecting data using various methods enabled me to view online learning in DE from different angles thereby gaining an in-depth understanding (Rothbauer 2008:892). Moreover, employing various data collection methods helped minimise my own biases and subjectivity, as the various data collection methods yielded different perspectives. In this way, the interpretation of online learning in DE as well as the findings of the data were strengthened (Rothbauer 2008:892).

### **4.7 ANALYSIS OF THE DATA PERTAINING TO THE QUESTIONNAIRES AND THE INTERVIEWS**

In a qualitative case study, data are interpreted the first time they are encountered and interpretation recurs (Stake 2005:450). McMillan and Schumacher (2010:367) also point out that qualitative data analysis is characterised by the practice that data analysis is a continual occurrence in the study. This implies that data are analysed both during and after fieldwork (McMillan & Schumacher 2010:367). Following the advice of the latter authors I analysed the

data both while I was collecting them and afterwards. The questionnaires and the interviews were analysed in the same manner. The rationale for this was that both the questionnaires and the interviews contained open-ended questions that allowed the participants to express their views and experiences of online learning in DE. The manner in which the questionnaires and the interviews were analysed is explained below.

The interviews were transcribed (see appendix K) to enable analysis using the transcription. The first stage of analysing the questionnaires and interview transcripts entailed reading through each document several times. This allowed me to become familiar with and gain an overall idea of the data. Thereafter I read the answer to each question from the questionnaire and interview transcripts several times. On completion of this exercise I began the process of coding the data as suggested by Creswell (2012:244-245). During the coding process I made notes about what the data meant and asked myself what the data were about and what word or words could be used to describe the data (McMillan & Schumacher 2010:371). These words were written down in the margins of the documents as codes. These codes closely reflect what the data meant (De Vos 2005:337, Cohen et al 2011:560).

After coding the data for each questionnaire and interview transcript I made a list of all the codes using columns. This list became the preliminary organising scheme (Creswell 2012:245) from which to move to the next level of analysis. Using the list of codes I went back to the questionnaires and interview transcripts, rereading the documents to check if new codes emerged. Where new codes emerged they were added to the existing list of codes. I went through the questionnaires and interview transcripts several times to ensure that the list was consistent and that all possible codes were covered (Cohen et al 2011:560). After adding the new codes to the current list of codes I had an updated organising scheme to work from. During this stage I also highlighted certain sections of the interview transcripts and questionnaire answers that were linked to the list of codes (Creswell 2012:245).

On updating the organising scheme, I studied the codes in each column and noted that certain codes were repeated in different columns (i.e. different questionnaires and interview transcripts shared some of the same codes). The codes that were repeated across the different columns were subsequently highlighted in the same colour. Codes that were not repeated were assigned their own colour. Once the different colours had been assigned to the codes I began the next level of analysis which entailed sorting the data into themes as is explained in the paragraph that follows.

Making use of my organising scheme I began the exercise of sorting the data into themes. I worked across the columns in the organising scheme and grouped similar codes together (Spencer, Ritchie & O'Connor 2003:221, De Vos 2005:338, Cohen et al 2011:376). I practised flexibility by not restricting codes to one theme. If a code was relevant to more than one theme, it was assigned as such. As I began to form themes among the grouped codes I took into consideration the main and the sub-research questions, as this helped to develop the themes (Creswell 2012:247).

After developing the themes I went back to the questionnaires and interview transcripts to search for the highlighted sections that matched the codes found in each theme. I read through the highlighted sections several times to understand the meaning of the theme. The themes (see section 5.5.4) were then written up in a descriptive manner supported by verbatim accounts in the participants' own words as suggested by Spencer et al (2003:213).

Once the themes that emanated from the questionnaires and interview transcripts had been written up, I moved to the final level of analysis which entailed analysing the content of each theme. This was done by studying the range of participants' opinions, practices and experiences with regard to online learning in DE (Spencer et al 2003:237). Thereafter, I searched for patterns by studying what the participants relayed, coupled with theories and evidence from the literature as suggested by Spencer et al (2003:249). The search for patterns was informed by what participants said and by theories and evidence gleaned from the literature (Spencer et al 2003:249). I furthermore searched for patterns by making use of analytical induction, searching for relationships between the themes (Cohen et al 2011:557). The findings of the final data analysis are written up in chapter 6.

#### **4.8 ETHICAL CONSIDERATIONS**

The awareness of ethical issues and the manner in which these are dealt with is fundamental to successful research (Strydom 2005:56). As I was working with human beings there were several aspects that I had to address to ensure ethical behaviour (McMillan & Schumacher 2010:338, Strydom 2005:56). These aspects included gaining access to the research site, procedures that were followed to obtain informed consent from the participants, avoidance of harm, the manner in which confidentiality and anonymity were practised, the role that I undertook to ensure ethical behaviour and the approach that was taken to release the findings of the research. These aspects are discussed in more detail below.

#### **4.8.1 Access to the research site**

I applied for official permission to do the research and ethical clearance from the institution where the research was conducted. In the application for both the permission for the research to be undertaken and the ethical clearance, I outlined the scope and outcomes of the research as suggested by Cohen et al (2011:82). I was consequently granted both permission to carry out the research and ethical clearance (see Appendices A and B).

#### **4.8.2 Informed consent**

Informed consent was obtained from every participant as it is regarded as a necessary condition of research (Hakim 2000 in Strydom 2005:59). Participants were requested to sign an informed letter of consent (see Appendix I). This letter provided the participants with information on the purpose of the study, the methods used to gather data, foreseeable advantages, disadvantages and risks, as well as the activities and expected time participants would have to devote to the study (Strydom 2005:59, McMillan & Schumacher 2010: 339). Participants were therefore able to make an informed decision regarding their decision to participate in the study.

#### **4.8.3 Avoidance of harm**

Strydom (2005:58) points out that during a research undertaking participants could be exposed to both physical and emotional harm. In this regard participants should be adequately informed about the impact of the research as this gives them an opportunity to withdraw from the research if they wish to do so (Strydom 2005:58). The participants in this study were informed of the impact of the study through the informed letter of consent (see Appendix I) which highlights that participants could withdraw from the study at any stage without penalty. The letter also explains the foreseeable risks that participation may yield.

#### **4.8.4 Confidentiality and anonymity**

Confidentiality of the data was assured as I was the primary person working with the data. The transcriber who worked with the data was requested to sign a transcriber confidentiality agreement (see Appendix J) to further ensure confidentiality (Strydom 2005:61). Participants were also requested to review the final report of the study to make sure that they were satisfied that their confidentiality had been maintained, as suggested by McMillan and Schumacher (2010:339). The anonymity of the participants was upheld by making use of code names to

ensure that they not identifiable, as advised by Mitchell and Jolley (2001:28) and McMillan and Schumacher (2010:339).

#### **4.8.5 Role of the researcher**

I behaved ethically throughout the research project, carefully considering every aspect of the fieldwork (Strydom 2005:63). The population was chosen based on the fact that it had participants who work in a DE context. The sampling procedures were intentionally selected because they enabled me to identify participants who met the inclusion criteria of the study. The data collection methods used are well established in qualitative research and the findings were written up truthfully in a way that best represents the reality of the participants. In carefully considering the fieldwork (Strydom 2005:63, Yin 2011:42) and making choices based on what was suited to the study, as opposed to making convenient choices, I displayed research integrity (Yin 2011:39).

#### **4.8.6 Releasing the findings**

The findings of the research are written up in chapters 5 and 6 of this study. I ensured the accuracy and objectivity of the data by focusing on all the data and not allowing my own point of view to manipulate them (Judd et al 1991 in Strydom 2005:65). Instead, I presented the data as they emanated from the participants' views.

### **4.9 TRUSTWORTHINESS**

Given and Saumure (2008:896) point out that trustworthiness in qualitative research provides researchers with the tools to display rigour in their study. These authors argue that trustworthiness can be enhanced if a study displays the qualities of transferability, credibility, dependability and confirmability (Given & Saumure 2008:896). The manner in which I ensured trustworthiness of the study is explained below.

#### **4.9.1 Credibility**

I ensure the credibility of this study by explicitly describing the research procedures that were used (see section 4.6.3). In doing, so transparency was achieved, thereby making the study accessible and easy to understand by others (Lincoln & Guba 1985 in De Vos 2005:346, Yin 2011:19).

#### **4.9.2 Transferability**

Transferability was achieved in this study by implementing triangulation in the data collection methods (see section 4.6.3.4) as suggested by Lincoln and Guba (1985 in De Vos 2005:346). Triangulation enabled me to corroborate the research findings thereby making the studies' usefulness to other settings stronger (Lincoln & Guba 1985 in De Vos 2005:346). I additionally ensured the transferability of this study by relating the data analysis to the theoretical framework (see chapter 2) and the literature review (see chapter 3). Lincoln and Guba (1985 in De Vos 2005:346) point out that linking the data analysis to the theoretical boundaries of the study enables other researchers who do research using the same theoretical boundaries to decide whether the cases can be transferred to other settings.

#### **4.9.3 Dependability**

According to Lincoln and Guba (1985 in Schwandt 2007:299), dependability focuses on the process of the inquiry. They argue that it is the inquirer's responsibility to ensure that the process is documented, logical and traceable. In the context of this study, I documented the process of this study in this chapter. It is, therefore, traceable by anyone who should deem this necessary.

#### **4.9.4 Conformability**

Conformability was achieved in this study by checking and rechecking the data as suggested by Trochim (2006). When the interviews were conducted I first followed up on all questionnaire responses that I needed clarity on. During the interviews, member checks were conducted to ensure that I was interpreting the participants' responses correctly (Lincoln & Guba 1985 in De Vos 2005:346).

#### **4.10 CONCLUSION**

This chapter outlined the research design and methods that guided the empirical research for this study. The chapter began by explaining the rationale for the empirical research, followed by the research paradigm in which this study is positioned. The research design and research approach were subsequently explored. Thereafter an account was given of the research methods, which outlined the data collection and data analyses. The chapter concluded with a discussion on the measures that were taken to ensure ethical research and the practices that

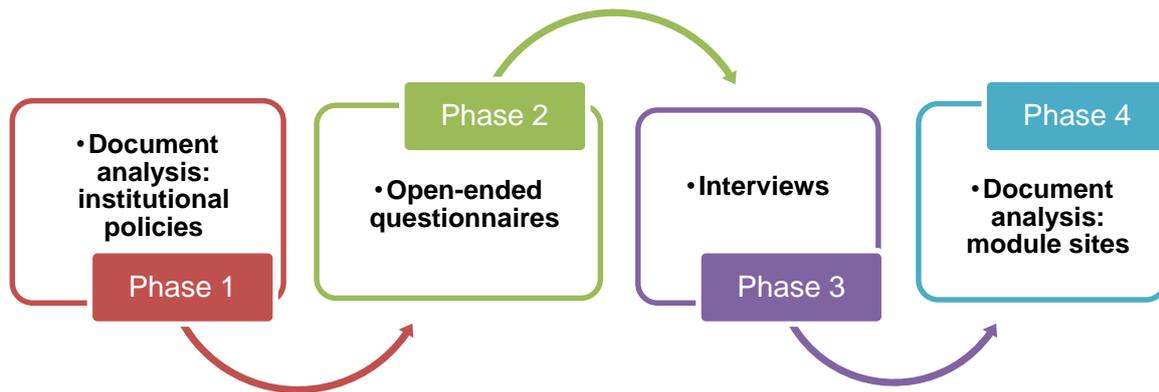
were employed to ensure the trustworthiness of the study. The next chapter reports the findings and discussion on the empirical research.

## CHAPTER 5

### FINDINGS AND DISCUSSION OF EMPIRICAL RESEARCH

#### 5.1 INTRODUCTION

The purpose of this chapter is to present and discuss the findings of the empirical research, which comprised of four phases. Phase one involved a document analysis of institutional policies at the research site. This was followed by phase two in which I administered an open questionnaire to participants. Phase three involved conducting follow-up interviews with the participants who completed the questionnaire and accepted the invitation to the interview. During the final stage of data collection, I requested the participants to grant me access to their online module sites. Figure 5.1 is an illustration of the data collection methods that were employed during the empirical phase of the research.



**Figure 5.1: Summary of data collection**

As figure 5.1 shows, I began the empirical research by analysing the institutional policies related to the research topic (see section 4.6.3.1). Thereafter I administered the open-ended questionnaires (see section 4.6.3.2) followed by the interviews (see section 4.6.3.3). Finally, I conducted a document analysis of the modules sites that I was given access to (see section 4.6.3.1). The arrows in figure 5.1 highlight two aspects. The first is that the data collection methods fed into each other. The second is that I moved between the phases of data collection. In this regard, while I was awaiting the return of the questionnaires I began conducting interviews as well as document analysis of the module sites. When the questionnaires were received I went back to the questionnaires to prepare for the interviews and so continued with more interviews and document analysis of the module sites.

## 5.2 ORGANISATION OF THE DATA

The data are organised into two sections. The first section presents an overview of the policies (see chapter 4, table 4.3). This overview briefly outlines what each policy entails, followed by the findings of the document analysis of the policies. I have presented the findings of the document analysis as a separate data set because it contextualised teaching and learning at the research site from the perspective of policy.

The second section presents the findings of the questionnaires, interviews and document analysis of the online module sites. These findings are combined because most of the themes were evident across the questionnaires, interviews and document analysis of the online module sites. In cases where the themes did not apply to all three of the data collection methods, this has been specified.

The table below presents an overview how the data is organised.

**Table 5.1: Overview of organisation of data**

Data collection method	Section
Document analysis: policies	5.4
Questionnaires Interviews Document analysis: online module sites	5.5

## 5.3 POLICY OVERVIEW

This policy overview section provides a brief description of each policy (see chapter 4, table 4.3) that was analysed for the study. The purpose of the policy overview is to briefly present the content of each policy so as to place the policies in context. The discussion of each policy follows below.

### 5.3.1 Curriculum Policy

The Curriculum Policy addresses the processes and principles informing curriculum development at the university (Unisa 2012a:8). These principles state that the curriculum should be responsive in responding to the demands, opportunities and challenges emanating from institutional, national and international contexts (Unisa 2012a:9). Student-centeredness should also feature in the curriculum by placing the student at the centre of learning and taking

into consideration the student's previous learning, experience and life-worlds (Unisa 2012a:14). Structuring the curriculum in this manner will ensure that students enter the curriculum with a familiar foundation, thereby increasing their chances of success. The curriculum should be developed using a team approach and reviewed for relevance and soundness. Resources used in the curriculum should be varied, ranging from study guides and prescribed textbooks to online resources (Unisa 2012a:16). The curriculum must be implemented in a manner that is pedagogically grounded while making appropriate use of technology (Unisa 2012a:17).

### **5.3.2 Assessment Policy**

The Assessment Policy provides guidelines for the manner in which assessment should be developed and implemented at the university. Assessment is accordingly regarded as a fundamental part of the learning experience and should be integrated in curriculum development (Unisa 2015:2). There are several principles informing assessment at Unisa. These include the principles of validity and reliability. Assessment should furthermore be manageable and direct as well as authentic and sufficient (Unisa 2015:3-4). The content assessed should not only target content knowledge, but should also aim at developing the practical skills that will be needed in the working environment (Unisa 2015:4). When assessing, a wide variety of assessment methods should be used including both formative and summative assessments.

### **5.3.3 Tuition Policy**

The Tuition Policy outlines the principles that apply to teaching and learning at the university. These include the ability of students to contribute to their community on completion of their qualifications, life-long learning and a culture of teaching which is rooted in scholarly epistemologies (Unisa 2013a:1). Teaching and learning should furthermore place the student at the centre of learning, taking into consideration the knowledge and experiences that students bring to the learning encounter. Students should be engaged in interactive learning where they are given opportunities to engage in critical thinking. The use of ICTs should also be meaningfully integrated into the curriculum (Unisa 2013a:1).

### **5.3.4 Implementing the Curriculum Policy**

The policy on implementing the curriculum provides a framework to ensure that the principles outlined in the Curriculum Policy are adhered to in the development of the curriculum. Within

this framework various questions are outlined that curriculum developers must consider to ensure that the curriculum policy is properly implemented (Unisa 2011:1). These questions speak directly to the principles outlined in the Curriculum Policy (see section 5.3.1).

### **5.3.5 Open Distance Learning Policy**

The Open Distance Learning Policy (ODL) contextualises the manner in which ODL operates within the context of the university and outlines several principles for the way ODL will be delivered (Unisa 2008:3). The key principles include student support, open admission practised in a responsible manner and teaching and learning materials that engage the student. Additional principles relate to the delivery of the curriculum and assessment. The policy states that curriculum delivery should be scholarly in nature and should foster student support, incorporating the use of ICTs. Assessment should be structured with the intention of developing both cognitive and practical skills (Unisa 2008:6-7). To operationalise the ODL Policy research will be constantly conducted and academic collaboration will be developed with other ODL institutions to improve ODL practice at Unisa (Unisa 2008:9).

### **5.3.6 Framework for the Implementation of a Team Approach to Curriculum and Learning Development**

The Framework for the Implementation of a Team Approach to Curriculum and Learning Development provides guidance on curriculum development at the university (Unisa 2013b:3). The framework outlines the manner in which the curriculum should be planned and includes a number of steps to be followed in this regard. The first step relates to the design of a learning programme. This is followed by a second step which involves the planning of the curriculum. On completion of curriculum planning, the learning design should be developed. This involves planning the experiences that will lead to achieving the outcomes of the curriculum. The final step relates to developing the learning, and includes writing the study materials and generating the teaching and learning resources (Unisa 2013b:5-11). The primary criterion underpinning the last-mentioned step is that it should be done in consultation with a team of both academic and administrative staff (Unisa 2013b:3).

After I had gained an understanding of each policy I conducted a document analysis (see section 4.6.3.1). The findings of the document analysis are discussed below.

## 5.4 FINDINGS OF THE DOCUMENT ANALYSIS (DATA SET A)

The document analysis revealed several findings, which are presented as themes. These themes highlight the manner in which teaching and learning should be operationalised at the research site. The table below (table 5.2) presents an overview of all the themes. Each theme is thereafter discussed with examples of extracts from the policies to help illustrate the theme. Each theme is furthermore supported with a table (tables 5.3 to 5.10) that contains examples of terms extracted from the policies.

**Table 5.2: Overview of themes emanating from document analysis**

THEME	SUB THEME
Student centeredness	Student support Student context
Communication	
Broad skills set	
Critical thinking	
Technology as part of pedagogy to improve learning	
Characteristics of student learning	

### 5.4.1 Student centeredness

Placing the student at the centre of the learning encounter was a salient theme that emanated from all the policies. Student centeredness in the context of the policies was described as giving recognition to the existing knowledge, experience and worldviews of the students, with the aim of helping students to attain the learning objectives. The Tuition Policy, for example, highlights that in responding to the changing needs identified on the African continent the university is committed to being “student-centered” (Unisa 2013a:1). The Curriculum Policy similarly highlights the importance of “student centeredness as an agent for change and transformation” (Unisa 2012a:8) for the university. Positioning the student at the centre of the learning encounter from the time the “student registers at the university through to its alumni” (Unisa 2008:4) is also noted in the Open Distance Learning Policy. Implementing the Curriculum Policy additionally mentions that curriculum should be both “student centred and responsive” (Unisa 2011:1).

The extracts taken from the policies highlight the importance of taking cognisance of the student in the learning encounter. The theme of student centeredness did not emanate from certain terms in the policies, instead the policies clearly stated that a student centered approach should be followed. Table 5.3 therefore does not have a column for policy terms associated with the theme.

**Table 5.3: Presence of student centeredness**

<b>Policy</b>	<b>Presence of Student Centeredness</b>
Curriculum Policy	√
Assessment Policy	√
Tuition Policy	√
Implementing the Curriculum Policy	√
Open Distance Learning Policy	√
Framework for the Implementation of a Team Approach to Curriculum and Learning Development	√

In further exploring the concept of student centeredness within the context of the policies, the aspect of supporting students and taking into consideration the students' contexts emerged as important with regard to student centeredness. Accordingly, student support and student context emerged as sub-themes of student centeredness, as is explained below.

#### **5.4.1.1 Student support**

Through analysing the policy documents as described in (section 4.6.3.1) the theme of student support was noted across the majority of the policies (see table 5.4 below), where it was noted as an important practice for successful learning. The theme of student support manifested itself as being two-pronged, in that students must be supported from both an administrative and an academic perspective.

Administratively it was highlighted that students should be provided with support "in the form of accurate and accessible information about aspects of the learning process, ranging from registration to graduation" (Unisa 2008:3). This implies that students should be guided from the time they register at the university to the completion of the degree, and be given the necessary support.

From an academic perspective, the Open Distance Learning Policy states that student support refers to providing students with “feedback to assessments, tutorial sessions, peer support, support in the form of well-designed courseware and promoting dialogue between the teacher and the student” (Unisa 2008:2-3). This policy further states that “students should be assisted during their studies in a timeous manner using a wide range of delivery channels” (Unisa 2008:5). In addition, lecturers should “build online student profiles, while driving personalised learning opportunities” (Unisa 2011:8). In agreement with this is the Curriculum Policy which states that “lecturers should use a number of resources to enable students to be successful” (Unisa 2012a:15). The Tuition Policy concurs with this, stating that the university provides an “integrated student support system, using various study materials which promote communication and internet-based support” (Unisa 2013a:4).

What is clear from the extracts given above and through the analysis of the policies (as described in section 4.6.3.1) is that student support should be consistent in nature and offer students opportunities for success using a variety of resources. With reference to this study, the use of the online learning environment using ICTs was noted as an important delivery channel (Unisa 2008:5 2011:8, 2012a:17, 2013a:1) for offering student support. Presenting the same argument is Venkatesh et al (2014) and Van den Berg et al (2016), who point out that student support is an important factor in student success and that the online learning environment can be a useful vehicle for harvesting student support.

**Table 5.4: Presence of student support**

<b>Policy</b>	<b>Presence of student support</b>	<b>Policy terms associated with student support</b>
Curriculum Policy	√	Chance of success, accommodate, inclusion, alternative pathways, additional support, extended curriculum
Assessment Policy	√	Plan interventions, teaching modified accordingly, timely feedback, practicable feedback, individualized feedback
Tuition Policy	√	Appropriate support, accessible learning opportunities, flexible approach to teaching and learning, academic counselling, facilitates student progress, student support strategy
Implementing the Curriculum Policy	√	Systems for students needing additional support, tutors in place

Open Distance Learning Policy	√	Student support services, interventions for improvement, student support specialists, addressing academic skills gap, extended programmes, tutorials, wide range of delivery channels, timeous student support, strategies to improve student throughput
Framework for the Implementation of a Team Approach to Curriculum and Learning Development	√	Pedagogy suitable for programme, facilitate achievement of learning outcomes, tutoring resources, various learning resources, support material, mediate learning outcomes

#### 5.4.1.2 Student context

Once the selected policy documents had been analysed (see section 4.6.3.1), the theme of student context emerged in a variety of situations in most of the policy documents (see table 5.5 below). Context in the policy documents relates to a range of issues, as is outlined in the discussion that follows.

The Tuition Policy states that the university will aim to “provide accessible learning opportunities to all students regardless of their background” (Unisa 2013a:1). Additionally, the policy states that the “curriculum and teaching approach should take into account the needs and abilities of students and consider that they come from a variety of different backgrounds” (Unisa 2013a:4). The Assessment Policy goes on to outline that “tuition and assessment are equitable when they take into account the instructional context and the special background of students (e.g. prior knowledge, cultural experience, language proficiency, cognitive style and interests)” (Unisa 2015:3). Student context furthermore relates to “student’s prior learning and experiences which must be accounted for” (Unisa 2011:9). With specific reference to online learning environments, “student profiles and contexts” (Unisa 2011:8) must be taken into consideration. This relates to the work of Zhang (2013), who postulates that context must be taken into account within the online learning environment and that collaboration should be encouraged between students from various cultural backgrounds and between national and international students.

Finding an establishment of students' "current meanings and contexts" (Unisa 2008:2) is also regarded as an important contextual factor. In addressing the issue of context, the Curriculum Policy states that the university will respond to "the needs and challenges faced by students and the community" (Unisa 2012a:9) where possible and accommodate the "linguistic, cultural and religious backgrounds" of students (Unisa 2012a:12).

The analysis of the documents (as described in section 4.6.3.1) indicated that student context encompasses many factors. This is also highlighted in the extracts provided above. The core of the theme, student context, was thus characterised as consciously considering the student in the learning encounter. In this regard, pedagogy should be developed such that students with various abilities are able to access the learning experience. In addition, the experience, knowledge and skills that the student brings to the learning encounter should be used as a resource that students draw on to develop and build new knowledge. To prepare students for the world of work the university will address and respond to changes and challenges identified in the wider community. As the university houses a diverse student profile with students from both national and international contexts, the various language, cultural and religious backgrounds will be considered where reasonably practicable.

A reflection on the above discussion highlights that students cannot learn in isolation from the contexts they bring to the learning encounter. It is therefore beneficial for the university and its stakeholders to consider the manner in which context and its related factors can be used as a resource in the learning encounter.

**Table 5.5: Presence of student context**

<b>Policy</b>	<b>Presence of student context</b>	<b>Policy terms associated with student context</b>
Curriculum Policy	√	Awareness of societal expectations, respond to challenges faced by students, accommodate diverse backgrounds
Assessment Policy	√	Prior knowledge, cultural experience, language background, background of students
Tuition Policy	√	Provide learning opportunities to students regardless of their background, appreciation and respect for cultural, religious, aesthetic and linguistic diversity, social justice,

		cognisance of, responsive to needs of country, region, continent and international trends
Implementing the Curriculum Policy	√	Critical understanding of student's location, students' prior learning, personalised learning opportunities, build on students' knowledge and experience
Open Distance Learning Policy	√	Aligned with student profiles, accessible to target students, build on students' experience and knowledge, bridge gap between learning experience from school and demand of higher education
Framework for the Implementation of a Team Approach to Curriculum and Learning Development	√	Take student needs into account, needs and contextual analysis

#### 5.4.2 Communication

The importance of communication between the university and its students emanated frequently from the policies consulted (see table 5.6 below). The analysis of the documents (as described in section 4.6.3.1) revealed that communication should be a purposefully created exercise. The Open Distance Learning Policy encourages “communication between the student and the lecturers, students and peers, student and courseware, student and administrative support and student and the institution” (Unisa 2008:6). Moreover, this policy outlines that students should be provided with, “opportunities to engage in arguments and debate with their peers and tutors through a variety of accessible and appropriate media” (Unisa 2008:6). Lecturers, on the other hand, should “present evaluating opinions, theories and ideas from different perspectives” (Unisa 2013a:4) to encourage communication.

The analysis of the policy documents revealed that communication should form a key aspect of the learning encounter. It should be planned so that students are presented with opportunities in which they can engage with both academic and administrative staff and with

their peers. When engaging in communication with academic staff and their peers the nature of the communication should encourage students to think in an academic manner while voicing their opinions. Lecturers should also plan communication in such a way that students are given a variety of thoughts and views which they can evaluate and engage with, thereby allowing them to practise critical thinking.

The online learning environment was noted as vehicle for fostering communication in several of the policy documents (Unisa 2008:5, 2011:8, 2012a:17, 2013a:1). Scholarly work (Guri-Rosenblit 2012, Glennie & Mays 2013, Conole 2014, Oncu & Cakir 2011) has shown that the online learning environment can create opportunities for engagement and communication. These opportunities can give students the opportunity to create an online presence (Glennie & Mays 2013) by interacting with their peers and lecturers, thereby creating a social presence (Conole 2014). These opportunities can also lead to critical thinking, as students engage with each other thus creating a sense of affiliation (Seiver & Troja 2014) which is linked to success in online learning (Oncu & Cakir 2011).

**Table 5.6: Presence of communication**

<b>Policy</b>	<b>Presence of communication</b>	<b>Policy terms associated with communication</b>
Curriculum Policy	√	Communicating effectively, demonstrate achievement of learning goals, demonstrating an understanding
Assessment Policy	√	Contact support, results communicated meaningfully
Tuition Policy	√	Promote student communication, interaction with variety of people and sources, discussion, opportunities of sharing
Implementing the Curriculum Policy	×	×
Open Distance Learning Policy	√	Opportunities to interact with others, promoting dialogue between teacher and student, facilitating the learning process, mediating learning materials, increase participation of students, active engagement

Framework for the Implementation of a Team Approach to Curriculum and Learning Development	x	x
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### 5.4.3 Broad skills set

After analysing the policy documents (see section 4.6.3.1) it became apparent that on completion of their qualifications students should have acquired a broad skills set ranging from content knowledge to application knowledge. Obtaining a broad skills set was present in the majority of the policy documents (see table 5.7 below). The Tuition Policy for example, highlights that when students exit the university after having obtained their qualifications they must possess “discipline-specific knowledge, skills and competencies as well as broader attributes which equip graduates to be innovative and effective in the workplace and behave as active informed citizens” (Unisa 2013a:2). This policy additionally states students should be able to “make connections between what they learn and the manner in which it relates to the workplace as well as the broader community” (Unisa 2013a:4). Equipping students with a broad set of skills should also be reflected in the assessments such that they “focus on the ability to transfer knowledge to new contexts and to apply knowledge in specific contexts” (Unisa 2015:2). Implementing the Curriculum Policy advises that “the outcomes of a qualification should include knowledge and understanding of a subject, as well as cognitive, general and professional skills and values” (Unisa 2011:3).

The Curriculum Policy reiterates this by stating that “specific outcomes which include knowledge and understanding of a subject, as well as cognitive, general and professional skills and values, should be explicitly stated for each module and qualification and these should be the pivot around which the module/qualification is developed” (Unisa 2012a:11). This policy brings to the fore the issue of “transportable skills in all curricula depending on the focus of the curriculum” as well as “preparing students for local and international application contexts” (Unisa 2012a:12).

The analysis of the policy documents (as described in section 4.6.3.1) indicated that the university aims not only to equip students with content knowledge but also with a broad set of skills. These skills should encompass knowledge and skills that are discipline based, knowledge and skills that is required in the workplace, as well as knowledge and skills that will enable them to make a valuable contribution locally, nationally and internationally. This ties in with the work of Vygotsky (1926), Dron and Anderson (2014) and Mbatlana and Minnaar (2015), who maintain that students should be able to make a connection between discipline-related knowledge and the world outside the university and they should be able to apply what they have learnt.

**Table 5.7: Presence of a broad skills set**

<b>Policy</b>	<b>Presence of broad skills set</b>	<b>Policy terms associated with broad skills set</b>
Curriculum Policy	√	Transportable skills, cognitive, general, professional skills, exit level competencies, apply knowledge's to solve real-life problems
Assessment Policy	√	Ability to transfer knowledge to new contexts, real-life use of knowledge, appropriate to the discipline, diverse student abilities and contexts, skills for workplace situation
Tuition Policy	√	Experiential learning opportunities, cultivate students with graduate attributes, innovative and effective in the workplace, understand connections between fields and real-life connections
Implementing the Curriculum Policy	√	Apply discipline specific knowledge, serve in multiple roles in their immediate and future communities, solve real-life problems, cognitive, general and professional skills and values, transportable skills, work integrated learning component
Open Distance Learning Policy	√	Prepare for entry into world of work, practical skills, work-integrated learning,

		self-management skills, prepare for entry into world of work
Framework for the Implementation of a Team Approach to Curriculum and Learning Development	x	x

#### 5.4.4 Critical thinking

The aspect of critical thinking emanated from the document analysis (see section 4.6.3.1) and was present in most of the policy documents (see table 5.8 below). According to the policies, critical thinking is regarded as an important characteristic that should be developed in students. The Open Distance Learning Policy, for example, states that when students learn they should “engage with the learning materials and construct new knowledge” (Unisa 2008:5). The Curriculum Policy similarly states that students should be able to “critically analyse and evaluate the credibility and usefulness of information and data from multiple sources in a globalised world with its ever increasing information and data flows and competing worldviews” (Unisa 2012a:10). The curriculum should be designed in a manner which allows the student to engage in “active learning experiences” (Unisa 2013b:7). The Tuition Policy furthermore states that “a flexible approach will be adopted that will equip students with the necessary skills to make decisions and solve problems. These skills include the ability to use knowledge sources responsibly and effectively and to act ethically as citizens” (Unisa 2013:2). This policy also states that courses will provide students with “opportunities for individual inquiry, promote higher level thinking skills, present evaluating opinions as well as theories and ideas from different perspectives and ask students to engage in complex and authentic tasks” (Unisa 2013:4).

The examples of critical thinking taken from the respective policies highlight that Unisa students should be given opportunities to practise critical thinking. Critical thinking is characterised by students becoming active in the learning process. In this regard, students should be presented with tasks in which they construct and build knowledge for themselves. This relates to constructivist approaches as advocated by Vygotsky (1926) and Piaget (1964). They should also be positioned to make informed decisions about their learning by considering and evaluating which actions and resources will best help them achieve the learning

outcomes. This independence in the learning encounter ties in with heutagogical principles as described by Hase and Kenyon (2001a) in which students are expected to accept responsibility for their learning.

**Table 5.8: Presence of critical thinking**

<b>Policy</b>	<b>Presence of critical thinking</b>	<b>Policy terms associated with critical thinking</b>
Curriculum Policy	√	Analyse, evaluate, apply, develop own opinions
Assessment Policy	√	Effective cognitive skills, apply knowledge, transfer knowledge to new contexts, mastery of significant not trivial outcomes
Tuition Policy	√	High level thinking skills, individual inquiry, different perspectives and opinions, complex tasks, think critically, presenting and evaluating opinions
Implementing the Curriculum Policy	√	Analyse, evaluate, intellectual engagement
Open Distance Learning Policy	√	Construct new knowledge, reflection, using a variety of resources, critical thinking, engage in argument and debate
Framework for the Implementation of a Team Approach to Curriculum and Learning Development	×	×

#### **5.4.5 Technology as part of pedagogy to improve learning**

The appropriate use of ICTs for teaching and learning emerged from the majority of the policy documents (see table 5.9 below). The document analysis (as described in section 4.6.3.1) revealed that while ICTs are regarded as important, the overall reason for using ICTs should be to improve learning. To this extent, the Tuition Policy states that the university will “provide for the integration of ICTs in learning programmes and make effective use of technology in developing and offering its programmes and improving its teaching methods” (Unisa 2013a:1).

The Curriculum Policy meanwhile states that the use of technology should result in “more effective teaching and learning” (Unisa 2012a:17). Additionally, the policy for Implementing the Curriculum states that “the use of technologies is a pedagogical issue, therefore there must be a sound pedagogical reason for using the technologies in question” (Unisa 2011:8). The Open Distance Learning Policy concurs, stating that “the university will make effective use of educational and social technologies in learning programmes in appropriate and innovative ways that improve the quality of teaching and learning” (Unisa 2008:5).

From the analysis (as described in section 4.6.3.1) it appears that the dominant factors in the use of ICTs for teaching and learning is that ICTs must be integrated appropriately and purposefully. The extracts above highlight this view. The use of ICT in the curriculum should therefore be fit for purpose. Coupled with the appropriate use of ICTs for teaching and learning is the fact that the use of ICTs should result in more effective teaching and learning. This links directly to the overall aim of this study (see section 1.5), which is to find ways of integrating online learning in DE which is pedagogically sound.

**Table 5.9: Presence of technology as part of pedagogy to improve learning**

<b>Policy</b>	<b>Presence of technology as part of pedagogy to improve learning</b>	<b>Policy terms associated with technology as part of pedagogy to improve learning</b>
Curriculum Policy	√	Effective use of technologies, technological innovation, e-learning pedagogy
Assessment Policy	×	×
Tuition Policy	√	Effective and innovative use of technologies, integration of ICTs to improve teaching methods, use appropriate and sustainable technologies, use technology to explore knowledge
Implementing the Curriculum Policy	√	Use of technology pedagogical issue, pedagogical reason for using technology
Open Distance Learning Policy	√	Technologies used effectively to support teaching and learning, diverse and current technologies included in courseware

Framework for the Implementation of a Team Approach to Curriculum and Learning Development	x	x
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#### 5.4.6 Characteristics of student learning

Once the policies had been analysed (as described in section 4.6.3.1), it became apparent that there are certain characteristics of student learning that should be embedded in the curriculum. These characteristics include independent learning, active learning and reflection (see table 5.10 below).

**Table 5.10: Presence of characteristics of student learning**

Policy	Presence of characteristics of student learning (independent learning, active learning and reflection)		Policy terms associated with independent learning, active learning and reflection
Curriculum Policy	Independent learning Active learning Reflection	√ √ √	Critically aware of own learning, active intellectual engagement, independent learning, active learning
Assessment Policy	Independent learning Active learning Reflection	√ √ √	Student involvement, reflect on knowledge
Tuition Policy	Independent learning Active learning Reflection	√ √ √	Environment conducive to active learning, make decisions, solve problems, use knowledge sources effectively, continual self-improvement, rich, active learning experiences, engaged and involved participants

Implementing the Curriculum Policy	Independent learning Active learning Reflection	√ √ √	Independent, become aware of their own learning and development, active learning
Open Distance Learning Policy	Independent learning Active learning Reflection	√ √ √	Independent study, engagement of student, self-directed learning, active engagement
Framework for the Implementation of a Team Approach to Curriculum and Learning Development	Independent learning Active learning Reflection	√ √ √	Self-directed, active learning experiences

The analysis of the policy documents (as described in section 4.6.3.1) revealed that students should act as active agents in the learning process and take responsibility for their learning, while engaging in reflection. The Curriculum Policy, for example, states that students should be “critically aware of their own learning and developmental needs” (Unisa 2012a:10), while Implementing the Curriculum Policy states that “curricula should be designed in such a manner that students become independent, resilient and caring citizens, who are able to fulfil and serve in multiple roles” (Unisa 2011:2). The Tuition Policy states that students should be provided with an “environment which is conducive to active learning” (Unisa 2013a:1). In addition, the same policy “encourages students to be active, engaged and involved participants in their own learning processes, reflecting on what and how they learn” (Unisa 2013a:4). In agreement with this is the Open Distance Learning Policy which outlines that “teaching and learning materials will include independent study and assessments will assist students to monitor their learning” (Unisa 2008:4, 7).

Overall, the policy documents highlighted that students should be given opportunities whereby they become engaged in the learning process. They should be active agents in their studies and take responsibility for their learning, while reflecting on the actions required to achieve the learning outcomes.

## 5.5 FINDINGS EMANATING FROM THE QUESTIONNAIRES, INTERVIEWS AND DOCUMENT ANALYSIS OF THE ONLINE MODULE SITES (DATA SET B)

This section presents the findings emanating from the questionnaires, the interviews and document analysis of the online module sites. These findings are presented as themes and supported with direct information from the data to help illustrate the theme. An overview of the questionnaires and the interviews, as well as the document analysis of the online module sites is presented first. This is followed by a discussion of the themes which emanated from the three data collection methods.

### 5.5.1 Overview of questionnaires

All the participants (see section 4.6.2) were invited to complete the questionnaire (see appendix G). A 100% return rate on the questionnaires was obtained.

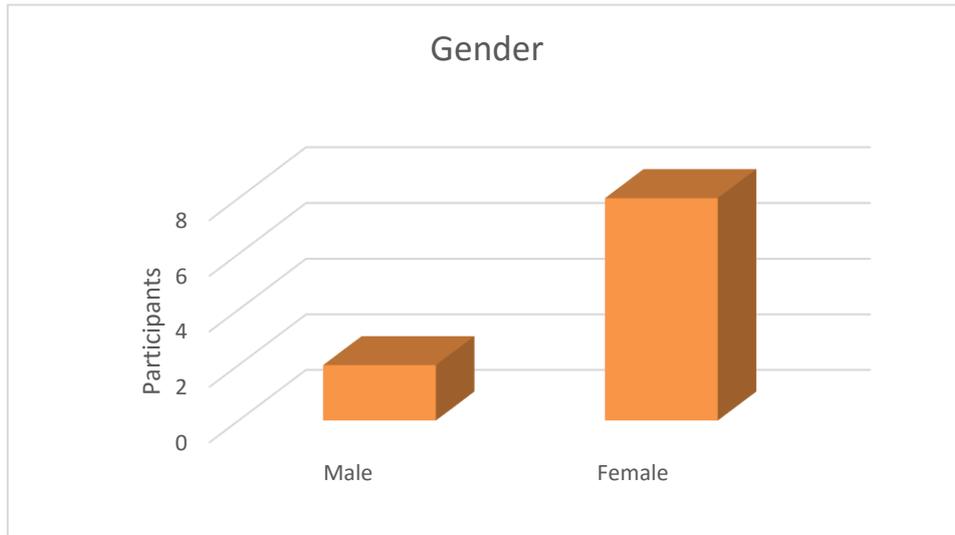
The questionnaires assisted me in unpacking the case I was exploring by providing demographic information about each participant. Moreover, it provided information regarding the manner in which participants were employing online learning as well as their overall challenges and experiences regarding online learning. The profile and the demographic information is illustrated in the table 5.11 below:

**Table 5.11: Profile of participants as suggested by Creswell (2012:254)**

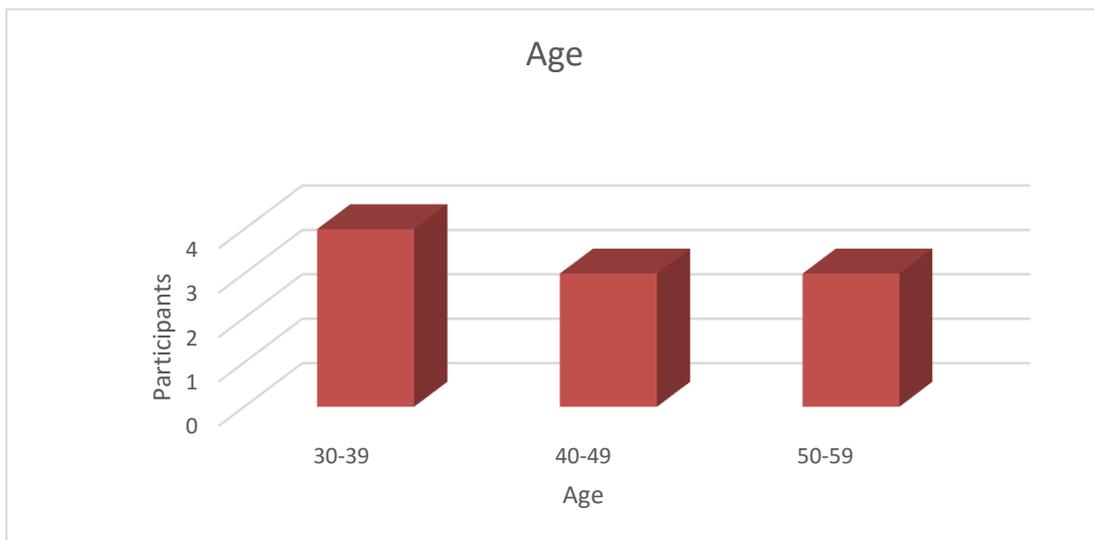
Participant	Gender	Age	Number of teaching years	Number of modules the participant teaches	Number of students per module	Number of hours spent on the online learning platform per week
Q1	Female	30–39	9	2	Module 1: 460 Module 2: 180	6–10
Q2	Female	30–39	14	1	Module 1: 1500	16–20

Q3	Male	40–49	7	1	Module 1: 150	0–5
Q4	Female	30–39	3	3	Module 1: 2600 Module 2: 25 Module 3: 30	16–20
Q5	Female	40–49	10	2	Module 1: 250 Module 2: 500	16–20
Q6	Female	30–39	5	1	Module 1: 4500	6-10
Q7	Male	50–59	30	1	Module 1: 600	0–5
Q8	Female	50–59	21	4	Module 1: 76 Module 2:559 Module 3: 39 Module 4:14	11–15
Q9	Female	40–49	3	1	Module 1: 250	6–10
Q10	Female	50–59	16	1	Module 1: 1400	16–20

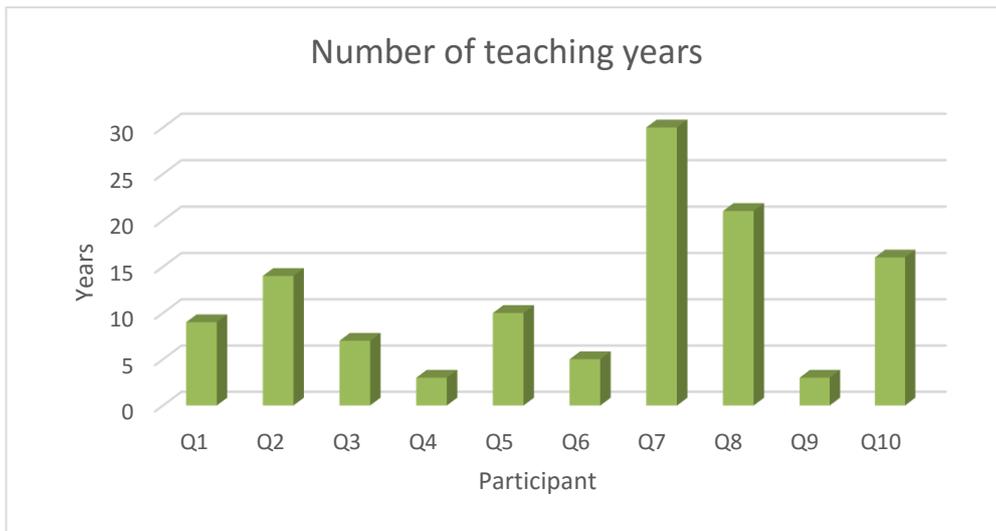
Table 5.11 indicates that the participants varied in terms of gender, age, number of teaching years, number of modules they taught, number of students per module and number of hours spent on the online learning platform per week. For ease of reference, the gender, age, number of teaching years, number of modules taught, number of students per module and number of hours spent on the online learning platform per week is displayed in figures 5.2 to 5.7 below. A brief discussion follows to explain what the figures (5.2-5.7) entail.



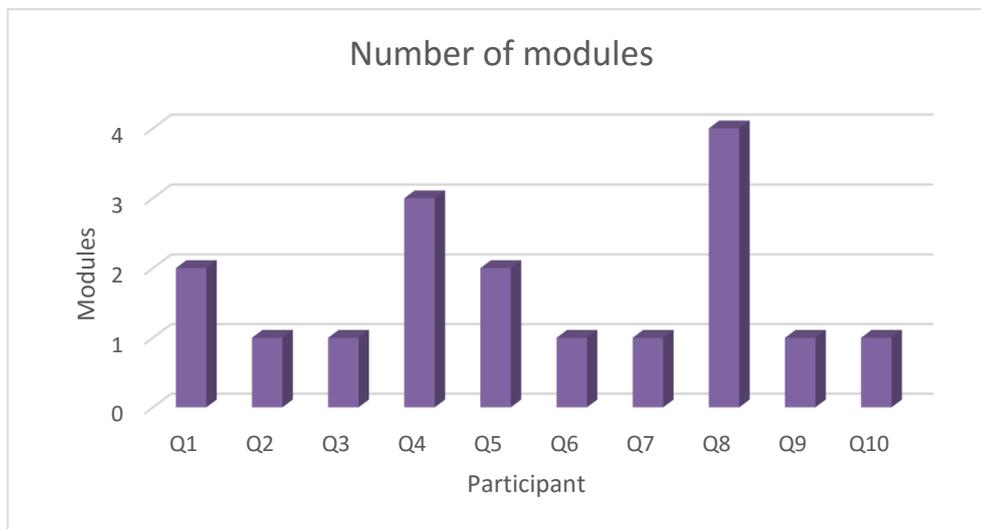
**Figure 5.2: Gender**



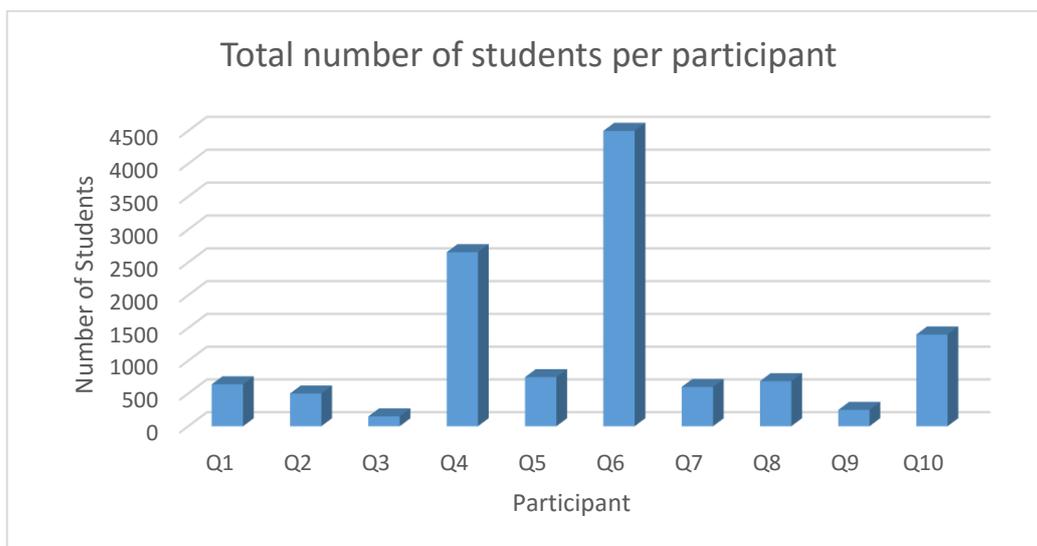
**Figure 5.3: Age**



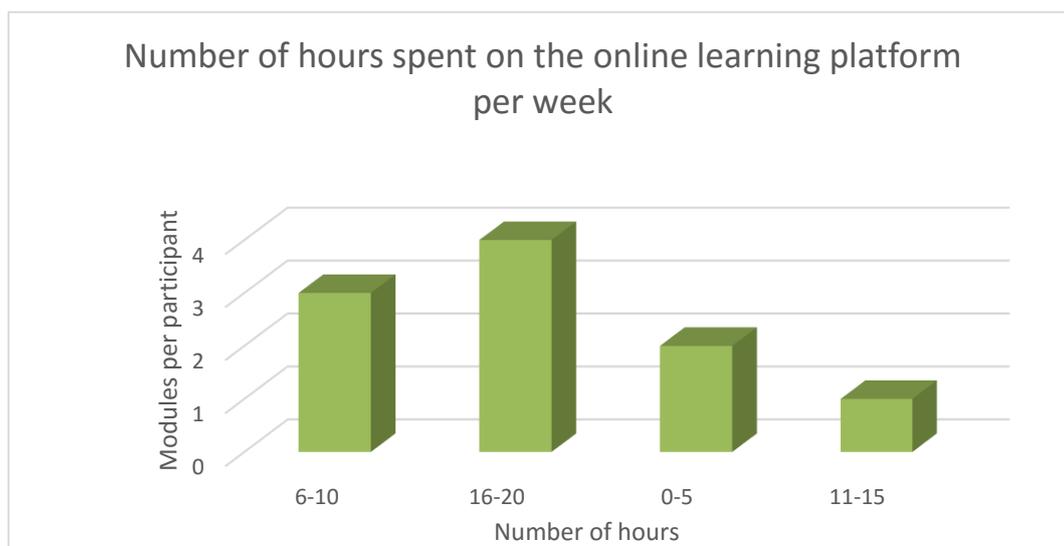
**Figure 5.4: Number of teaching years**



**Figure 5.5: Number of modules**



**Figure 5.6: Total number of students per participant**



**Figure 5.7: Number of hours spent on the online learning platform per week**

The information in figures 5.2 to 5.7 shows that the majority of the participants were female, participants' ages ranged between 30 and 59 years and they held between 3 and 30 years of teaching experience. The modules that the participants were responsible for teaching ranged between 1 and 4, with the total number of students ranging between 250 and 4500. Participants spent between 5 and 20 hours teaching online per week. For ease of reference, the participants are numbered consecutively from Q1 to Q10 and will be referred to as such when questionnaire data are referenced in section 5.5.4.

### 5.5.2 Overview of interviews

Each participant who completed the questionnaire was invited to participate in a follow-up interview (see section 4.6.3.3). These interviews allowed me to further explore and unpack the case I was researching. During the interviews I was able to follow up on questionnaire items that needed clarity and to explore the research phenomenon in more depth as I had the opportunity to probe for further information when I deemed it necessary. A total of eight participants accepted this invitation. Acceptance or not is indicated in the table below.

**Table 5.12: Interview participants**

Participant	Participation in interview
I1/Q1	Yes
I2/Q2	Yes
I3/Q3	No
I4/Q4	Yes
I5/Q5	Yes
I6/Q6	Yes
I7/Q7	Yes
I8/Q8	Yes
I9/Q9	Yes
I10/Q10	No

For ease of reference, the participants are numbered consecutively from I1 to I10 and will be referred to as such when interview data are referenced in. When the questionnaire data are referred to the participants will be referred to as Q1, Q2 and so forth. It is important to note that Q1/I1, Q2/I2 etc. represent the same participant.

### 5.5.3 Overview of document analysis: online module sites

On completion of the interviews I asked the participants if I could be given access to their online module sites. I deemed this necessary to confirm what the participants had shared in the questionnaires and the interviews. The document analysis of these sites also gave me the opportunity to engage with the module thus enabling me to explore the case in more detail. During the document analysis I engaged with the study material by listening to the available podcasts, watching the asynchronous videos and so forth, eventually engaging with all the activities available on the sites. This enabled me to provide more depth to the themes that had

emanated from the questionnaires and the interviews. Table 5.13 provides an overview of the document analysis of the online module sites. For ease of reference the modules are numbered from M1 to M8 and are referred to as such when data from the modules are referred to. when mentioned in. In table 5.13 below the first column labelled *module* indicates which module belongs to each respective participant.

**Table 5.13: Overview of document analysis: online module sites**

<b>Module</b>	<b>Access granted (in academic years)</b>	<b>Tools used</b>	<b>How the tools are used</b>
M1/Q6/I6	1	Discussions	To cover administrative matters and provide instructions for navigating the site  To introduce lecturer and invite students to introduce themselves  To discuss assessments
		Polls	To discuss themes of study guide based on experience of content students experience as challenging
		Additional resources	To ask students to provide feedback on lecturer's activity regarding the module
		FAQs	Links to external resources to provide content related to the module  To cover administrative aspects of the course

M2/Q10/I10	1	<p>Discussion Forums</p> <p>Podcasts</p>	<p>To explain difficult/complex concepts to students in a more straightforward way</p> <p>To answer students' questions</p> <p>To share recent developments relating to the module content</p> <p>To teach module content using audio</p>
M3/Q9/I9	1	<p>Video links</p> <p>Discussions</p> <p>Podcasts</p>	<p>To teach module content visually</p> <p>To develop activities that students must respond to</p> <p>To teach module content using audio</p>
M4/Q2/I2	1	<p>Samigo</p> <p>Zoom</p> <p>Youtube/GoAnimate</p> <p>Discussion Forum</p> <p>Podcast</p> <p>Questionnaires</p>	<p>To administer assessments</p> <p>To hold synchronous question and answer sessions with students</p> <p>To teach students using digital storyboards (animations)</p> <p>Topics are created for the learning units and students' questions are answered</p> <p>To teach module content using audio</p> <p>To obtain feedback from students on lecturers use of online activity</p>

M5/Q4/I4	1	<p>Podcasts</p> <p>Discussion forums</p> <p>YouTube videos</p> <p>Announcements</p> <p>Additional resources</p>	<p>To teach module content using audio</p> <p>To monitor and respond to students' questions</p> <p>To teach difficult concepts</p> <p>To inform students of new developments in the field and uploaded material that has been uploaded</p> <p>To provide students with new examples and additional related information</p>
M6/Q5/I5*	2	<p>Podcast</p> <p>Discussion Forums</p> <p>Additional Resources</p> <p>FAQs</p>	<p>To explain to students how the module site works and how to navigate the site</p> <p>To consolidate the content of each learning unit (students are asked to reflect on 3 things they have learnt, 2 things they are wondering about and 1 thing they are uncertain about)</p> <p>Templates are designed to guide students in completing assignments</p> <p>Short narratives per assessment criteria are drafted to show students what the assessment criteria look like in practice</p>

		YouTube links	<p>To cover administrative aspects of the course</p> <p>Link students to video clips and ask questions relating to learning material</p>
M7/Q5/I5*	2	<p>Podcast</p> <p>Discussion Forums</p> <p>Additional Resources</p> <p>FAQ's</p> <p>YouTube links</p>	<p>To explain to students how the module site works and how to navigate the site</p> <p>To consolidate the content of each learning unit (students are asked to reflect on 3 things they have learnt, 2 things they are wondering about and 1 thing they are uncertain about)</p> <p>Templates are designed to guide students in completing assignments</p> <p>Short narratives per assessment criterion are drafted to show students what the assessment criteria look like in practice</p> <p>To cover administrative aspects of the course</p> <p>Link students to video clips and ask questions relating to learning material</p>
M8/Q5/I5*	2	Podcast	To explain to students how the module site works and how to navigate the site

		Discussion Forums	To consolidate the content of each learning unit (students are asked to reflect on 3 things they have learnt, 2 things they are wondering about and 1 thing they are uncertain about)
		Additional Resources	Templates are designed to guide students in completing assignments
		FAQs	Short narratives per assessment criterion are drafted to illustrate to students what the assessment criteria looks like in practice
		YouTube links	To cover administrative aspects of the course  Link students to video clips and ask questions relating to learning material

**\*M6–M8 represents the same participant who granted me access to three of her online module sites.**

#### **5.5.4 Themes emanating from the interviews, questionnaires and document analysis of the online module sites**

Table 5.14 presents an overview of the themes and sub-themes that emerged from the questionnaires, the interviews and the document analysis of the online module sites. The majority of the themes were seen to be consistent across all three. However, there were two themes that did not appear across all three data collection methods and are noted as such.

**Table 5.14: Overview of themes emanating from questionnaires, interviews and document analysis of the online module sites**

THEMES	SUB THEMES
Content-centred approach	
Support	Academic support Emotional support
Pedagogic choices	Use of resources Trial and error Feedback to improve practice
Low participation	
Pedagogical strategies	
Preparing students for the working environment	Authenticity (Let's get real) Transfer
The digital natives versus digital immigrants conundrum	
ICT support	
Let's connect	

The following themes emanated from the analysis of the questionnaires, the interviews and online module sites (see section 4.6.3.1 and 4.7)

#### 5.5.4.1 Content-centred approach

The data revealed that participants were following a content-centred approach to integrating online learning. In this regard, it became apparent that the content was the primary factor in the online learning encounter, while the student appeared to be the secondary factor. It further appeared that participants invested a significant amount of time in structuring their online module sites, as the document analysis revealed that every online module site had a reasonable amount of materials and planned activities (see chapter 5, table 5.13 for the manner in which the participants were using the online module sites). Once the materials and activities had been uploaded the participants monitored the site for students' responses to this information. When students responded to the materials and activities the participants generally responded to their questions. Provision was not made for students to engage with each other regarding questions based on the materials and activities. It would therefore seem that participants are orientated to adopting a top-down approach to integrating online learning whereby they provide students with the answers. The need for students to actively engage

with course materials in the online learning environment through enquiry-based approaches is articulated by Palloff & Pratt (2001), Swan (2010) and Veletsianos (2010). I therefore wanted to ascertain why a top-down approach appeared to emanate, as the students are adult learners who are generally capable of engaging in conversation with their peers and engaging in self-directed learning (Hase & Kenyon 2001a). When I probed this matter with the participants, they gave various reasons for why they personally responded to the students' questions in this way. One participant had the following to say:

*I find that students have posed a question either to me directly or general questions to the other students. So if it is something that they obviously don't understand and it is an important thing, I think to myself, look I think it's better if I just answer this, then everyone understands and we are on the same page (I4).*

Sharing similar views were two other participants who mentioned the following:

*I don't make them talk to teach each other, I am still the source of knowledge and it is up down, so that is something I need to work on (I6).*

*I think I just get excited when I see a response, so I want to encourage them and be the person to communicate back. I see in other modules students communicate for marks, but if we do that now, I am a little scared that they would not communicate and then I would lose what little participation I have (I1).*

The above extracts indicate that although majority of the participants were following a top-down approach in the online environment their reasons for doing so were different. The data revealed that participants leaned toward a top-down approach because they did not want discrepancies to arise in the manner in which their students interpreted the content. By answering the questions, all the students were given the same answer and this created a sense of uniformity in terms of the content. Other participants felt that it was their duty to answer the questions as they were the subject experts and understood the content best. It therefore appeared that the content was the focus and getting students to engage with the content appeared to be secondary, hence participants appeared to be adopting a content-centred approach to integrating online learning.

#### 5.5.4.2 Support

The theme of support manifested itself in the form of both academic and emotional support. Participants believed that such support can be fostered in the online environment. A discussion on the secondary themes of academic and emotional support follows below.

##### 5.5.4.2.1 Academic support

Participants expressed the opinion that the online environment was beneficial for offering support to students, especially in a DE context. They felt that this environment assisted them to maintain contact with their students and keep track of the students' concerns and queries regarding the module. In terms of academic support participants explained that the online platform can create "*the impression of face-to-face teaching at a distance*" (I7) and that, "*learning takes place at any time/place in different methodologies, collaboratively*" (Q7). Participants were of the opinion that the online platform served as a vehicle, which was, "*flexible in time, method and tools*" (Q2).

Academic support was offered using various tools (see chapter 5 table 5.13). Most of the participants initiated academic support through activities, discussions and the uploading of additional resources. In this regard, the participants played an active role in the online environment by trying to engage their students by means of academic support.

Participants regarded academic support as indispensable for DE students. They explained that because DE students do not attend class, the online environment can serve as a vehicle for guiding them toward understanding the module content. Accordingly, participants were making a concerted effort to teach and be available online. Despite this, only a small percentage of students were engaging on matters relating to academic support. I explored the reason for this and it came to light through the discussions that the students were not made explicitly aware of the academic support that is available. Participants explained that they *do not tell students explicitly* (I4, I6, I9) while others explained that although they teach students how to access the site via their tutorial letters, they do not tell students, *what would be available* (I2, I1). Additionally, it was not compulsory for students to complete the work that the participants set out under academic support. It could therefore be suggested that there was a gap between the students' actions and participants' expectations. This gap relates to the fact that participants were making resources, activities and so forth available for students but they were not asking students to go and visit the online site. Therefore, while the participants

assumed that students would take the opportunity to make use of the academic support, this was not always the case.

#### **5.5.4.2.2 Emotional support**

The theme of emotional support was clearly linked to the DE context that the participants and students are positioned in. Participants were of the opinion that the online platform was key to bridging the distance between themselves and their students. This correlates with the view of Moore and Kearsley (2012) who highlight that supporting students through dialogue is beneficial for bridging the distance characteristic of DE environments. It was evident that participants felt strongly that students should receive emotional support owing to the fact that all students are registered as part time students as a result of the DE nature of the university. This implies that they have to manage and find a balance between their responsibilities to work, family and studies. As such, students can find themselves in situations where they feel overwhelmed. Within this context, they argued that students must be reassured that there is someone who cares about their success.

Emotional support was characterised by expressions such as: *care, interest, safe space, guidance, sense of belonging* (I1, Q8) and so forth. One participant described her online teaching practices as a “[p]sychological and intellectual intervention, to make students aware that there is someone there when they need help” (I4).

Another participant explained that she wanted the students to know

*“[t]hat we do care and that there is someone responding to queries and someone that is interested in them passing”* (I5).

Even a subject like Mathematics, concerning which the participant explained that while it is a challenge to teach numerical content online, the online platform can be used as a vehicle that makes *“students feel that they are part of a group”* (I8)

Some examples of the manner in which participants offered emotional support to students was by engaging in practices like introducing themselves to students and inviting students to introduce themselves. Participants also encouraged students to form study groups as a form of academic and moral support. It was evident that participants were of the opinion that emotional support was important for DE students and that the online platform could be used as a vehicle to harvest emotional support. This relates to the work of Sun and Rueda (2012)

and Cleveland-Innes and Campbell (2012), who argue that it is essential to acknowledge emotion in the online learning environment. This, they postulate, leads to establishing a sense of security, well-being and confidence among learners. Sung and Mayer (2012) also stress the importance of creating an opening and welcoming online learning environment in which students can express themselves.

### **5.5.4.3 Pedagogic choices**

Pedagogic choices refer to the decisions the participants took in structuring their online activities. The theme of pedagogic choices is characterised by the sub-themes of use of resources, trial and error, and feedback to improve practice. A discussion follows below.

#### **5.5.4.3.1 Use of resources**

The majority of the participants made use of additional online resources. This means that they were making resources available to students that did not form part of the prescribed study materials. Some examples of the way in which these additional resources were used was to keep the content of the module topical and relevant. Additional resources also provided variety through text, graphics and audio, thereby catering for students who learn differently (see chapter 5, table 5.13 for an explanation of the use of additional resources in each of the respective modules).

It appeared that if students engaged with the additional resources they would have much to gain. During my analysis of the online module sites, I opened the additional resources, for example I listened to the podcasts that were loaded in module M5 and watched the digital story boards that were loaded in module M4. I found that I understood the content of the podcasts and the story boards even though I had no prior knowledge of the module content. However, discussions on the use of these resources revealed that students did not pay much attention to them. In exploring the reason for this with the participants, the researcher discovered that students were not required to do anything with the resources and materials. One participant explained that the resources “*are for students’ own reading purposes*” (I2), while another explained that “*it is stuff that is available for them to understand the module, a different way of explaining it*” (I9). Sharing similar views was another participant who explained that “*everything in the folder is just interesting stuff*” (Q6).

The discussion revealed that the additional resources were uploaded merely for informative purposes. This was confirmed by the document analysis of the online module sites. In the majority of the modules there were no follow-up activities or discussion topics based on the resources. Therefore, it was up to the individual student whether or not to make use of the resources. I noted that in two of the modules the participants would load the additional resources and ask students to “*share your thoughts on the resource*” (M5), while another participant asked the students if the resource “*was helpful in your learning experience?*” (M4). It could therefore be inferred that the use of the additional resources was not designed to allow students to engage with the resource through follow-up activities. Even in the two examples previously cited, the follow-up questions were reflective in nature as opposed to asking specific questions about the resource.

The use of resources also manifested itself in the concept of scaffolding. In this regard a common trend that emerged from the document analysis of the online module sites was that participants divided the content of the module into learning units. For example, in module M3 the participant uploaded videos of herself teaching the learning units to students. In module M6 the participant practised the “*3,2,1 principle*” for each learning unit. In this regard students were invited to post “*3 things you learnt, which you did not know before, 2 things you are still wondering about and 1 thing you want to share*” (M6).

The above information points to the fact the participants were making a concerted attempt to use the online learning platform. It could however, be suggested that the use of resources should be purposefully structured so as to motivate students to utilise them (Yildirim & Adnan 2019 & Garrison & Akyol 2013).

#### **5.5.4.3.2 Trial and error**

The concept of trial and error manifested itself in the way in which participants were integrating online learning. This implies that participants were not following a set of guidelines of how to teach online. I discovered that each participant made use of tools and approaches that were based on their experience of what worked and what did not work, thereafter adapting their approaches as necessary. Participants explained that they did not refer to specific theories or guidelines when integrating online learning but rather relied on their own teaching practices to guide them in the online environment. This was reflected in the participants’ comments, as shown in the examples below:

*I am only learning now what it is that I was doing and where I was going with what I was doing. Some of the mistakes I was making. So going forward there is so many things I am going to do differently (I5).*

*I have learnt a lot from another module and how they assess their students, so maybe I will use some of the tools they have used (I1).*

In the interviews, the participants alluded to their feelings of uncertainty at times when teaching online. They explained that they worked on a reflective basis and used their experiences of what worked well for their respective modules to adapt their teaching practices. In this regard, they explained that they would like more direction from the institution in terms of integrating online learning.

#### **5.5.4.3.3 Feedback to improve practice**

Closely related to the sub-theme of trial and error was the sub-theme of feedback to improve practice. This theme manifested in two forms. The first was in the way in which participants used the feedback received from their students to improve their methods for integrating online learning. The second took the form of participants using the online platform to scaffold and unpack the learning material that the students found challenging.

Participants obtained feedback from students using various approaches. Some examples included the use of polls and questionnaires that students were given the option to complete. Examples of some of the questions taken from module M1 are the following:

*Do you feel that the lecturers keep you updated on what is happening in the module?*

*Is it helpful that each discussion topic created by the lecturer starts with an explanation and example of the concept at hand?*

*If you have posted a question on a discussion forum were you satisfied with the answer provided by the lecturer?*

The completion of the polls and questionnaires was optional and students were told that their responses would remain anonymous. The nature of the questions revealed that participants wanted feedback from their students in order to ascertain whether their online teaching practices were beneficial and helpful.

Apart from using the online platform to improve their methods for integrating online learning, participants were of the opinion that the platform could be used as a vehicle for addressing areas of the module that students found challenging. Participants explained that they used the platform to help students understand difficult content in the module. I discussed this further with the participants to establish how they identified which areas of the module students found challenging. The discussions revealed that all the participants identified challenging material based on the basis of their experience of teaching the module. These are some of the participants' responses in this regard:

*What I do from past experience with these particular units, I post questions that I know students have difficulty with (I1).*

*I usually look at stuff where I get a lot of e-mail queries or exam or assignment questions where students do not perform that well (I9).*

The above highlights that the participants were monitoring their students' understanding of the module. Based on what they observed they developed support mechanisms on the online platform to assist their students to better understanding the learning material, thus using feedback to improve practice.

#### **5.5.4.4 Low participation**

The data revealed that although participants were making use of the online platform, participation by students was significantly low. It appeared that activity on the platform was generally low but increased before assessments were due. When analysing the online modules sites, I noted that the most student participation occurred where the discussion topics were labelled *examination* or *assessment*. It could therefore be inferred that students were motivated to use the online platform when the work they were querying was related to receiving credit. The participants mentioned low participation from students as being a challenge for them. They explained that they visited the online platform regularly and posted important information for students on the module. However, students were not making use of the available information or the invitation to participate online. One participant mentioned that it feels like “[I am] teaching into an empty void” (Q6). Sharing similar opinions were other participants who explained that there is a “huge section of the population of students that never go online” (Q4) and that students “are not using the OL platform as they should” (I1).

This raised concern among the participants as they explained that “even when we send important documents, students do not seem to access them” (Q10). Another participant put it

this way: “[I do not want to post something of such value that those that cannot access lose out” (14).

It appeared that the participants found themselves in a challenging situation because while they were optimistic about the value of using the online platform, their students were not responding or engaging on the platform as they had hoped. Participants were therefore not satisfied with the level of participation and engagement from students. I explored this matter with the participants and discovered that because students were not explicitly told to visit the online platform, it was optional for students to participate and engage on the site. It appeared that students were not aware of what was expected of them. Defining students’ roles and responsibilities has been identified as an important factor for successful online learning (Kanuka 2011). It could therefore be suggested that because students were not told about the value of participating and engaging on the online platform and what their role should be, participation was low, especially during periods when no assessments were due. One participant mentioned the following:

*Closer to exam time what they will do, is they ask a question related to the content of the guide, without having going to the relevant section first and reading the discussions, to find out whether their question had already been answered (16).*

The above statement further suggests that students were motivated to use the online platform closer to assessments because they are credit bearing. This ties in with the work of Naidu (2014b), who points out that motivation must be harnessed in the online learning environment.

Participants’ concerns were affirmed during the interview with the ICT participant, who explained the following:

*We get a lot of enquires from lecturers who say, so can you prove the student did this or that kind of thing ... so a lot of reporting, a lot of log analysis ... they are looking for a way to identify and encourage students who are not participating (ICT participant).*

Considering the above it could be inferred that low participation by students is a significant challenge in terms of the use of and engagement on the online platform.

#### **5.5.4.5 Pedagogical strategies**

The discussions with participants revealed that they felt it would be beneficial to have more direction from the institution on integrating online learning. Participants mentioned that they depended on their own experience of using the online platform when integrating online learning. They referred to the absence of a set of principles for integrating online learning in their respective departments. I found that each participant relied on their own knowledge and skills of what and how to integrate online learning. Their need for direction was expressed in the following statements:

*It is a more connected world and the study guide and the lecturer are no longer the only source of information ... I understand now that we are learning more about how people learn ... just need to figure out how to do it in my module (16).*

*I would like more direction for teaching online (19).*

*If you are not in education, you don't have any idea about learning theories ... with us it is a bunch on chartered accountants in a teaching role (12).*

*Lecturers cannot be expected to know educational pedagogics by osmosis (15).*

As I conversed with the participants it became evident that because they belonged to disciplines like Law, Mathematics, Economics and so forth they did not necessarily have the pedagogical background that a professional in the Education discipline would have. These participants found themselves in a teaching role without necessarily having a foundation in the principles and practices of pedagogics. Most of the participants acknowledged this as presenting a challenge for them and therefore stressed the need for more direction in terms of online learning. A lack of expertise by staff members has also been noted in the work of Oye et al (2011) and Tarus et al (2015), who point out that in light of the lack of expertise it is essential for lecturers to be trained and equipped with online learning skills.

#### **5.5.4.6 Preparing students for the working environment**

Participants were of the opinion that it is increasingly important to equip students with the knowledge and skills they will require in the working environment. They mentioned that is not sufficient to merely teach content to students. Students must be able to apply the content to

practice. Most participants felt that applying content to practice means presenting students with opportunities to develop skills that will enable them to apply the content to the working environment. It emerged that participants believed that this could be achieved by presenting students with authentic material that they have to apply to practice. Authenticity and the concept of transfer therefore surfaced as secondary themes, as is explained below.

#### **5.5.4.6.1 Authenticity (let's get real)**

The concept of authenticity in this regard pertains to presenting students with material that relates to their discipline at a practical level. The theme of authenticity was salient in the participants' discussions with specific reference to their respective disciplines. Participants were of the opinion that students had to be presented with material that would give them an opportunity to see how the content manifests in practice. Authenticity was characterised by terms like *change*, *real world*, *recent* and *relevant* (Q4, Q7). One participant explained that he teaches a “*dynamic course with changes happening all the time*” (I4), while another participant explained that “*it is so important to make it real world for my students*” (I8). Sharing similar views were other participants who explained that they regard it as important to ask about *recent and relevant events* (Q5, Q10), while another explained that his discipline is “*is fully online*” (I7) and that students will not be able to function in the workplace if they are not exposed to working online.

It appeared that authenticity manifested in two forms. The first was that participants used the online platform to update and present students with materials that they believed related to the discipline on a practical level. This relates to the work of Bhuasiri et al (2012) and Means et al (2014), who point out that online learning can immerse students in real environments. Garrison and Akyol (2013) furthermore postulate that exposing students to opportunities where they have the opportunity to relate content to social contexts enables learning to become authentic.

The second was that participants used the online platform to teach students to develop skills for online navigation. An example of this was in module M4 where students were given a digital storyboard to watch, which explained concepts as they relate to practice. Authenticity in this regard was therefore present in content. This was coupled with teaching students the skills needed to navigate the online environment by asking them to download and watch the digital storyboard.

I found that the theme of authenticity could be linked to the theme of *low participation*, which is discussed in section 5.5.4.4. When I visited the online module sites I found that participants

were loading topical information related to the module content. For example, in module M2, the participant loaded current cases that were relevant to the module. In module M8, academic articles related to the module content were loaded for students to read. Although the examples of authentic materials that were uploaded across the online module sites differed, I found that in the majority of modules no specific follow-up activities were included. It was therefore optional for students to utilise the material and the resources. This may suggest that participation by students was low because they were not given enough direction on what to do with the materials and resources.

#### **5.5.4.6.2 Transfer of knowledge and skills**

Most of the participants explained that they wanted their students to be in a position to transfer the knowledge and skills gained from their qualification to their place of work. Participants explained that the focus of obtaining a qualification should not be on, “*merely gaining a piece of paper*” (I1). Instead it should be on using the knowledge and skills gained in the qualification in the working environment. This ties in with the work of Mbaty and Minnaar (2015), who articulate that students should be given the opportunity to apply knowledge they have gained. In this regard participants mentioned that they used the online platform to develop tasks and activities that encourage students to relate theory to practice. Below are some of the views that participants held regarding the theme of transfer:

*We can teach what we want to in the book, but it does not always work like that in practice (I5).*

*We don't have a choice but to teach the students and allow them to learn in the way in which they will function in the workplace (I7).*

Participants explained that they tried to equip their students with skills and knowledge required for the workplace by informing them of relevant developments in their discipline. The document analysis of the online module sites confirmed that students were provided with materials and resources that highlighted practical examples relating to the discipline. In module M8, for example, students were provided with articles relevant to the field which they were encouraged to read. In module M5, students were asked to read an article and share their thoughts, which generated some discussion among the students. As I analysed the module sites I noted that there were few structured questions or tasks linked to the materials and resources. It may therefore be suggested that although the participants were vesting time in searching for and uploading authentic materials and resources, they were not vesting time in thinking of ways to encourage students to make use of them.

#### 5.5.4.7 The digital natives versus digital immigrants conundrum

The data revealed that key to successful online learning was to present the online environment in a way that is user-friendly and easy to navigate. Participants explained that experience of integrating online learning revealed that students have varying levels of ICT skills, meaning that some students can navigate the online environment with ease (digital natives) while others find it challenging (digital immigrants). This ties in with Liebenberg et al (2012), who found that the level of skills to use ICTs varies among students in the online learning environment. Conole and Alevizou (2010) furthermore state that working and learning online is significantly different from traditional face-to-face learning and accordingly requires a different set of skills.

In this regard participants mentioned that it was essential to cater for all students so that they are in a position to navigate the online environment. Participants made reference to terms like *scaffolding* and *guidance* (I1, I8) in directing students. They furthermore explained that lecturers come from a position of knowledge in terms of knowing how to navigate the online learning platform. Students, on the other hand, depending on what level they are in their studies might have never used or engaged on the online platform. Below are some examples of the participants' opinions on the digital literacy of students:

*How they use the site might be a problem for now (I1).*

*I think a lot of them struggle and maybe that might also be why they ask and answer questions in the incorrect place because they do not know how to navigate the site (I9).*

As I engaged with the participants, it became salient (through quotations like the above) that students did at times experience challenges in navigating the online platform. The participants' views were confirmed by the ICT participant who explained that:

*We have complaints from students; especially first time students on what do I do next? I have logged in, I have set up my password, and now what? I think from first years mostly is to know what to do ... students need guidance ... a little bit of bridging to lead them into the technology (ICT participant).*

Reflecting on the above it may be inferred that support in terms of ICT skills is an important factor in successful online learning. Conole and Alevizou (2010) reiterate this point by stating that digital literacies must be addressed so that users can navigate the online learning

environment effectively. I personally experienced this as I conducted the document analysis of the online module sites. I found that where the module sites clearly stated which tools would be used and what would be available under each tool, the site was easy to navigate. On the other hand, there were sites that made use of a variety of tools, but this was not explicitly stated, and I found these sites challenging to navigate at times. Accordingly, the challenge lies in catering for students who come to university with varying levels of digital literacy. This is especially pertinent in developing countries where a balance needs to be found between the use of ICTs and ensuring that students are not further disadvantaged (Brown 2012). It therefore stands to reason that participants found themselves with a conundrum, having to design and structure the integration of online learning in a user-friendly manner that all students could cope with.

**The following theme emanated from the questionnaires and interviews:**

#### **5.5.4.8 ICT support**

The level of support by the ICT department in the institution posed a significant challenge for many of the participants, who felt they were not being given adequate support from the department. Examples of the challenges mentioned by participants included the system crashing and working slowly. Participants who were located away from the main university explained that their challenges were exacerbated by unreliable internet access. They stated that when they reported the challenges that they were experiencing they did not receive immediate assistance but had to wait before their query was attended to. This resulted in delays in the completion of their work. Moreover, participants stated that their students experienced ICT challenges, often reporting their ICT related challenges to them, which they in turn reported to ICT. Being presented with ICT challenges meant that students experienced delays in submitting their assessments and difficulty accessing the online platform. The participants' concerns regarding the challenges they experienced with reference to ICT were expressed in the following statements:

*... daily we are challenged with ICT (I2).*

*... the system crashing is a big problem (Q10).*

*... the technical, ICT support is not as good (Q2).*

Reflecting on the concerns participants raised in regard to ICT challenges, I addressed this in the interview with the ICT staff member. The interview revealed that the ICT department experiences high call volumes from staff members who log calls regarding ICT challenges.

The interview participant explained that the helpdesk that is assigned to assist students with their ICT challenges is also responsible for attending to all the other student queries. The helpdesk therefore becomes inundated at times as they attend to several queries of a different nature.

In light of the information gained from the interview with the ICT staff member, the challenges that the participants and the students were experiencing stand to reason. The discussions with the participants also revealed that an unreliable ICT system coupled with inadequate support regarding ICT problems make the completion of tasks challenging for both staff and students alike. It can therefore be suggested that a reliable ICT system coupled with adequate ICT support is vital for effective online learning. This had been noted in the work of Eke (2011), Mtebe et al (2011), Munguatosha et al (2011) and Tarus et al (2015), who point out that technical support has been noted as a challenge for online learning and that reliable and supported ICT infrastructure is crucial for successful online learning.

**The following theme emanated from the document analysis**

5.5.4.9 Let's connect

All the online module sites revealed that students wanted to belong to online study groups. A common trend that emerged from the discussion topics was that students posted their mobile telephone numbers online and asked to belong to a study group. It was also evident that students wanted to form study groups outside the online module site using the mobile telephone application called WhatsApp. In this regard, they posted their mobile telephone numbers and would post a message reading, "*please add me to the WhatsApp group for this module*" (M1–M8). It may therefore be suggested that students want support from each other but they want this support to take place outside of the online module site. Observing the students' requests to belong to online study groups outside of the module site led me to refer back to theme *low participation* (see section 5.5.4.4), where participants explained that student participation on the online module sites was low. It appeared that even though participants expressed concern regarding the level of student participation and engagement on the online module sites, students did want to engage with their peers outside the module site.

Another way in which students connected with each other via the online module site was by making use of the Discussion Forum tool. On the majority of the online module sites the participants asked students to introduce themselves. These introductions allowed students to

communicate information about themselves – who they are, where they are from and the qualification they were currently registered for. Through these initial introductions a string of communication developed in which students expressed both their expectations and their insecurities regarding the module. For example, students said they were “*nervous*” (M5) about completing the module or “*it’s their first time completing a module of this nature*” (M4). It appeared that the online environment was used to form communities where students found reassurance that there were other students with similar concerns to theirs. Jackson et al’s (2013) research similarly found that online communities resulted in students’ satisfaction in terms valuing of peers’ perspectives. This links back to the theme of *emotional support* (see section 5.5.4.2.2), in terms of which participants expressed the belief that DE students need emotional support and that this can be provided in the online learning environment.

## **5.6 REFLECTION ON THE FINDINGS OF THE DOCUMENT ANALYSIS OF POLICIES AND QUESTIONNAIRES, THE INTERVIEWS AND DOCUMENT ANALYSIS OF ONLINE MODULE SITES**

The findings of the document analysis of the policies and the findings of the questionnaires, interviews and document analysis of the online module sites revealed certain similarities and differences between themes. In this regard, certain themes that emanated from these sources were similar in nature and shared related characteristics. On the other hand there were some themes that emanated only from the document analysis of the policies or from the questionnaires, interviews and the document analysis of the online module sites. A reflection on the themes emerging from data sets A and B follows below.

The theme of *student support* (see section 5.4.1.1, 5.5.4.2) emanated both from the document analysis of the policies and from the questionnaires, the interviews and the document analysis of the online module sites. Student support in both data sets was characterised by the idea of supporting students with the intention of equipping them with the necessary knowledge and skills to obtain their qualifications. The theme of obtaining a *broad skills set* (see section 5.4.3), which emanated from the document analysis of the policies, relates to the theme of *preparing students for the working environment* (see section 5.5.4.6), as was evident in the findings from the questionnaires, the interviews and the document analysis of the online module sites. In this regard, both themes centred on the idea of equipping students with both content knowledge and application skills that they could apply to the working environment. This implies presenting them with authentic material that engages them in applying content to practice. Engaging students in this type of activity requires of them to become active in the learning process and engage in independent and reflective learning, which in turn relates to the theme

of *characteristics of student learning* (see section 5.4.6). This summarises the themes that were related across the data sets.

The remainder of the themes, i.e. *student centeredness* (see section 5.4.1), *critical thinking* (see section 5.4.4) and *technology as part of pedagogy to improve learning* (see section 5.4.5) featured only in the document analysis of the policies.

*Content-centred approach* (see section 5.5.4.1), *pedagogic choices* (see section 5.5.4.3), *low participation* (see section 5.5.4.4), *pedagogical strategies* (see section 5.5.4.5), *the digital native versus digital immigrants conundrum* (see section 5.5.4.7), *ICT support* (see section 5.5.4.8) and *let's connect* (see section 5.5.4.9) only emanated in the findings from the questionnaires, the interviews and the document analysis of the online module sites.

The differences in findings between the document analysis of the policies and the findings of the questionnaires, the interviews and the document analysis of online module sites point to several issues. The theme of *student centeredness* (see section 5.4.1) emanated strongly from the document analysis of the policies. However, the findings of the questionnaires, the interviews and the document analysis of the online module sites revealed that participants were adopting a *content-centred approach* (see section 5.5.4.1) to integrating online learning. In this regard the content of the module would appear to be the primary feature, with the student being featured as secondary. *Critical thinking* (see section 5.4.4) emanated from the document analysis of the policies, where the idea that students should be presented with tasks that require inquiry and problem solving was articulated. The findings from the questionnaires, the interviews and the document analysis of the online module sites, however, revealed that critical thinking was present only to a limited extent in the manner in which the participants were integrating online learning. This was evident in the themes of *pedagogic choices* (see section 5.5.4.3) and *preparing students for the working environment* (see section 5.5.4.6), which revealed that the activities and resources used, generally did not include follow-up questions or engage students further. The aspect of student-centredness is fundamental in a DE environment as is evident in the theoretical framework underpinning this study (Moore & Kearsley 2012, Hase & Kenyon 2001b, Garrison 2007 and Garrison & Akyol 2013). Placing the student at the centre of the learning encounter will assist lecturers in making informed pedagogic choices, whereby they can incorporate elements of critical and higher-order thinking. This will in turn equip students with knowledge and skills that they can transfer to the working environment.

*Technology as part of pedagogy to improve learning* (see section 5.4.5), which featured as a theme from the findings of the document analysis clearly articulated that the use of ICTs should be pedagogically grounded. Participants revealed an eagerness to use ICTs in a pedagogical manner, but stressed the need for direction in this regard, hence the theme of *pedagogical strategies* (see section 5.5.4.5) was formulated. In this regard, it emerged that participants worked on a *trial and error basis* (see section 5.5.4.3.2), while using *feedback to improve practice* (see section 5.5.4.3.3). The themes of the *digital natives versus digital immigrants conundrum* (see section 5.5.4.7), *low participation* (see section 5.5.4.4) and *ICT support* (see section 5.5.4.8) surfaced as challenges that participants experienced in terms of integrating online learning. Students wanting support from each other in the form of online study groups (*let's connect* – see section 5.5.4.9) was noted as a theme that emanated only from the document analysis of the online module sites.

## **5.7 CONCLUSION**

This chapter presented the findings of the empirical research. The chapter began by presenting an overview of the policies belonging to the research site, which formed part of the document analysis. The findings of the policy document analysis were subsequently explored. This was followed by a discussion of the findings that emerged from the questionnaires, the interviews and the document analysis of the online module sites. Finally, the findings of the two sets of data were reflected on.

The next chapter presents the summary, conclusions and recommendations of the study.

## **CHAPTER 6**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **6.1 INTRODUCTION**

In this chapter I present a framework for the integration of online learning in DE. This framework is informed by the theoretical framework that guided this study coupled with the empirical findings of the study. The chapter begins by presenting a summary of the literature review and the empirical study. A synthesis of the research findings is subsequently explored and the conclusions of the study are thereafter discussed. The limitations and recommendations of the study follow and the chapter concludes with a discussion containing some suggestions for further research.

#### **6.2 SUMMARY OF LITERATURE REVIEW**

The literature review for this study covered both the theoretical framework (see chapter 2) and the conceptual framework (see chapter 3) that guided this study.

The theoretical framework began by presenting the primary theories (see section 2.2) that underpin the field of DE. In addition, the pioneering theorists who made contributions to field were discussed in this section. In this regard the work of Otto Peters who espoused an industrial model of DE was discussed first. This was followed by a discussion on the work of Borje Holmberg, who proposed the theory of guided didactic conversation, as well as that of Charles Wedemeyer who regarded the student as an independent agent in DE. This section concluded with a discussion of the theory of transactional distance, as advocated by Michael Moore. While these theories presented different principles of DE, common views that emerged from the theories were communication, independence and the use of technology to bridge the distance that is characteristic of DE. This discussion on the DE theories was regarded as important because the study was contextualised in a DE context.

As the study aimed to examine the way in which online learning may be integrated in DE, a discussion of the primary learning theories (see section 2.3) as outlined in the literature followed. Accordingly, behaviourism was discussed, which postulates that learning is understood by studying observable behaviour. Cognitivism was subsequently explored, which advocates that learning is related to the mental capacity of individuals. Constructivism, on the other hand, holds that learning is constructed by individuals. This section concluded with a

discussion on social constructivism, which was the paradigm that guided this study and which places particular emphasis on the collective construction of knowledge.

Heutagogy (see section 2.4) was also discussed in this chapter. From this discussion it emerged that students should be self-directed and practise independence and problem-solving when learning. The community of inquiry (CoI) (see section 2.5) was subsequently explored, which postulates that fostering communities of inquiry is important for online learning and can be developed through the teaching, social and cognitive presences. The chapter concluded with a summary (see chapter 2, table 2.4) of the theory of transactional distance, heutagogy and the CoI as the primary theories that guided the study.

Chapter 3 presented a literature review for the study guided by the main and the sub-research questions (see section 1.5). The chapter first presented a national policy overview, in which policies were included that related to the research questions. Common trends that emerged from the policies included the use of ICTs as imperative in building a knowledge economy. Institutions of higher education should therefore integrate ICTs into their infrastructure. In this regard the policies articulated that the integration of ICTs must be planned according to the needs and context of the institution.

The trajectory that DE has followed (see section 3.3.1) was subsequently explored. Two views on the generations of DE were presented here. The first by Anderson and Dron (2011), Moore and Kearsley (2012) and Simonson et al (2015) and the second by Heydenrych and Prinsloo (2010). Anderson and Dron (2011), Moore and Kearsley (2012) and Simonson et al (2015) postulate that DE began as correspondence education, while the second generation was characterised by broadcasting. Open universities defined the third generation, with teleconferencing following as the fourth generation. The fifth generation concludes the generations of DE and is characterised by computers and internet-based virtual classes. Heydenrych and Prinsloo (2010) also present five generations of DE by linking each generation to the perspective of a learning theory. The first generation, as proposed by Heydenrych and Prinsloo (2010), lent itself to behaviourism and was print dominated. The second generation made use of media through television and radio and featured both behaviourism and cognitivism. Computer-assisted learning followed as a third generation and displayed constructivist approaches. The fourth and fifth generations of DE are characterised by both synchronous and asynchronous communication made possible through technology and the internet and favour social constructivist approaches. What is evident from both views of DE is that the current era of DE features both the internet and technology to facilitate teaching and learning.

Teaching and learning in online DE environments (see section 3.4) was subsequently explored. It emerged that the integration of online learning in DE environments must be student-centred in nature and foster collaboration. Additionally, social constructivist approaches must be embedded in the online DE curriculum and be coupled with inquiry-based approaches. A discussion on the affordances and challenges of online learning (see section 3.5.1 and 3.5.2) followed. Online learning was summarised as having the ability (see section 3.5.1) to foster synchronous and asynchronous communication, access, interactive and community learning, collaboration, critical and creative thinking, motivation, open practices and communication and feedback. The challenges (see section 3.5.2) of online learning were summarised as students displaying varying levels of digital literacies, inadequate ICT infrastructure, lack of skills, attitudes and beliefs about the online environment, lack of time, blurred boundaries between formal and informal learning, inability of students to practise self-direction, and issues related to quality and readiness to accept change. The chapter concluded with a summary of examples of best practices as regards the integration of online learning (see chapter 3, table 3.5).

This summarises the theoretical and conceptual framework that guided this study. A summary of the empirical study follows below.

### **6.3 SUMMARY OF THE EMPIRICAL STUDY**

The document analysis of the policy documents revealed several themes as regards teaching and learning at the research site. These themes relate to any form of teaching at the university and therefore include online learning. The theme of student centredness (see section 5.4.1) emanated strongly from the selected policies, articulating that students should be positioned at the centre of the learning encounter. This involves providing students with support (see section 5.4.1.1) in designing accessible courseware, creating dialogue and providing students with feedback. Student centredness additionally involves making learning accessible for students by taking into consideration their contexts (see section 5.4.1.2). The prior learning experiences and student profile must also be taken into consideration. The aspect of communication (see section 5.4.2) was also highlighted. It was argued that communication should be fostered between the student and the lecturer, students and peers, student and courseware, student and administration and the student and the institution.

Equipping students with a broad skills set (see section 5.4.3) was also regarded as important. This implies equipping students with skills that will enhance their employability and allowing students to be in a position to transfer their skills to the working environment. Critical thinking

(see section 5.4.4) was also articulated in that students must be engaged in tasks that promote higher-level thinking. The use of ICTs in the curriculum to improve teaching and learning (see section 5.4.5) also emanated from the policies as being important. It was emphasised that the use of ICTs is a pedagogic issue and should therefore be carefully planned and applied. The policies also highlighted the characteristics that students should possess (see section 5.4.6), namely, that students should be active and engaged in the learning encounter.

The findings gleaned from the questionnaires, the interviews and the document analysis of the online module sites revealed that participants were predominantly following a content-centred approach (see section 5.5.4.1) to integrating online learning. It appeared that they focused on content and organising the module content via the online module site, with the student appearing to be secondary. The aspect of support (see section 5.5.4.2) also emanated from the findings, with participants explaining that they believed that it is fundamental to provide students with support, arguing that the online learning platform is the ideal vehicle for offering both academic and emotional support to students. They suggested that academic support is important in helping students unpack and grasp the learning content. Emotional support, on the other hand, was also believed to be important, especially in the context of the DE student. As DE students study part time, participants maintained that it is important to provide them with moral support to help them succeed in their studies. Participants went on to explain that the online learning platform can be used as a resource for preparing students for the working environment (see section 5.5.4.6). In this regard, they mentioned that students should be presented with authentic material (see section 5.5.4.6.1) that allows them to apply theory to practice. This will help students to develop skills that are transferable (see section 5.5.4.6.2) to the workplace.

Participants planned and designed their integration of online learning by making various pedagogic choices (see section 5.5.4.3), for which they used a variety of tools (see chapter 5, table 5.13). The use of resources generally did not involve any follow-up activities and thus their use was optional for students. It was evident that students' use of the resources was significantly low. Trial and error (see section 5.5.4.3.2) and feedback to improve practice (see section 5.5.4.3.3) also featured as practices in designing and planning the integration of online learning. It emanated that participants did not have a theoretical background in terms of online learning. Therefore, they used previous experience gleaned from teaching their modules to continue with practices that worked well and to do away with practices that did not.

While it appeared that participants believed in the benefits of online learning and made use of the online learning platform, with an emphasis on wanting to help students understand the

module content, participation by students was low (see section 5.5.4.4). It appeared that the amount of students that engaged on the online learning platform was significantly low. The participants' motivation to integrate online learning was coupled with their desire to receive more direction (see section 5.5.4.5) from the institution regarding the integration of online learning. In this regard pedagogical strategies was identified as a need in terms of the manner in which to integrate online learning. Inadequate ICT support (see section 5.5.4.8) was also mentioned by the participants as creating significant challenges for them. Participants additionally mentioned that it was a challenge for them to cater for students with varying digital literacies (see section 5.5.4.7).

Students looking to form online study groups also emerged as a theme from the document analysis of the online module sites (see section 5.5.4.9). Accordingly, the online learning platform was used to make contact with other students with the intention of forming study groups. It appeared that these study groups were established using cellular mobile devices and an app called WhatsApp.

This concludes the summary of the empirical study. What follows below is a synthesis of the findings.

#### **6.4 SYNTHESIS OF FINDINGS**

The synthesis of the research findings is informed by the themes outlined in Chapter 5, the theoretical framework (see Chapter 2) and the conceptual framework (see Chapter 3) underpinning this study. A discussion of the synthesis follows below.

Student centredness (see section 5.4.1) emanated from the document analysis of the policies as being particularly important. The questionnaires, the interviews and the document analysis of the online module sites, however, revealed an opposing view of student centredness as it appeared that participants were adopting a content-centred approach (see section 5.5.4.1) to integrating online learning. The importance of student centredness as a characteristic relates to both the theoretical and the conceptual framework guiding this study. Moore and Kearsley (2012:209) point out that the theory of transactional distance is a student-centred approach to learning. Carefully planning the amount of structure, dialogue and autonomy that a course will have naturally places the student at the centre, consistently bearing the student in mind to lower the transactional distance. Heutagogical principles advocate that students must accept responsibility for their learning and practise independence while learning (Hase & Kenyon 2001a). One of the key heutagogical principles is that self-determined learning should be

evident, in terms of which students are placed at the centre of the learning experience (Hase & Kenyon 2001a). Placing the student at the centre is also evident in the Col in terms of which the social, cognitive and teaching presences must be carefully planned with the student in mind (Garrison & Arbaugh 2007).

The importance of student support (see sections 5.4.1.2 and 5.5.4.2) manifested in all the findings of the data as an important factor for integrating online learning. Moore and Kearsley (2012) emphasise student support by highlighting that the lecturer should act as a facilitator who guides the students. The theory of transactional distance highlights the importance of student support in the dimension of dialogue, in terms of which Moore and Kearsley (2012) postulate that lecturers should plan communication with students to support them in understanding the learning content. Student support is also evident in social constructivism where students construct knowledge collectively by progressing from one zone of proximal development to the next, guided by individuals who have already moved beyond that zone (Dron & Anderson 2014). Heutagogy and the Col also emphasise the importance of student support by highlighting that the lecturer should act as a facilitator who guides the student, monitors and provides direction to students' discussions and gives students prompts to solve problems (Hase & Kenyon 2001a, Garrison 2007).

Student context (see section 5.4.1.2) must also be taken into consideration in the teaching and learning encounter. This relates to the work of Kim (2001) and Risse (2004), who highlight that the social context should not be overlooked in the construction of knowledge. This context should instead be used as a resource as it influences the way in which knowledge is constructed and the way learning is applied. Sharing similar thoughts are Garrison and Akyol (2013) who postulate that learning should be made authentic for students by connecting knowledge to social contexts.

The findings of the document analysis of the policies show that communication (see sections 5.4.2) should be encouraged between students and their lecturers and students and their peers. In terms of the theory of transactional distance, communication is most evident in the dimension of dialogue – it was found that courses that have a sufficient amount of dialogue will display less transactional distance (Moore & Kearsley 2012). Communication is also a fundamental principle of social constructivism as learning takes place by communicating and interacting with others (Kim 2001, Risse 2004). Words and language therefore play a significant role in the construction of knowledge (Dron & Anderson 2014). From a heutagogical perspective communication should also be fostered by the lecturer who should provide the student with support (Hase & Kenyon 2001a). In addition, the Col highlights that efficient

communities of inquiry are possible through effective communication. Opportunities should therefore be created for students to communicate using higher-order thinking in collaboration with their peers and guided by their lecturer (Garrison & Akyol 2013). While the questionnaires, interviews and document analysis of the online module sites showed a level of critical thinking primarily on discussion topics related to assessments the use of resources and unrelated assessment discussions, which featured in the majority of the module sites (see table 5.13), lacked planned opportunities for critical thinking, as students were in most cases merely required to access the resources. This points to the need for more planning in terms of activities students are expected to complete and resources students are expected to access. Garrison (2007), Swan (2010) and Guri-Rosenblit (2012) postulate that tasks that foster critical thinking and collaboration can lead to deep learning. In this light it is important for lecturers to carefully consider methods in which tasks develop higher-order thinking. Hou and Wu (2011) point out that the use of incentives for the completion of online activities has shown to be beneficial in the online learning environment. It might therefore be beneficial for lecturers to couple the use of incentives while developing their higher-order thinking online teaching and learning activities.

The primary theories underpinning this study exemplify certain characteristics that correlate with the empirical findings related to having a broad set of skills (see, section 5.4.3), preparing students for the working environment (see section 5.5.4.6) and students attaining the characteristics of being active, independent and reflective learners (see section 5.4.6), as well as engaging in critical thinking (see section 5.4.4). Social constructivism holds that because knowledge is constructed collectively, students will have to engage in both discussion and debate during which they evaluate and compare their own understanding with that of their peers and eventually come to a conclusion (Dron & Anderson 2014). Through this engagement they will also engage in independent, active learning and reflective learning, as is characteristic of heutagogical principles (Dron & Anderson 2014:48). Constructing knowledge collectively also encourages students to engage in problem solving, where students should be presented with various options to solve the problem at hand (Dron & Anderson 2014, Hase & Kenyon 2001a). This will require students to apply their minds to tackle higher-order tasks, all which is necessary in the working environment.

The aspect of using technology to improve pedagogy, which emanated from the document analysis of the policies (see section 5.4.5), is closely related to the problem statement (see chapter 1, section 1.5) of this study. The problem statement highlights that research has shown that online learning has not necessarily changed pedagogical practices (Conole & Alevizou 2010, Lwoga 2012, Agariya 2012, Caird & Lane 2013). Participants would seem to

share similar challenges, explaining that they required more direction from the institution (see section 5.5.4.5) in terms of integrating online learning in a pedagogically sound manner. This challenge was exacerbated by the fact that the participants belonged to disciplines other than education and therefore explained that they did not necessarily have a background in pedagogical principles and practices. It emerged that participants used feedback to improve practice (see section 5.5.4.3.3) and worked on a trial and error basis (see section 5.5.4.3.2) to integrate online learning in their modules.

From the findings it emerged that participants used a variety of tools (see chapter 5, table 5.13) to plan and design the integration of online learning into their respective modules. However, it also emerged that students were not engaging on the online platform as the participants had hoped (see section 5.5.4.4). It appeared that dialogue increased when students were requesting to belong to study groups (see section 5.5.4.9) and on discussion topics related to assessments. Dialogue was low (see section 5.5.4.4), however, on discussions related to the content of the module and the use of additional material. It may therefore be inferred that communication was not purposefully planned. In this regard, the dimensions of dialogue and the teaching presence need to be more structured (Garrison & Arbaugh 2007, Moore & Kearsley 2012) so as to encourage students to participate on the online learning platform.

The support in terms of ICT (see section 5.5.4.8) surfaced as significantly challenging for the participants. They argued that the level of ICT support was insufficient and subsequently resulted in delays in the execution of their tasks. Moreover, participants discussed the fact that students display varying levels of ICT skills (see section 5.5.4.7) in the use of the online platform, which led to participants explaining that the online platform must be designed in a way that is accessible to users with varying levels of digital literacy.

## **6.5 RESEARCH CONCLUSIONS**

The problem statement as outlined in section 1.5 led me to develop a main-research question coupled with several sub-research questions. The findings of the study have enabled me to reach several research conclusions. These conclusions are presented by answering the research questions as set out in section 1.5, which are as follows:

How can online learning be integrated in distance education?

1 How are lecturers currently integrating online learning in distance education?

- 2 What are the opportunities and challenges regarding the integration of online learning?
- 3 What are best practices for integrating online learning in distance education?

The sub-research questions will be answered first followed by a discussion of the main - research question.

### **6.5.1 How are lecturers currently integrating online learning in distance education?**

The findings revealed that participants were using online learning as both a teaching and an administrative tool. The teaching practices, however, took precedence over the administrative practices. Participants were utilising a variety of tools (see chapter 5, table 5.13) to administer their teaching tasks. A common trend that emerged from the findings was that the participants used the online platform to scaffold the content of the module they were teaching, using the various tools as indicated in table 5.13 (see chapter 5). Scaffolding occurred predominantly through the use of the discussion tool, podcasts and asynchronous teaching. In this regard, participants would divide the content of the study material into learning units and teach the learning units individually. The majority of the participants uploaded additional resources for the students, predominantly in the form of links to articles and Youtube. What emerged from the use of the discussions, podcasts, asynchronous teaching and additional resources was that the application of this information by students was optional, thus giving students the choice of whether or not to utilise the available resources. Another trend that surfaced from the online module sites was that although the participants were initiating the teaching process by using the tools mentioned (see chapter 5, table 5.13), there was generally no follow-up activities for students to complete to engage them once they had accessed the resources.

The degree of structure, autonomy and dialogue (see section 2.2.4.1, 2.2.4.2, 2.2.4.3) appeared to vary among the online module sites. The use of the discussions, podcasts and asynchronous teaching reflected a high degree of structure (see section 2.2.4.1), as students were given prescribed material as opposed to having to find their own material, thereby reflecting a high degree of transactional distance. At the same time, the use of these resources also reflected a low degree of structure (see section 2.2.4.1), as the decision to use a resource and participate in discussions rested with the students, thereby reflecting a low degree of transactional distance. In this regard students therefore had to practise the principle of autonomy in deciding whether or not to use the online module site (see section 2.2.4.3), thus reflecting a high degree of transactional distance. In terms of the dimension of dialogue (see

section 2.2.4), it appeared to be most active in the discussions that were related to assessment, thus reflecting a low degree of transactional distance. Where dialogue was related to the learning units of the module the dialogue appeared to be less reflecting high degree of transactional distance. In view of the dimensions of structure, autonomy and dialogue, it may be inferred that the transactional distance in the online module sites was positioned on a continuum of both high and low transactional distance (see section 2.2.4). It was therefore not possible to classify the online module sites as either having a high or a low degree of transactional distance.

In terms of the CoI (see section 2.5), the teaching, cognitive and social presences were evident in the online module sites to a certain degree. The teaching presence was evident as participants made use of the tools (see chapter 5, table 5.13) on the online platform and provided the students with resources. Participants also monitored their online module sites for students' concerns and queries and responded accordingly. The teaching presence, however, seemed to lack a planned opportunity for communication and dialogue (see section 2.5.3) as the participants taught using the tools mentioned in table 5.13 (see chapter 5) but this is where the dialogue ended, as there were largely no follow-up activities. The social presence was evident in the online module sites predominantly when students were asking to belong to online study groups (see section 5.5.4.9) and in discussions related to assessments, while discussions related to the learning units of the module seemed to generate less of a social presence. It could therefore be argued that there was no planned opportunity for students to share knowledge and engage with each other (Vygotsky 1926). The cognitive presence appeared in the majority of the online module sites in the discussions related to assessments. In this regard when students posted questions related to the assessments the participants would guide them and ask them to read further on the question or pose a further question, thereby promoting the cognitive presence. However, the cognitive presence was not present in the material available on the online module site as students were merely required to access it. With regard to the CoI, the teaching, social and cognitive presences were reflected in the online module within certain parameters.

Some of the heutagogical principles (see section 2.4) were reflected in the online module sites. For example, the principles of independence and self-regulated learning were clearly reflected it was left to the students to decide whether or not to engage and make use of the online learning platform. However, it appeared that the content was placed at the centre of the learning process as students were given ample resources to access. This in contrast to placing the student at the centre, which is characteristic of heutagogy (see section 2.4).

The above discussion indicates that the online module sites reflected the principles of the theoretical framework guiding this study, within certain parameters. The gaps found in the online module site could be related to the themes of trial and error (see section 5.5.4.3.2) and feedback to improve practice (see section 5.5.4.3.3). These themes highlight that participants acknowledged room for improvement in their online teaching practices and adapted their practices using reflection and feedback. Referring back to table 2.4 (see chapter 2), the common views (independence, communication and metacognition) linked to the examples of best practices (see chapter 3.5 table 3 and studies by Kanuka 2011, Walsh et al 2012, Lee et al 2013, Mbatl & Minnaar 2015) were present but again within certain parameters. While independence was generally present because the students had to decide whether or not to utilise the online platform, communication and metacognition were only present to a limited extent, as students predominantly communicated on matters related to assessments. In addition, metacognition was not purposefully planned as students were not expected to complete higher-order tasks relating to the available resources.

### **6.5.2 What are the opportunities and challenges regarding the integration of online learning?**

The findings of the study revealed several challenges regarding the integration of online learning. ICT support (see section 5.5.4.8) proved to be a common challenge which often led to delays in participants executing their online teaching activities. ICT challenges were also experienced by students who reported issues to do with the online platform, resulting in delays in their online learning. Low participation rates (see section 5.5.4.4) also emerged as a challenge for participants, who felt that students were not engaging on the online platform as they had hoped. However, the document analysis of the online module sites revealed that students were not always given planned opportunities to engage in the form of dialogue. Dialogue is regarded as an important principle in the construction of knowledge, as is noted in the theory of transactional distance (see section 2.2.4.2), which postulates that dialogue lowers transactional distance thereby reducing the distance that is characteristic of DE. Social constructivism (see section 2.3.4) shares the same principle, emphasising the importance of dialogue in the construction of knowledge.

Another factor which proved to be a challenge was finding a balance when catering for students with varying levels of ICT skills (see section 5.5.4.7). In this regard, participants found that although there were students that could navigate the online platform with ease, there were also students who would post information under the incorrect discussions, who needed assistance in accessing the resources and so forth. The participants also expressed the need

for more direction from the institution in terms of how to integrate online learning (see section 5.5.4.5). They mentioned that they were aware of and had read the institutional policies on online learning and had attended some of the training offered by the institution, nevertheless, they believed that more direction was necessary. This challenge ties in directly with the problem statement of this study (see section 1.5) in which research (Boling et al 2011, Haughey & Evans 2014) has highlighted the need for strategies that will guide the integration of online learning in DE. The challenges that emerged from the empirical study are supported by the work of Oye et al (2011), Mtebe et al (2011), Conole and Alevizou (2010) and Brown (2012). These authors highlight that ICT infrastructure, students' digital literacies and lecturers' online skills are important factors for the successful integration of online learning.

The opportunities that emanated from the findings of the study revealed that online learning can be used as a vehicle for providing both academic and emotional support (see sections 5.5.4.2.1 and 5.5.4.2.2). In terms of academic support participants revealed that the online platform assisted them in scaffolding the content of their learning material. They stated that they were able to present the learning material using a variety of tools (see chapter 5, table 5.13), thereby giving students the opportunity to learn through various mediums (e.g. audio through the use of podcasts, visual through the use of Youtube links and so forth). Olson and Carroll (2012) and Venkatesh et al (2014) have also pointed to the ability of online learning environments to create communication and support using a variety of materials. The participants also mentioned that they were able to provide students with emotional support. By monitoring the online platform regularly they were able to ensure that they could respond timeously to students. This was done to make students aware that lecturers had a vested interest in them passing the module. In addition, by responding to their students' questions on the online learning platform, they wanted students to feel part of a group. This ties in with Cleveland-Innes and Garrison's (2010) finding that community engagement is seen as an affordance of online learning. By offering both academic and emotional support social, cognitive and teaching presences (see section 2.5) were to an extent evident in the online module sites.

The online platform was also regarded as a resource to assist in preparing students for the working environment. This correlates with the arguments of Means et al (2014) and Bhuasiri et al (2012) who postulate that online learning environments can expose students to real-life environments. Participants maintained that it has become imperative to equip students not only with content but also with the skills they will require to function in the working environment. In this regard, participants presented students with topical material (see section 5.5.4.6.1)

related to their respective field of practice. Participants uploaded the material in the hope that students would access it and engage with it. However, the document analysis of the module sites revealed that students were generally not required to engage in any follow-up activities related to the material. There was therefore a lack of cognitive presence (see section 2.5.2) in this regard as students were merely required to access the study material. The principles of heutagogy (see section 2.4), in terms of which students also have to engage in higher-order thinking and reflection, were also missing in this regard.

### **6.5.3 What are best practices for integrating online learning in distance education?**

Several best practices appear to be universal according to the participants. On the institutional level it was argued that ICT support (see section 5.5.4.8) is crucial for the successful integration of online learning. The findings of the empirical research revealed that as the participants did not have a set of guidelines or practical strategies to refer to for integrating online learning, they did this using their own approaches. It is therefore imperative that institutions have strategies in place that are pedagogically grounded to guide the integration of online learning (see section 5.5.4.5). This ties in with the research problem of this study (see section 1.5) and the work of Exter et al (2012), who point out that the use of ICT must have pedagogical goals attached to it.

As regards best practices for lecturers, participants were of the opinion that lecturers must be available to students. Availability was characterised as offering both academic and emotional support (see section 5.5.4.2.1 and 5.5.4.2.2) to students on the online platform. Fostering academic and emotional support creates both a teaching and a social presence in the online learning platform (see section 2.5), with monitoring and responding to students' questions and concerns also being regarded as important in the online learning environment. The aspect of support and monitoring the online learning platform ties in with several studies (Boling et al 2011, Sun & Rueda 2012, Viberg & Gronlund 2015, Glennie & Mays 2013, Swart 2015). These studies are summarised in table 3.5 (see chapter 3) and all point to the importance of lecturers to be present and to provide students with support in order for online learning to be successful.

Participants further stated that reflecting on their own online teaching practices helped them to improve their practice (see sections 5.5.4.3.2 and 5.5.4.3.3). With reference to reflection they explained that they used their experience to continue with practices that worked and to discontinue practices that proved to be problematic. Approaches that involve encouraging

students to engage in dialogue and participate on the online learning platform were also regarded as important. This was linked to the theme of low participation (see section 5.5.4.4) which led participants to realise that uploading materials, discussion topics and so forth did not guarantee engagement from the students. The intentional creation of dialogue has also been noted in the work of Oncu and Cakir (2011), Kanuka (2011), Oliveira et al (2011), Boling et al (2011), Jackson et al (2013) and Fields et al (2016), as summarised in table 3.5. The importance of dialogue is similarly pointed out as the core of the social presence (see section 2.5.1), in which the engagement is regarded as significantly important. Regarding the dimension of dialogue, the theory of transactional distance (see section 2.2.4.2) holds that more dialogue lowers transactional distance. Social constructivism shares similar views on dialogue as it is premised on the principle that knowledge is collectively constructed in a social context through the use of dialogue (see section 2.2.4.2). It may therefore be inferred that dialogue on the online learning platform is an important element that must be intentionally planned and fostered.

The online learning platform was viewed as being a resource-rich vehicle for preparing students for the working environment (see section 5.5.4.6) as it teaches them to apply theory to practice. In this regard it emerged that students should be presented with authentic and topical material related to their field of practice. Participants explained that if changes occurred in their field of practice they could easily upload the new developments onto the online platform and inform students of the available material. This links to the principles of heutagogy (see section 2.4) and social constructivism (see section 2.3.4). From a heutagogical perspective students should engage in reflection and problem solving, thus providing them with information that relates to changes in their field of practice allowing them to engage in both reflection and problem solving, as they have to ascertain the way in which the changes impact on their field of practice. Social constructivism ties in with this, arguing that students should engage in problem solving in authentic contexts. In addition, participants felt it was important to have an online learning platform that is easy to navigate because students have varying levels of ICT skills (see section 5.5.4.7). They therefore argued that the online learning environment must be presented in a user-friendly manner that is accessible to all students. The awareness of students' online skills has also been noted by Glennie and Mays (2013) and Mbatia and Minnaar (2015) as being an important success factor in the online learning environment.

#### **6.5.4 How can online learning be integrated in distance education?**

At the beginning of this research, I set out to answer the main research question, i.e. ***how can online learning be integrated in distance education?*** This was essentially the impetus for

the research. The findings of the study have led me to answer the main research question by proposing a framework for the integration of online learning in DE. A visual presentation of the framework follows below and is coupled with an explanation of what the framework entails.

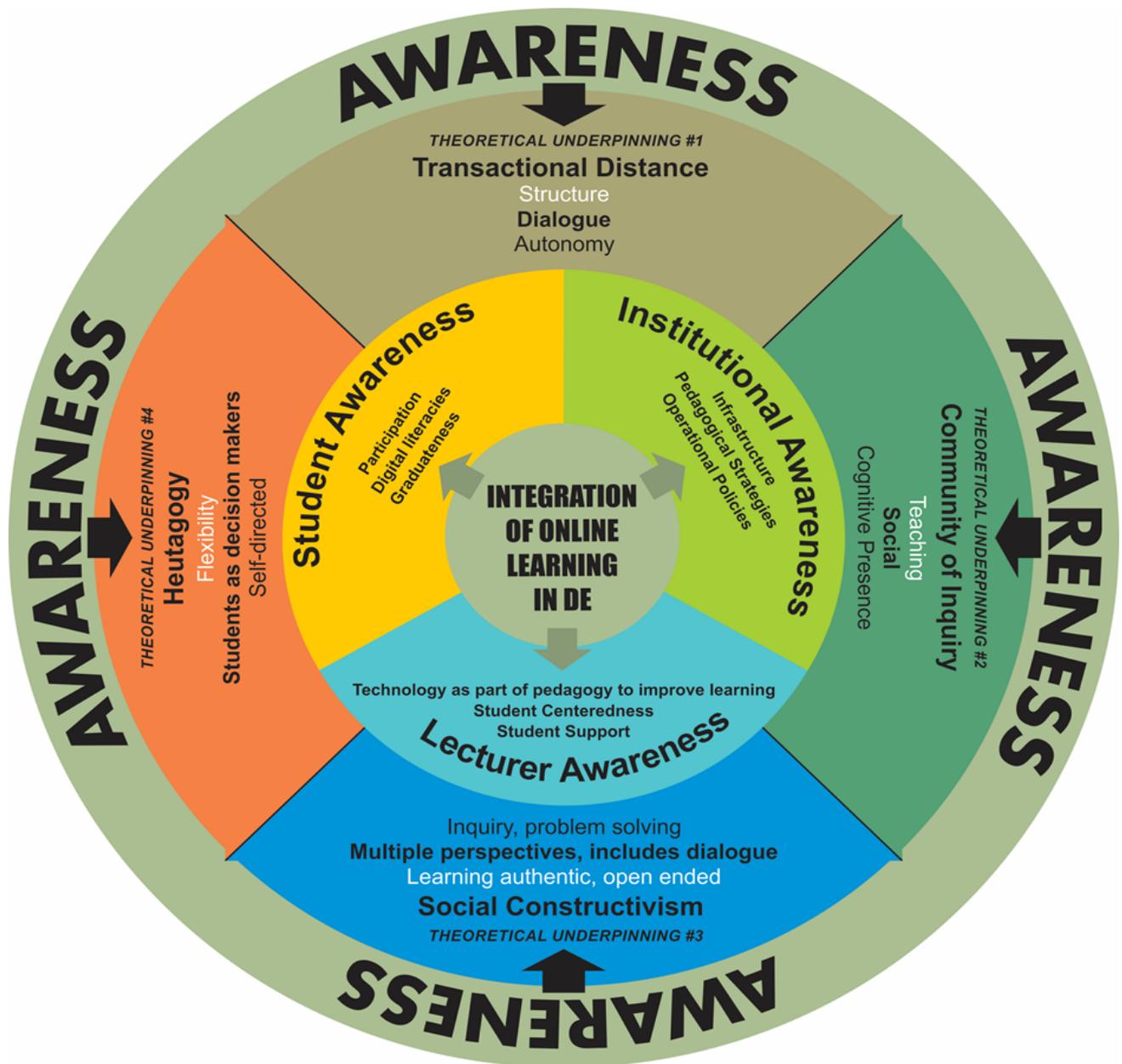


Figure 6.1: Integration of online learning in DE

#### 6.5.4.1 Overview of framework

This framework is the result of the impetus that drove this study, which was to establish the way in which online learning, which is pedagogically sound can be integrated in DE. The framework is informed by scholarship (see chapter 2), as well as the themes that emanated from the empirical research (see chapter 5). It should be noted that not all the themes are mentioned in the framework; they are, however, woven into the dimensions of the framework.

In this framework, I argue that the integration of online learning should commence with the concept of awareness, as is depicted by the grey arrows (see figure 6.1). I thus distinguish between student awareness, institutional awareness and lecturer awareness. While all three awareness types are shaded in different colours (see figure 6.1), they are equally important for the integration of online learning. Student awareness encompasses the dimensions of participation, digital literacies and graduateness; institutional awareness includes infrastructure, pedagogical strategies and operational policies; while lecturer awareness includes technology as part of pedagogy to improve learning, student centeredness and student support. I argue that the three types of awareness can be operationalised by referring to and drawing on the fundamental principles of the theoretical framework that guided this study, as depicted by the black arrows (see figure 6.1).

#### 6.5.4.2 Student awareness

The dimensions of student awareness include ***participation***, ***digital literacies*** and ***graduateness***.

When planning the manner in which to integrate online learning student participation must be borne in mind. Lecturers should plan the integration of online learning carefully such that students will be motivated to participate.

In planning this integration and student participation, a useful way of getting students to participate is to make the activities credit bearing. As the findings of this study have shown, on the online learning platform students displayed most interest in matters related to assessments. It is also important in this regard to specify students' roles and responsibilities regarding the completion of activities and the use of resources. Stating that the completion of certain activities and the use of materials are compulsory could further encourage students to participate on the online learning platform. These activities and materials should be designed

in such a manner that students become active in the learning process and practise self-directed learning.

Students' digital literacies are also of importance here. While it might not be possible to be aware of every students' digital literacy capacity, lecturers must take cognisance of the fact that students have varying levels of digital literacy. In this regard lecturers could take a generic approach to structuring the online learning environment, such that it is user-friendly and accessible for all students.

The concept of graduateness implies equipping students with a variety of skills. Essentially, graduateness implies providing students with the knowledge and skills they require to put their qualifications into practice; hence, preparing students for the working environment by equipping them with transportable skills. In doing so, students should be presented with authentic discipline-related material so that they can make a connection between theory and practice. On the online learning platform students must be given opportunities to engage in problem-solving tasks that require critical thinking and reflection.

#### **6.5.4.3 Institutional awareness**

For the integration of online learning to be successful the institution must show an awareness of the dimensions of infrastructure, pedagogical strategies and operational policies.

In terms of infrastructure the institution should be responsible for ensuring that the necessary hardware and software are available, coupled with reliable internet access, as well as a robust ICT support system. This implies that when users log a call to the Help Desk regarding challenges they may be experiencing, their service requests should be resolved within a reasonable turn-around time. Hence, solid infrastructure is crucial for ensuring that users of the online learning system are able to complete their tasks without delays.

Regarding the dimension of pedagogical strategies, it is fundamentally important that the institution provide lecturers with direction on integrating pedagogically sound online learning. This direction should be offered in the form of pedagogical strategies for each discipline. These strategies should be grounded in theories of online learning and DE so as to ensure that they are pedagogically sound. Having such strategies in place will provide lecturers with a point of departure for planning and implementing online learning.

The final dimension is that of operational policies. Operational in this instance implies providing guidelines for the implementation of policies. In this regard, the principles articulated in the policies should be coupled with information on what the principles mean for practice and how they should be implemented in practice. Structuring policies in this manner will assist in making the policies more accessible, which will in turn allow the policies to be used as a point of reference for the integration of online learning.

#### **6.5.4.4 Lecturer awareness**

Lecturer awareness refers to the dimensions of technology as part of pedagogy to improve learning, student centeredness and student support.

Technology as part of pedagogy to improve learning should form the impetus for integrating online learning. This integration should be done with the intention of improving learning rather than merely using technology as an add-on. Accordingly, it should be carefully planned and be fit for purpose. Thus every tool used on the online learning platform and the materials that are uploaded should have a pedagogical purpose, and activities should be planned and designed such that they are actually utilised by students. This will ensure that there is a match between lecturers' planning and students' participation on the online learning platform.

The concept of student centeredness relates to placing the student at the centre of the learning encounter. The integration of online learning should therefore be designed in a way that takes the student's context into consideration so that they may benefit from the integration of online learning. By placing the student at the centre, the lecturer will consider which are best approaches to deliver the module content for their specific student profile. This therefore implies that the lecturer should work with the student as a starting point when planning the integration of online learning.

The concept of student support refers to providing students with both academic and emotional support. In terms of academic support, the online learning platform can be used as a vehicle for teaching module content using a variety of tools and a variety of resources. An important factor to consider here is that academic support should not only feed into the outcomes of the module but also the assessments; therefore, it should make use of scaffolding to prepare students for these. Lecturers should also inform students of the academic support that is available and what is expected of them in terms of utilising that support. Academic support should therefore be carefully planned and administered.

Emotional support refers to providing students with moral support so that they may be successful in their studies. This implies creating a community that students can feel part of. Within this community, students should be made aware that their lecturers are available and they should be encouraged to engage in dialogue with their peers, which will help build communities of inquiry.

#### **6.5.4.5 Operationalising student, institutional and lecturer awareness**

I propose that student, institutional and lecturer awareness should be put into practice by building awareness of the fundamental principles of the theoretical framework (see chapter 2). These principles are indicated in figure 6.1 (under theoretical underpinnings#1-4).

According to the theory of transactional distance (see section 2.2.4), the dimension of structure focuses on the lecturer, which in turn relates to the teaching presence in the community of inquiry (see section 2.5). Structure and the teaching presence refer to the choices the lecturer must make in terms of the degree of structure their courses will contain, as well as deciding the extent of their presence in the online learning environment. I argue that in making these choices lecturers could refer to social constructivism (see section 2.3.4), which articulates that learning should be authentic and open ended, as well as the principle of flexibility as postulated in heutagogy (see section 2.4).

The dimension of dialogue, as is present in the theory of transactional distance (see section 2.2.4), relates to the social presence of the community of inquiry (see section 2.5). Dialogue and the social presence in turn relate to social constructivism (see section 2.3.4), which postulates that the construction of knowledge includes multiple perspectives which are formulated through dialogue. Through this dialogue, students become decision makers, deciding for themselves how knowledge should be constructed and interpreted. The student's role as decision maker is characteristic of heutagogy (see section 2.4).

The dimension of autonomy, as postulated in the theory of transactional distance (see section 2.2.4), relates to the cognitive presence of a community where students engage in independent problem solving. Furthermore, autonomy and the cognitive presence relate to the principle of problem solving as is characteristic of social constructivism (see section, 2.3.4), as well as the concept of self-directed learning as is postulated in heutagogy (see section 2.4).

In light of the above, the relationship between the fundamental principles of the theoretical framework is evident. I argue that these principles should feed into student awareness,

institutional awareness and lecturer awareness. I do not argue for a blanket approach in which all the principles of the theoretical framework should apply to each type of awareness. Instead I argue that stakeholders who are working with the type of awareness that relates directly to them, should draw on the principles that apply to them. The framework is therefore not prescriptive in nature, but is instead flexible.

## **6.6 LIMITATIONS**

A total of 10 participants formed the case study for the empirical research. While this sample may be regarded as small, the depth of the qualitative data gathered from the questionnaires, the follow-up interviews and the document analysis of the online module sites enabled the research questions to be answered. The questionnaires provided an overall view of the participants experiences of online learning, while the interviews provided in-depth data on the participants' experiences of online learning. As regards the document analysis, I was able to follow eight modules over a period of either a year or a semester. The combination of these data collection methods coupled with the document analysis of the institutional policies allowed me to study the phenomenon of online learning in depth and to answer the main and sub-research questions, set out at the beginning of the study.

The empirical research was carried out at one DE institution. While this might serve as a limitation, the empirical research was qualitative in nature and employed a case study research design, both aiming to explore the phenomenon in detail, with the case study focusing on a single entity. As such it was appropriate to carry out the research at one DE institution.

Due to time constraints important stakeholders including management and students could not be included in the study. It would have been beneficial to include these stakeholders as it would have offered additional perspectives to the phenomenon of online learning in distance education.

A final limitation to this study is non-replies from prospective participants. While various participants were invited to participate in the study, non-replies served a significant challenge to the study. Additional data could have been gathered if all prospective participants accepted the invitation to the study.

Despite the limitations as cited above this study is beneficial as it offers direction for stakeholders in terms of integrating online learning in DE. The framework proposed is a result

of the empirical findings and includes pertinent theory from both DE and online learning. Stakeholders working in DE institutions can therefore refer to this framework for the integration of online learning.

## **6.7 RECOMMENDATIONS**

In terms of the findings of the study, I make the following recommendations regarding the following stakeholders:

### **6.7.1 Institutions**

At the institutional level universities should have a robust and reliable ICT infrastructure. This implies that the infrastructure should be able to function efficiently, even in peak periods. Coupled with this, all stakeholders who make use of online teaching and learning systems should have adequate support in terms of resolving technical issues related to the system. The nature of the available support services and the options to access the support services should be clearly communicated to stakeholders.

DE universities should put in place monitoring tools to assess whether policies relating to online learning are being put into practice. The practice of monitoring could be beneficial in identifying if there is an awareness of policy mandates, if policies are being interpreted correctly at ground level, amendments that might need to be made to policies based on implementation of the policies and challenges that stakeholders may experience in implementation of the policies.

Pedagogical strategies that are grounded in relevant theory should be developed for the various disciplines that the DE institution offers. These pedagogical strategies should take into consideration the context of the discipline and outline approaches in which online learning can be leveraged to meet the outcomes of the respective discipline. Having pedagogical strategies in place will provide a blueprint to stakeholders in the respective discipline in terms of how to integrate online learning.

It is recommended that institutions use their student profile and context as a point of departure in informing the integration of online learning. Relying on context and student profile will assist the institution in making key decisions regarding factors that must be taken into consideration.

Departing with the institutional context and the student profile is likely to lead to the integration of online learning being fit for purpose.

It is recommended that institutions should have dedicated opportunities for professional development. The nature of the professional development should be designed at both a theoretical and practical level. The theoretical level should focus on the principles and practices for integrating online learning. The practical level on the other hand should focus on lecturers applying the theory to practice, by designing some examples of their online teaching and learning activities during the training. Furthermore, professional development should be continuous with the opportunity for follow-up training. The effectiveness of the professional training should be monitored to determine whether the training is beneficial. Monitoring could occur after staff have implemented the training in the form of asking staff members for feedback on various aspects of the professional development. In this way the programmes and training offered can may be improved on.

#### **6.7.2 Lecturers**

It is recommended that the integration of online learning should be purposefully planned. In this regard, lecturers integrating online learning should work with the outcomes of the course as a point of departure. This will assist the lecturer in ensuring the all online activities are fit for purpose and aligned with the outcomes of the module. It will also be beneficial for lecturers to incorporate theories of online learning and distance education in deciding on the methodological principles to deliver the online content.

It is recommended that all activities that students are expected to complete and engage in should be purposefully planned. In this regard students should understand the rationale of the completing and engaging in the activities. Students should also be made aware of the manner in which the completion of the activities links to the overall outcomes of the module.

Students' digital literacies should be taken into consideration. While it may not be possible to cater for the digital literacy level of every student, it would be useful to design the online learning environment in a user-friendly manner that is accessible to all students. In this regard students should know what is available on the online learning platform, which tools will be used, the availability of their lecturer as well as the role of both the lecturer and the student.

The online learning environment can be used as a resource that provides students with access to content as well as developing other skills. The focus therefore should not be only on

providing students with content. Consideration should also be given to how the content may be used to engage students in self-directed learning, thereby promoting flexibility, dialogue and problem solving.

It is recommended that lecturers should consult with instructional designers in terms of designing their online teaching and learning activities. In this regard the instructional designer can assist them in deciding the best approaches to select which will satisfy the outcomes of the module. Consulting with instructional designers will also add a level of quality assurance to the design of the online activities as instructional designers are skilled in the principles and practices of designing online learning.

## **6.8 SUGGESTIONS FOR FURTHER RESEARCH**

Research exploring the integration of online learning in DE could be carried out in other DE institutions with similar contexts both nationally and globally. In this manner results can be compared to identify similarities, differences and conclusions drawn. The integration of online learning in a DE context can be explored by including stakeholders like students and management. Students will be in a position to offer their experiences of learning online. Management on the other hand can offer their views on what is envisioned in terms of integrating online learning, as well as opportunities and challenges regarding this phenomenon. Obtaining the views and experiences of various and relevant stakeholders regarding the integration of online learning will provide a holistic view of this topic.

## **6.9 CONCLUSION**

As alluded to in the introduction, research has pointed to challenges regarding a lack of pedagogical visibility in the use of online learning. This lack of pedagogical visibility was the impetus behind this study. Through this study I have been able to identify several challenges, opportunities and best practices on the phenomenon of the integration of online learning in DE. The empirical research coupled with the theoretical framework has led me to arrive at my findings on how best to integrate online learning in distance education. I have presented these findings in the form of a framework which guides the integration of pedagogically sound online learning in DE. This framework commences with the concept of awareness and offers direction to the various stakeholders involved in the online learning process. Due to the fluid nature of ICT, the options for integrating online learning will continue to transform and evolve. The framework presented in this study therefore does not focus on any specific ICT tools, but rather emphasises the pedagogical considerations for integrating online learning. In this way, as ICT

progresses the framework of this study aims to serve as a guide underpinned with foundational principles for the integration of online learning in DE. At present universities are tasked with the challenge of equipping students with suitable skill sets to navigate working environments where the digital landscape is constant in change. Within this context it is fundamental to provide students with content knowledge and skills to navigate these fluid working environments. Engaging students in online learning fuelled by ICT will serve to adequately prepare students in this regard.

## REFERENCE LIST

- Abrami, P.C., Bernard, R.M., Bures, E.M., Borokhovski, E. & Tamim, R.M. 2011. Interaction in distance education and online learning: using evidence and theory to improve practice. *Journal of Computers and Higher Education* 23:82-103.
- Agariya, A.K. 2012. e-Learning quality: Scale development and validation in Indian context. *Knowledge Management and e-Learning: An International Journal* 4(4):500-517.
- Amundsen, C. 1993. The evolution of theory in distance education. In Keegan, D. ed. *Theoretical principles of distance education*. USA: Routledge.
- Anderson, T. & Dron, J. 2011. Three generations of distance education. *The International Review of Research in Open and Distributed Learning* 12(3):81-97.
- Anderson, T. 2013. Independent learning: Autonomy, control and meta-cognition. In Moore, M.G. ed. *Handbook of distance education*, 3rd edition. New York: Routledge.
- Anderson, T. 2014. *Online DE towards a research agenda*. Athabasca: AU Press.
- Arinto, P.B. 2013. A framework for developing competencies in open and distance learning. *The International Review of Research in Open and Distance Education* 14(1):167-185.
- Azevedo, R. & Aleven, V. 2013. Metacognition and learning technologies: An overview of current interdisciplinary research. In Azevedo, R. & Aleven, V. eds. *International handbook of metacognition and learning technologies*. New York: Springer.
- Baggaley, J. 2008. Where did distance education go wrong? *Distance Education* 29(1):39-51.
- Bharuthram, S. & Kies, C. 2013. Introducing e-learning in a South African higher education institution: Challenges arising from an intervention and possible responses. *British Journal of Educational Technology* 44(3):410-420.
- Bhuasiri, W., Xaymoungkhoun, O., Zo, H., Rho, J.J. & Ciganek, A.P. 2012. Critical success factors for e-learning in developing countries: A comparative analysis between ICT experts and faculty. *Computers and Education* 58:843-855.
- Birochi, R. & Pozzebon, M. 2011. Theorizing in distance education: The critical quest for conceptual foundations. (Online) Available at [http://jolt.merlot.org/vol7no4/birochi\\_1211.htm](http://jolt.merlot.org/vol7no4/birochi_1211.htm) (Accessed on 27 May 2015).
- Blaschke, L.M. 2012. Lifelong learning: A review of the heutagogical practice and self-determined learning. *The International Review of Research in Open and Distance Education* 13(1):56-71.
- Boling, E.C., Hough, M., Krinsky, H., Saleem, H. & Stevens, M. 2011. Cutting the distance in distance education: Perspectives on what promotes positive, online learning experiences. *Internet and Higher Education* 15:118-126.

- Bowen, G.A. 2009. Document analysis as a qualitative research method. *Qualitative Research Journal* 9(2):27-40.
- Bozkurt, A., Akgun-Ozbek, E., Yilmazel, S., Erdogan, E., Ucar, H., Guler, E., Sezgin, S., Karadeniz, A., Sen-Ersoy, N., Goksel-Canbek, N., Dincer, G.D., Ari, S. & Aydin, C.H. 2015. Trends in distance education research: A content analysis of journals 2009-2013. *International Review of Research in Open and Distributed Learning* 16(1):330-363.
- Brinders, J. 2014. Workshop Revision of the Unisa ICT enhanced strategy for teaching and learning and implementation plan. Roodevallei, Pretoria, 6 October.
- Brindley, J.E. 2014. Learner support in online distance education. In Zawacki- Richter, O. & Anderson, T. eds. *Online DE: Towards a research agenda*. Athabasca: AU Press.
- Brown, C. 2012. University students as digital migrants. *Language and Literacy* 14(2):41-61.
- Bryant, J. & Bates, A.J. 2015. Creating a constructivist online instructional environment. *TechTrends* 59(2):17-22.
- Bryceson, K. 2007. The online learning environment-A new model using social constructivism and the concept of 'Ba' as a theoretical framework. *Learning Environ Res* (10):189-206.
- Bujak, K.R., Baker, P.M.A., DeMillo, R. & Sandulli, F.D. n.d. The evolving university: Beyond disruptive change and institutional innovation. (Online) Available at [www.semanticscholar.org](http://www.semanticscholar.org) (Accessed 10 November 2015).
- Caird, S. & Lane, A. 2013. Conceptualising the role of information and communication technologies in the design of higher education teaching models used in the UK. *British Journal of Educational Technology*: 1-13.
- Capdeferro, N. & Romero, M. 2012. Are online learners frustrated with collaborative learning experiences? *The International Review of Research in Open and Distance Learning* 13(2):27-44.
- Cleveland-Innes, M.F & Campbell, P. 2012. Emotional presence, learning, and the online learning environment. *The International Review of Research in Open and Distance Learning* 13(4):270-292.
- Cleveland-Innes, M.F. & Garrison, D.R. 2010. *An introduction to distance education: Understanding teaching and learning in a new era*. New York: Routledge.
- Cohen, L., Manion, L. & Morrison, K. 2011. *Research methods in education*, 7th edition. Abingdon: Routledge.
- Compaine, M. 2001. Re-examining the digital divide. In Compaine, M. & Greenstein, S. eds. *Communications policy in transition the internet and beyond*. England: MIT Press.

- Conole, G. & Alevizou, P. 2010. A literature review of the use of Web 2.0 tools in Higher Education. (Online) Available at [http://www.jisctechdis.ac.uk/assets/EvidenceNet/Conole\\_Alevizou\\_2010.pdf](http://www.jisctechdis.ac.uk/assets/EvidenceNet/Conole_Alevizou_2010.pdf) Accessed 10 March 2014
- Conole, G. 2014. The use of technology in DE. In Zawacki- Richter, O. & Anderson, T. eds. *Online DE: Towards a research agenda*. Athabasca: AU Press.
- Council on Higher Education (CHE). 2014. *Distance higher education programmes in a digital era: Good practice guide*. Pretoria: CHE.
- Creswell, J.W. 2012. *Educational research planning: Conducting and evaluating quantitative and qualitative research*, 4th edition. Boston: Pearson.
- Dabbagh, N. & Kitsantas, A. 2013. Using learning management systems as metacognitive tools to support self-regulation in higher education contexts. In Azevedo, R. & Alevizou, V. eds. *Metacognition and learning technologies: An overview of current interdisciplinary research. International Handbook of Metacognition and Learning Technologies*. New York: Springer.
- De Vos, A.S. 2005. Qualitative data analysis and interpretation. In De Vos, A.S., Strydom, H. & Delpont, C.S.L. eds. *Research at grass roots*, 3rd edition. Pretoria: Van Schaik.
- Denzin, N.K. & Lincoln, Y.S. 2005. *The Sage handbook of qualitative research*, 3rd edition. Thousand Oaks, California: Sage.
- Department of Communications. 2012. *National e-Skills Plan of Action*. Pretoria: Government Printers.
- Department of Communications. 2013. *South Africa's Broadband Policy*. Pretoria: Government Printers.
- Department of Higher Education and Training. 2013. *White Paper for Post-School Education and Training Building an Expanded Effective and Integrated Post-School System*. Pretoria: Government Printers.
- Dron, J. & Anderson, T. 2014. *Teaching crowds learning and social media*. Canada: AU Press, Athabasca University.
- Elt-Alkhalai, Y. 2004. Digital Literacy: A conceptual framework for survival skills in the digital era. *Journal of Educational Multimedia and Hypermedia* 13(1):93-106.
- Eke, H.N. 2011. Modeling LIS students' intention to adopt e-learning: A case from University of Nigeria, Nsukka. Online Available at: <http://dspace.unn.edu.ng:8080/jspui/bitstream> (Accessed 4 June 2016).
- Exter, K., Rowe, S., Boyd, W. & Lloyd, D. 2012. Using Web 2.0 technologies for collaborative learning in distance education-case studies from an Australian university. *Future Internet* 4:216-237.

- Fields, A., Lai, K., Gibbs, J., Kirk, A. & Vermunt, J. 2016. The transformation of an online learning community from an organised facility to an organic fraternity. *Distance Education* 37(1): 60-72.
- Flavell, J.H. 1979. Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. In Nelson, T.O. ed. *Metacognition core readings*. United States of America: Allyn and Bacon.
- Fosnot, C.T. 1996. *Constructivism theory, perspectives and practice*. New York: Teachers College Press.
- Fuchs, C. & Horak, E. 2008. Africa and the digital divide. *Telematics and Informatics* 25(2):99-116.
- Gagne, E.D. 1985. *The cognitive psychology of school learning*. Boston: Little, Brown and Company.
- Garrison, D.R. & Akyol, Z. 2013. The Community of Inquiry Theoretical Framework. (Online) Available at [https://www.researchgate.net/publication/284306348\\_The\\_Community\\_of\\_Inquiry\\_Theoretical\\_Framework](https://www.researchgate.net/publication/284306348_The_Community_of_Inquiry_Theoretical_Framework) (Accessed 30 August 2015).
- Garrison, D.R. & Arbaugh, J.B. 2007. Researching the community of inquiry framework: Review, issues, and future direction. *Internet and Higher Education* Vol. 10:157–172.
- Garrison, D.R. 2000. Theoretical challenges for distance education in the 21st century: A shift from structural to transactional issues. (Online) Available at [www.irrodl.org/index.php/irrodl/article/view/2/333](http://www.irrodl.org/index.php/irrodl/article/view/2/333) (Accessed 2 February 2017).
- Garrison, D.R. 2007. Online community of inquiry review: Social, cognitive and teaching presence issues. *Journal of Asynchronous Learning* 11(1):61-72.
- Garrison, D.R., Anderson, T. & Archer, W. 2001. Critical thinking and computer conferencing: A model and tool to assess cognitive presence. *American Journal of DE* 15(1):7–23.
- Given, L.M. & Saumure, K. 2008. Trustworthiness. In Given, L.M. ed. *The Sage encyclopedia of qualitative research methods*. Los Angeles: Sage.
- Glennie, J. & Mays, T. 2013. Rethinking distance in an era of online learning. *Internet Learning* 2(2):127-143.
- Goel, L., Zhang, P. & Templeton, M. 2012. Transactional distance revisited: Bridging face and empirical validity. *Computers in Human Behaviour* 28:1122-1129.
- Gokool-Ramdoos, S. 2008. Beyond the theoretical impasse: Extending the applications of Transactional Distance Theory. *International Review of Research in Open and Distance Learning* 9(3):1-17.

- Greef, M. 2005. Information collection: Interviewing. In De Vos, A.S., Strydom, H. & Delport, C.S.L. eds. *Research at grass roots*, 3rd edition. 2005. Pretoria: Van Schaik.
- Guba, E.G. & Lincoln, Y.S. 1994. Competing paradigms in qualitative research. In N.K. Denzin & Y.S. Lincoln, eds. *Handbook of qualitative research*. Thousand Oaks, California: Sage.
- Gulati, S. 2008. Technology enhanced learning in developing nations: A review. *International Review of Research in Open and Distance Learning* 9(1):1-16.
- Guri-Rosenblit, S. 2012. Open/distance teaching universities worldwide: Current challenges and future prospects. *EduAkcja.Magazyn* 2(4):4-12.
- Guri-Rosenblit, S. 2014. DE systems and Institutions in the online era: an identity crisis. In Zawacki- Richter, O. & Anderson, T. eds. *Online DE towards a research agenda*. Athabasca: AU Press.
- Hartnett, M., St. George, A. & Dron, J. 2011. Examining motivation in online distance learning environments: complex, multifaceted and situation-dependent. *International Review of Research in Open and Distance Learning* 12(6):21-37.
- Hase, S. & Kenyon, C. 2001a. Moving from andragogy to heutagogy: implications for VET. (Online) Available at [http://www.avetra.org.au/Conference\\_Archives/2001/proceedings.shtml](http://www.avetra.org.au/Conference_Archives/2001/proceedings.shtml) (Accessed 18 April 2015).
- Hase, S. & Kenyon. 2001b. From andragogy to heutagogy. (Online) Available at: [ultibase.rmit.edu.au/Articles/dec00/hase2.htm](http://ultibase.rmit.edu.au/Articles/dec00/hase2.htm) (Accessed 20 April 2015).
- Hase, S. 2000. Capability and coping in the new millennium: a new challenge for education. (Online) Available at [http://epubs.scu.edu.au/gcm\\_pubs/138/](http://epubs.scu.edu.au/gcm_pubs/138/) (Accessed 18 April 2015).
- Hase, S. n.d. Learner defined curriculum: heutagogy and action learning in vocational training. Online Available at <http://www.researchgate.net/publication/254664050> (Accessed 20 April 2015).
- Haughey, M. & T.D. Evans. 2014. Online DE models and research implications. In Zawacki- Richter, O. & Anderson, T. eds. *Online DE towards a research agenda*. Athabasca: AU Press.
- Heydenrych, J.F. & Prinsloo, P. 2010. Revisiting the five generations of distance education: Quo vadis? *Progressio* 52(1):5-26.
- Holmberg, B. 1977. *Distance education*. London: Kogan Page.
- Holmberg, B. 1981. *Status and trends of distance education*. London: Kogan Page.
- Hornby, S. 2015. Integration. *Oxford Advanced Learner's Dictionary*. Oxford University Press. United Kingdom.

- Hou, H. & Wu, S. 2011. Analyzing the social knowledge construction behavioral patterns of an online synchronous collaborative discussion instructional activity using an instant messaging tool: a case study. *Computers and Education* 57:1459-1468. [http://www.engineersmedia.com.au/journals/aaee/pdf/AJEE\\_15\\_1\\_McAuliffe\\_F2.pdf](http://www.engineersmedia.com.au/journals/aaee/pdf/AJEE_15_1_McAuliffe_F2.pdf) (Accessed 30 June 2015)
- Jackson, L.C., Jackson, A.C. & Chambers, D. 2013. Establishing an online community of inquiry at the Distance Education Centre, Victoria. *Distance Education* 34(3):353-367.
- Johannessen, J. 2018. Automation, innovation and economic crisis surviving the fourth industrial revolution. London: Routledge.
- Kajee, L. & Balfour, R. 2011. Students' access to digital literacy at a South African university: privilege and marginalisation. *Southern African Linguistics and Applied Language Studies* 29(2):187-196.
- Kanuka, H. 2011. Interaction and the online distance classroom: do instructional methods effect the quality of interaction? *Journal of Computers in Higher Education* 23:143-156.
- Keegan, D.J. 1980. On defining distance education. *Distance Education* 1(1):13-36.
- Keegan, D. 1993. *Theoretical principles of distance education*. New York: Routledge.
- Keegan, D. 2002. The future of learning: from eLearning to mLearning. (Online) Available at <http://www.fernuni-hagen.de/ZIFF> (Accessed 26 May 2015).
- Khan, S.H., Hasan, M. & Clement, C.K. 2012. Barriers to the introduction of ICT into education in developing countries: the example of Bangladesh. *International Journal of Instruction* 5(2):61-79.
- Kim, B. 2001. Social constructivism. In Orey, M. ed. *Emerging perspectives on learning, teaching and technology*. (Online) Available at: <http://projects.coe.uga.edu/epltt/> (Accessed 9 July 2015).
- Kivunja, C. 2014. Do you want your students to be job-ready with 21<sup>st</sup> century skills? Change pedagogies: A pedagogical paradigm shift from Vygotskyian social constructivism to critical thinking, problem solving and Siemens' digital connectivism. *International Journal of Higher Education* 3(3):81-91.
- Knowles, M. 1973. *The adult student: a neglected species*. Houston: Gulf.
- Kreber, C. & Kanuka, H. 2006. The scholarship of teaching and learning and the online classroom. *Canadian Journal of University Continuing Education* 32(2):109-131.
- Ku, H., Tseng, H.W. & Akarasriworn, C. 2013. Collaboration factors, teamwork satisfaction, and student attitudes toward online collaborative learning. *Computers in Human Behaviour* 29:922-929.

- Kuo, Y., Walker, A.E., Belland, B.R. & Schroder, K.E.E. 2013. A predictive study of student satisfaction in online education programs. *The International Review of Research in Open and Distance Learning* 14(1):17-39.
- Latchem, C. 2014. Quality assurance in online distance education. In Zawacki- Richter, O. & Anderson, T. eds. *Online DE towards a research agenda*. Athabasca: AU Press.
- Lee, C. 2015. Changes in self-efficacy and task value in online learning. *Distance Education* 36(1):59-79.
- Lee, Y., Choi, J. & Kim, T. 2013. Discriminating factors between completers of and dropouts from online learning courses. *British Journal of Educational Technology* 44(2):328-337.
- Li, W. & Chen, N. 2019. China. In Zawacki-Richter, O. & Qayyum, A. eds. *Open and Distance Education in Asia, Africa and the Middle East National Perspectives in a Digital Age*. Springer Open.
- Liebenberg, H., Chetty, Y. & Prinsloo, P. 2012. Student access to and skills in using technology in an open and distance learning context. *The International Review of Research in Open and Distance Learning* 13(4):250-268.
- Lim, C .Lee, J. & Choi, H. 2019. South Korea. In Zawacki-Richter, O. & Qayyum, A. eds. *Open and Distance Education in Asia, Africa and the Middle East National Perspectives in a Digital Age*. Springer Open.
- Lincoln, Y.S. & Guba, E.G. 1985. *Naturalistic inquiry*. Beverly Hills: Sage.
- Lincoln, Y.S. n.d. Trustworthiness criteria. (Online) Available at <http://srmo.sagepub.com>(Accessed 1 May 2014).
- Lincoln, Y.S., Lynham, S.A. & Guba, E.G. 2011. Paradigmatic controversies, contradictions, and emerging confluences, revisited. In Denzin, N.K. & Lincoln, Y.S. eds. *The Sage handbook of qualitative research*, 4th edition. USA: Sage Publications. 97-125.
- Littlejohn, A., Beetham, H. & McGill, L. 2012. Learning at the digital frontier: a review of digital literacies in theory and practice. *Journal of Computer Assisted Learning* (28):547-556.
- Lloyd, M. 2005. Towards a definition of the integration of ICT in the classroom. In AARE, eds. *Proceedings AARE '05 Education Research Creative Dissent: Constructive Solutions*. Parramatta, New South Wales. 1–18.
- Lwoga, E. 2012. Making learning and Web 2.0 technologies work for higher learning institutions in Africa. *Campus Wide Information Systems* 29(2):90-107.
- Maddrell, J.A., Morrison, G.R. & Watson, G.S. 2011. Community of inquiry framework and learner achievement. Featured research presentation. Association for Educational Communication and Technology Convention, Jacksonville, FL.

- Mbati, L. & Minnaar, A. 2015. Guidelines towards the facilitation of interactive online learning programmes in higher education. *The International Review of Research in Open and Distributed Learning* 16(2):272-287.
- McAuliffe, M., Hargreaves, D., Winter, A., & Chadwick, G. 2008. (Online) Available at
- McMillan, J.H. & Schumacher, S. 2006. *Research in education evidence based inquiry*, 6th edition. Boston, MA: Allyn & Bacon.
- McMillan, J.H. & Schumacher, S. 2010. *Research in education evidence-based inquiry*, 7th edition. New Jersey: Pearson.
- Means, B., Bakia, M. & Murphy, R. 2014. *Learning online: what research tells us about whether, when and how*. New York: Routledge.
- Minnaar, A. 2011. Student support in e-learning courses in higher education-insights from a metasynthesis "A pedagogy of panic attacks". *Africa Education Review* 8(3):483-503.
- Minnaar, A. 2012. Metacognition in distance learning: the Nelson-Narens Framework. In Visser, L., Visser, Y., Amirault, R. & Simonson, M. eds. *Trends and issues in DE international perspectives*, 2nd edition. Charlotte, NC: Information Age.
- Mitchell, M. & Jolley, J. 2001. *Research design explained*, 4th edition. Orlando: Harcourt.
- Moore, M.G 1993. Theory of transactional distance. In Keegan, D. ed. *Theoretical principles of distance education*. New York: Routledge.
- Moore, M.G. & Kearsley, G. 2012. *Distance education: a systems view of online learning*, 3<sup>rd</sup> edition. Wadsworth: Cengage Learning.
- Moore, M.G. 2013. *Handbook of distance education*, 3rd edition. New York: Routledge.
- Moreillon, J. 2015. Increasing interactivity in the online learning environment: using digital tools to support students in socially constructed meaning-making. *TechTrends* 59(3):41-47.
- Msweli, P. 2012. Mapping the Interplay between open distance learning internationalisation principles. *The International Review of Research in Open and Distance Education* 13(3): 97-116.
- Mtebe, J.S. 2015. Learning management system success: increasing learning management system usage in higher education in sub-Saharan Africa. *International Journal of Education and Development using Information and Communication Technology* 11(2): 51-64.
- Mtebe, J.S., Dachi, H. & Raphael, C. 2011. Integrating ICT into teaching and learning at the university of Dar es Salaam. *Distance Education* 32(2):289-294.
- Munguatosha, G.M., Muyinda, P.B. & Lubega, J.T. 2011. A social networked learning adoption model for higher education institutions in developing countries. *On the Horizon* 19(4): 307-320.

- Naidu, S. 2014a. In search of what works in online and distance education. *Distance Education* 35(1):1-3.
- Naidu, S. 2014b. Looking back, looking forward: the invention and reinvention of distance education. *DE* 35(3): 263-270.
- National Development Plan: Vision for 2030. 2011. (Online) Available at <http://www.gov.za/documents/national-development-plan-vision-2030>.
- O'Rourke, J. 2003. *Tutoring in open and distance learning: a handbook for tutors*. Canada: The Commonwealth of Learning.
- Oliveira, I., Tinoca, L. & Pereira, A. 2011. Online group work patterns: how to promote a successful collaboration. *Computers and Education* 57:1348-1357.
- Olson, J.M. & Carroll, B.M. 2012. *Learning unbound select research and analyses of distance education and online learning*. New York: Nova Science.
- Oncu, S. & Cakir, H. 2011. Research in online learning environments: priorities and methodologies. *Computers and Education* 57:1098-1108.
- Oxford Advanced Learners Dictionary of Current English*. 2005. 8th edition. Oxford University Press: Oxford.
- Oye, N.D., Salleh, M. & Iahad, N.A. 2011. Challenges of e-learning in Nigerian university education based on the experience of developed countries. *International Journal of Managing Information Technology* 3(2):39-48.
- Palloff, R.M. & Pratt, K. 2001. *Lessons from the cyberspace classroom: the realities of online teaching*. San Francisco: Jossey Bass.
- Panda, S. & Garg, S. 2019. India. In Zawacki-Richter, O. & Qayyum, A. eds. *Open and Distance Education in Asia, Africa and the Middle East National Perspectives in a Digital Age*. Springer Open.
- Paulsen, M.F. n.d. The hexagon of cooperative freedom a distance education theory attuned to computer conferencing. (Online) Available at [www.prof2000.pt/users/ajlopes/AF22\\_EAD/.../Teorias\\_Paulsen.htm](http://www.prof2000.pt/users/ajlopes/AF22_EAD/.../Teorias_Paulsen.htm) (Accessed 2 February 2017).
- Peters, O. 1967. DE and industrial production: a comparative interpretation in outline. (Online) Available at <http://www.c3l.uni-oldenburg.de/cde/found/peters67.htm>. (Accessed 13 May 2015).
- Peters, O. 1989. The iceberg has not melted: further reflections on the concept of industrialisation and distance teaching. (Online) Available at <http://www.tandfonline.com/doi/abs/10.1080/0268051890040302> (Accessed 22 May 2015).
- Peters, O. 2001. *Learning and teaching in distance education*. Abingdon: Routledge.

- Peters, O. n.d. Distance education and industrial production: a comparative interpretation in outline. (Online) Available at <http://www.c3l.unioldenburg.de/cde/found/peters67.htm> (Accessed 1 April 2019)
- Piaget, J. 1964. *Six psychological studies*. United States of America: Random House.
- Policy for the Provision of Distance Education in South African Universities in the Context of an Integrated Post-School System. 2014. Online Available at [www.gpwonline.co.za](http://www.gpwonline.co.za) Accessed 24 February 2016.
- Prensky, M. 2005. Listen to the natives. *Educational Leadership* 63(4):8-13.
- Prinsloo, P. 2019. South Africa. In Zawacki-Richter, O. & Qayyum, A. eds. *Open and Distance Education in Asia, Africa and the Middle East National Perspectives in a Digital Age*. Springer Open.
- Prinsloo, P. & Coetzee, M. 2013. Initiating the debate: perspectives on teaching, learning and assessment in ODL contexts. *South African Journal of Higher Education* 27(6):1355-1365.
- Reyes, J.A. 2013. Transactional distance theory: is it here to stay? *Distance Learning* 10(3):43-50.
- Risse, T. 2004. Social constructivism meets globalization. (Online) Available at [http://userpage.fu-berlin.de/~atasp/texte/globalization\\_constructivism.pdf](http://userpage.fu-berlin.de/~atasp/texte/globalization_constructivism.pdf) (Accessed 9 July 2015).
- Ritchie, J., Lewis, J. & Elam, G. 2003. Designing and selecting samples. In Ritchie, J. & Lewis, J. eds. *Qualitative research practice a guide for social science students and researchers*. London: Sage.
- Rogerson-Revell, P. 2015. Constructively aligning technologies with learning and assessment in a distance education master's programme. *Distance Education* 36(1):129-147.
- Rothbauer, P.M. 2008. Triangulation. In Given, L.M. ed. *The Sage encyclopedia of qualitative research methods*. Los Angeles: Sage.
- Rourke, L. & Kanuka, H. 2009. Learning in communities of inquiry: a review of the literature. *Journal of Distance Education* 23(1):19-48.
- Saba, F. 2003. DE theory, methodology, and epistemology: a pragmatic paradigm. In Moore, M.G. & Anderson, W.G. eds. *Handbook of distance education*. New Jersey: Lawrence Erlbaum Associates.
- Schunk, D.H. 2004. *Learning theories: an educational perspective*, 4th edition. New Jersey: Pearson.
- Schwandt, T. 2007. *The Sage dictionary of qualitative inquiry*, 3rd edition. California: Sage.
- Seiver, J.G. & Troja, A. 2014. Satisfaction and success in online learning as a function of the needs for affiliation, autonomy, and mastery. *Distance Education* 35(1):90-105.

- Shackelford, J.L. & Maxwell, M. 2012. Sense of community in graduate online education: contribution of learner to learner interaction. *The International Review of Research in Open and Distance Learning* 13(4):229-249.
- Shale, D. 2010. Beyond boundaries: the evolution of distance education. In Cleveland-Innes, M.F. & Garrison, D.R. eds. *An introduction to distance education: understanding teaching and learning in a new era*. New York: Routledge.
- Shea, P., Hayes, S., Uzuner-Smith, S., Gozza-Cohen, M., Vickers, J. & Bidjerano, T. 2014. Reconceptualizing the community of inquiry framework: An exploratory analysis. (Online) Available at [https://scholar.google.com/citations?user=oRMcg7sAAAAJ&hl=en#d=gs\\_md\\_cita-d&p=&u=%2Fcitations%3Fview\\_op%3Dview\\_citation%26hl%3Den%26user%3DoRMcg7sAAAAJ%26citation\\_for\\_view%3DoRMcg7sAAAAJ%3ASe3iqnhoufwC%26tzom%3D-120](https://scholar.google.com/citations?user=oRMcg7sAAAAJ&hl=en#d=gs_md_cita-d&p=&u=%2Fcitations%3Fview_op%3Dview_citation%26hl%3Den%26user%3DoRMcg7sAAAAJ%26citation_for_view%3DoRMcg7sAAAAJ%3ASe3iqnhoufwC%26tzom%3D-120) (Accessed 22 September 2015)
- Siemens, G. & Matheos, K. 2010. Systemic changes in higher education. *In Education* 16(1):3-18.
- Simonson, M., Smaldino, S. & Zvacek, S. 2015. *Teaching and learning at a distance foundations of distance education*, 6th edition. Charlotte, NC: Information Age.
- Skinner, B.F. 1974. *About behaviorism*. England: Penguin Books.
- Slavin, R.E. 1994. *Educational psychology: theory and practice*, 4th edition. Massachusetts: Paramount.
- Snape, D. & Spencer, L. 2003. The foundations of qualitative research. In Ritchie, J. & Lewis, J. eds. *Qualitative research practice: a guide for social science students and researchers*. London: Sage.
- Spencer, L., Ritchie, J. & O'Connor, W. 2003. Analysis: practices, principles and processes. In Ritchie, J. & Lewis, J. eds. *Qualitative research practice: a guide for social science students and researchers*. London: Sage.
- Stake, R.E. 2005. Qualitative case studies. In Denzin, N.K. & Lincoln, Y.S. eds. *The Sage handbook of qualitative research*, 3rd edition). Thousand Oaks, California: Sage.
- Strydom, H. 2005. Ethical aspects of research in the social sciences and human service professions. In De Vos, A.S., Strydom, H. & Delport, C.S.L. eds. *Research at grass roots*, 3rd edition. Pretoria: Van Schaik.
- Strydom, J.F. & Mentz, M. 2010. *South African Survey of Student Engagement: focusing the student experience on success through student engagement*. Pretoria: CHE.
- Subotzky, G., & Prinsloo, P. (2011). Turning the tide: A socio-critical model and framework for improving student success in open distance learning at the University of South Africa. *Distance Education*, 32(2), 177–193.

- Sun, J.C. & Rueda, R. 2012. Situational interest, computer self-efficacy and self-regulation: their impact on student engagement in distance education. *British Journal of Education* 43(2):191-204
- Sung, E. & Mayer, R.E. 2012. Five facets of social presence in online distance education. *Computers in Human Behavior* (28):1738-1747.
- Swan, K. 2010. Teaching and learning in post-industrial distance education. In Cleveland-Innes, M.F. & Garrison, D.R. eds. *An introduction to DE: understanding teaching and learning in a new era*. New York: Routledge.
- Swart, A.J. 2015. Student usage of a learning management system at an open distance learning institute: A case study in electrical engineering. *International Journal of Electrical Engineering Education* 1(13): 2-13.
- Tarus, J. Gichoya, D. & Muumbo, A. 2015. Challenges of implementing e-learning in Kenya: a case of Kenyan public universities. *International Review of Research in Open and Distributed Learning* 16(1):120-141.
- Teras, H. & Herrington, J. 2014. Neither the frying pan nor the fire: in search of a balanced authentic e-learning design through an educational design research process. *The International Review of Research in Open and Distance Learning* (15)2: 233-253.
- Thorndike, E.L. 1913. *Educational psychology, vol 1: the original nature of man*. New York: Teachers College Columbia University.
- Todhunter, B. 2013. LOL – limitations of online learning: are we selling the open and distance education message short? *Distance Education* 34(2):232-252.
- Trochim, W.M.K. 2006. Research methods knowledge base. (Online) Available at <http://www.socialresearchmethods.net/kb/qualval.php> (Accessed 5 May 2014)
- Unisa. 2008. *Open and distance learning policy*. Pretoria: University of South Africa.
- Unisa. 2011. *Implementing the Unisa curriculum policy*. Pretoria: University of South Africa.
- Unisa. 2012a. *Curriculum policy*. Pretoria: University of South Africa.
- Unisa. 2013a. *Tuition policy*. Pretoria: University of South Africa.
- Unisa. 2013b. *Framework for the implementation of a team approach to curriculum and learning development at Unisa*. Pretoria: University of South Africa.
- Unisa. 2015. *Assessment policy*. Pretoria: University of South Africa.
- Van den Berg, G., Joffe, M. & Porto, S. 2016. The Role of Partnerships in Academic Capacity Building in Open and Online Distance Education. *Distance Education* (37)2:196-207.
- Veletsianos, G. 2010. *Emerging technologies in distance education*. Edmonton: AU Press.
- Venkatesh, V., Croteau, A. & Rabah, J. 2014. Perceptions of effectiveness of instructional uses of technology in higher education in an era of Web 2.0. 47th Hawaii International Conference on System Science.

- Viberg, O. & Gronlund, A. 2015. Understanding students' learning practices: challenges for design and integration of mobile technology into distance education. *Learning, Media and Technology* (Online) Available at <http://www.tandfonline.com/loi/cjem20> Accessed 24 May 2015.
- Von Glasersfeld, E. 1996. Introduction: aspects of constructivism. In Fosnot, C.T. eds. *Constructivism theory, perspectives and practice*. New York: Teachers College Press.
- Vygotsky, L.V. 1926. *Educational Psychology*. Florida: CRC Press.
- Walsh, E., O'Keeffe, N., Delaney, L., Fox, S., James, B., Costello, E. & Morrissey, A. 2012. Enhancing the teaching and learning experience of distance education through the use of synchronous online tutorials. (Online) Available at <http://eprints.teachingandlearning.ie> (Accessed 1 May 2015).
- Wedemeyer, C. 1973. Characteristics of open learning systems. (Online) Available at <http://eric.ed.gov/?id=ED099593> (Accessed 5 May 2015).
- Wedemeyer, C. 1975. Implications of open learning for independent study. (Online) Available at <http://eric.ed.gov/?id=ED112766> (Accessed 2 May 2015).
- Wedemeyer, C.A. 1981. *Learning at the back door: reflections on non-traditional learning in the lifespan*. Wisconsin: University of Wisconsin Press.
- Wei, R. 2010. China's radio and TV universities: reflections on theory and practice of open and distance learning. *Open Learning* 25(1):45-56.
- West, R.E., Hannafin, M.J., Hill, J.R. & Song, L. 2013. Cognitive perspectives on online learning environments. In Moore, M.G. ed. *Handbook of distance education*, 3rd edition. New York: Routledge.
- Wilson, B.G. 2012. Trends and issues facing distance education. In Visser, L., Visser, Y., Amirault, R. & Simonson, M. eds. *Trends and issue\*s in DE: international perspectives*, 2nd edition. Charlotte, NC: Information Age.
- Yang, Y., Yeh, H. & Wong, W. 2010. The influence of social interaction on meaning construction in a virtual community. *British Journal of Educational Technology* 41(2):287-306.
- Yildirim, S. & Adnan, M. 2019. Turkey-Commentary. In Zawacki-Richter, O. & Qayyum, A. eds. *Open and Distance Education in Asia, Africa and the Middle East National Perspectives in a Digital Age*. Springer Open.
- Yin, R.K. 2009. *Case study research: design and methods*, 4th edition. United States of America: Sage.
- Yin, R.K. 2011. *Qualitative research from start to finish*. New York: Guilford Press.
- Zawacki-Richter, O. & Anderson, T. 2014. *Online DE: towards a research agenda*. Athabasca: AU Press.

- Zhang, Y. 2013. Power distance in online learning: experience of Chinese learners in US higher education. *The International Review of Research in Open and Distributed Learning* 14(4):239-254.
- Zhu, C. 2012. Student satisfaction, performance and knowledge construction in online collaborative learning. *International Forum of Educational Technology and Society* 15(1):127-136.
- Zhu, C., Valcke, M. & Schellens, T. 2009. Cultural difference in the perceptions of a social-constructivist e-learning environment. *British Journal of Educational Technology* 40(1):164-168.

## Appendix A: Research permission certificate



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

4 April 2017 (Date of issue)

5 May 2017 (Date of correction)

Decision: Research Permission  
Approval from 4 April 2017 until 31  
December 2017.

Ref #: 2017\_RPSC\_024  
Ms. Faiza Gani  
Student #: 46075526  
Staff #: N/A

#### Principal Investigator:

**Ms. Faiza Gani**  
Department of Language Education, Arts and Culture  
School of Teacher Education  
College of Education  
UNISA  
ganif@unisa.ac.za, 079 921 9222

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

**A study titled: "A Framework for the Integration of Online Learning in Distance  
Education"**

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 30 March 2017.

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

1. Gain access to the requested Unisa information for the modules included in the study, which are obtainable from the intranet.



2. Obtain the email address of the lecturers included in the study, the Executive Director: ICT, employees who work in the Directorate: Instructional Support and Services and the email addresses of the different Executive Deans of the different Colleges within Unisa.
3. Send a survey to a 100 Unisa lecturers who teach the modules included in the study and where it is deemed necessary, the researcher may conduct follow-up one-on-one interviews with the lecturers.
4. Conduct interviews with the Executive Deans of the different Colleges, the Executive Director of ICT and 5 employees from the Directorate: Instructional Support and Services.

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\_024 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.

Kind regards,



**pp. Dr Retha Visagie – Acting Chairperson**

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



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Preller Street, Muckleneuk Ridge, City of Tshwane  
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**Prof A Davis – Acting Executive Director**

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



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PO Box 392 UNISA 0003 South Africa

## Appendix B: Ethics certificate



### COLLEGE OF EDUCATION RESEARCH ETHICS REVIEW COMMITTEE

16 November 2016

Ref : **2016/11/16/46075526/26/MC**  
Staff : Mrs F Gani  
Staff Number : 46085526

Dear Mrs Gani,

**Decision: Approved**

**Researcher:** Mrs F Gani  
Tel: +2779 921 9222  
Email: ganif@unisa.ac.za

**Supervisor:** Prof G van den Berg  
College of Education  
Department of Curriculum and Instructional Studies  
Tel: +2712 429 4895  
Email: vdberg@unisa.ac.za

**Proposal:** A framework for the integration of Online Learning in Distance Education

**Qualification:** D Ed in Curriculum and Instructional Studies

Thank you for the application for research ethics clearance by the College of Education Research Ethics Review Committee for the above mentioned research. Final approval is granted for the duration of the research.

*The application was reviewed in compliance with the Unisa Policy on Research Ethics by the College of Education Research Ethics Review Committee on 16 November 2016.*

*The proposed research may now commence with the proviso 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, as well as changes in the methodology, should be communicated in writing to the College of Education Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*



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Open Rubric

3) 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.

**Note:**

The reference number **2016/11/16/46075526/26/MC** should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the College of Education RERC.

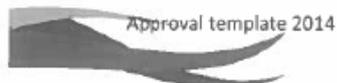
Kind regards,



**Dr M Claassens**  
**CHAIRPERSON: CEDU RERC**  
[mcdtc@netactive.co.za](mailto:mcdtc@netactive.co.za)



**Prof VI McKay**  
**EXECUTIVE DEAN**



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### **Appendix C: Interview schedule for academic staff members**

1. Good day, how are you doing?
2. Describe your experiences of teaching online.
3. Do you base your online teaching on any specific theories? If yes, please tell me more.
4. Do you think online learning is suitable for Distance Education students? If yes, please explain.
5. How do you view your role in the online learning environment?
6. How do you view your students' role in the online learning environment?
7. What characteristics do you think an online teacher should have?
8. What characteristics do you think an online learner should have?
9. When teaching online do encourage students to make decisions regarding their own learning? If yes, please tell me more.
10. When teaching online do you encourage students to form online communities between themselves and with you? If yes, please explain what they are encouraged to do within these communities?
11. Do you think that the context of South Africa influences students' ability to learn online? If yes, please explain how.
12. Based on your experiences of teaching online are there any issues the institution should address to improve online learning?

## Appendix D: Email requesting prospective names of participants

Dear...

Trust that my email finds you well. My name is Faiza Gani, a lecturer in the department of Language Education, Arts and Culture. I am currently doing research with Professor Geesje van den Berg, a Chief of Department in the Department of Curriculum and Instructional Studies towards my PhD at the University of South Africa (Unisa). The study is entitled:

### ***A Framework for the Integration of Online Learning in Distance Education.***

The use of online learning in Distance Education is well documented. Research however, has shown that online learning has not led to transformed pedagogical practices. The focus it appears is on the technology while pedagogical dimensions such as how and what students learn are neglected. In light of the latter, this study aims to collect important information that will highlight the current use of online learning in Distance Education. The study will furthermore explore the opportunities and challenges for integrating online learning in Distance Education. The information collected in the study will lead to the development of a framework. This framework is intended to serve as a guide which practitioners of Distance Education can refer to for the effective integration of online learning.

This study will involve the use of questionnaires, interviews and document analysis. The data collected will be obtained primarily from lecturers and other staff members who have knowledge and expertise in the field of online learning. The data collected will assist me in writing my thesis for completion of my PhD but may also be used for journal articles and conference proceedings.

Permission to undertake this study has been granted by the University of South Africa's Research Permissions Subcommittee of the Senate Research, Innovation and Postgraduate Degrees Committee (**2017\_RPSC\_024**) and the Ethics Committee of the College of Education, University of South Africa (**2016/11/16/46075526/26/MC**).

In order to commence my fieldwork I need to identify suitable participants for inclusion in the above mentioned study. I am kindly requesting your assistance in this regard. Would it be possible to please provide me with names of lecturers in your college who have a special interest in online learning or engage in online learning? Should you be unable to provide me with specific names of lecturers, could you kindly refer me to committees in your college who focus on online learning and the relevant contact persons?

Please feel free to contact me should you require any additional information in this regard.

I look forward to hearing from you.

Thanking you in advance.

## **Appendix E: Participant information sheet**

### **Title: A Framework for the Integration of Online Learning in Distance Education**

Dear Prospective Participant

My name is Faiza Gani and I am doing research with Professor Geesje van den Berg, a Chief of Department in the Department of Curriculum and Instructional Studies towards a PhD at the University of South Africa. We have funding from the University of South Africa for completing the PhD. We are inviting you to participate in a study entitled:

*A Framework for the Integration of Online Learning in Distance Education.*

#### **WHAT IS THE PURPOSE OF THE STUDY?**

This study is expected to collect important information that will highlight the current use of online learning in Distance Education. The study will furthermore explore the opportunities and challenges for integrating online learning in Distance Education. The information collected in the study will lead to the development of a framework. This framework is intended to serve as a guide which practitioners of Distance Education can refer to for the effective integration of online learning.

#### **WHY AM I BEING INVITED TO PARTICIPATE?**

You are being invited to participate in this study because you are regarded as being knowledgeable about the phenomena that I am exploring. You were identified by the executive dean of your academic college and by colleagues within your academic college as being in a position to share useful information that could assist me in answering my research questions. I obtained your contact details from the University of South Africa's staff directory. The approximate numbers of participants for this study will be 100 participants. Participants will include lecturers and staff members from various directorates and departments within the institution.

#### **WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?**

The study involves the use of questionnaires, interviews and document analysis. The questionnaire consists of open-ended questions and the interview will be semi-structured in nature. If you volunteer to participate in the study you will be requested to kindly complete a questionnaire and a possible follow-up interview. The questionnaire will take approximately 60 minutes to complete. The time to conduct the interview will be approximately 60 minutes.

#### **CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?**

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form which you should kindly sign and return to me via e-mail. You are free to withdraw at any time and without giving a reason. There is no penalty or loss of benefit for non-participation.

***WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?***

The potential benefits that this study may yield will be to provide you as a lecturer and other practitioners of Distance Education with guidance as to the effective integration of online learning in Distance Education. These guidelines can be integrated with your current practice of online learning.

***ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?***

There are no foreseeable risks, harm, discomfort or side-effects that might emanate from your participation in the research. The only foreseeable negative consequence that might emanate from your participation in the research is one of inconvenience as you will have to take time to complete the questionnaire and the possible follow-up interview. You are not at risk of being identified as confidentiality of the information you provide will be maintained. In the case of you experiencing any injury or harm I will immediately report this to the University Ethics Research Committee and the College of Education Research Ethics Committee for immediate action and investigation.

***WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?***

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research. Your name will not be recorded anywhere and no one will be able to connect you to the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

A transcriber will have access to the data for transcription of the data and he/she will maintain confidentiality by signing a confidentiality agreement. Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

The data you provide will assist me in writing my thesis for completion of my PhD but may also be used for journal articles and conference proceedings. I will ensure the protection of your privacy by publishing the information I gather in such a manner that you will not be identifiable.

***HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?***

Hard copies of your answers will be stored by me for a period of five years in a locked cupboard in my office for future research or academic purposes. Electronic information will be stored on my work computer which is password protected. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. If the information needs to be destroyed the hard copies will be shredded and the electronic copies will be permanently deleted from my hard drive through the use of a relevant software programme.

***WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?***

You will not receive any payments, reward or incentives for participating in this study. There are no foreseeable costs for your participation in this study.

***HAS THE STUDY RECEIVED ETHICS APPROVAL?***

Permission to undertake this study has been granted by the University of South Africa's Research Permissions Subcommittee of the Senate Research, Innovation and Postgraduate Degrees Committee and the Ethics Committee of the College of Education, University of South Africa. Copies of the approval letters can be obtained from the researcher if you so wish.

***HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?***

If you would like to be informed of the final research findings, please contact Faiza Gani on 0799219222 or email [ganif@unisa.ac.za](mailto:ganif@unisa.ac.za). The findings are accessible for 12 months.

Should you require any further information or want to contact the researcher about any aspect of this study, please contact [ganif@unisa.ac.za](mailto:ganif@unisa.ac.za) OR 079 921 9222.

Should you have concerns about the way in which the research has been conducted, you may contact Professor Geesje van den Berg at [vdberg@unisa.ac.za](mailto:vdberg@unisa.ac.za) OR 012 429 4589. Alternatively, contact the research ethics chairperson of the College of Education who is Dr Madaleen Claassens and can be reached at [mcdtc@netactive.co.za](mailto:mcdtc@netactive.co.za).

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Mrs Faiza Gani

CONSENT TO PARTICIPATE IN THIS STUDY (Return slip)

I, \_\_\_\_\_ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the interview via means of a tape recorder.

I have received a signed copy of the informed consent agreement.

Participant's name & surname (please print)

\_\_\_\_\_

\_\_\_\_\_  
Participant's signature

\_\_\_\_\_  
Date

Researcher's name & surname (please print)

\_\_\_\_\_

\_\_\_\_\_  
Researcher's signature

\_\_\_\_\_  
Date

## **Appendix F: Interview schedule for administrative staff member working in ICT**

1. Good day, how are you doing?
2. What is the role of your directorate regarding online learning?
3. What support services are available for students who learn online?
4. How can they access these support services?
5. What is the turnaround time to resolve student queries regarding online learning?
6. What support services are available for lecturers who teach online?
7. What is the turnaround time to resolve lecturer queries regarding online teaching?
8. Are you aware of any common problems that students encounter when learning online? If yes, how is ICT addressing these problems?
9. Are you aware of any common problems that lecturers encounter when teaching online? If yes, how is ICT addressing these problems?
10. Does your directorate work collaboratively with other directorates regarding issues relating to online learning?
11. Based on your experiences are there any issues that need to be addressed to improve online learning within the institution? If yes, please tell me more.

## Appendix G: Questionnaire

### Instructions for completing the questionnaire:

- This questionnaire consists of 2 sections. Section A and Section B.
- You are kindly requested to complete all sections of the questionnaire.
- Please type your responses in the space provided. If you require additional space please press the enter button on your keypad.
- Please answer all questions as honestly and openly as possible according to your personal views and experiences.

### Section A: Biographical information

*This section deals with questions relating to you, the academic college you currently work in and the modules you currently teach.*

1. Kindly specify your gender?

2. Kindly indicate which age range you belong to, by marking your response with an (x) in the table below?

Age	Your response
21–29 years old	
30–39 years old	
40–49 years old	
50–59 years old	
60 years and older	

3. Please indicate the name of the college you currently work in?

4. For how many years/months have you been a Distance Education lecturer?

5. How many modules do you currently teach?

6. Please indicate, the number of students registered for the module and indicate whether it is a postgraduate or undergraduate module. Kindly fill your responses in the table below.

Number of students	Postgraduate/undergraduate

**End of section A**

**Section B: Teaching and learning information**

*This section deals with your practices and approaches to online learning. In this questionnaire **online learning** refers to utilising technologies to support and enhance teaching and learning in distance education.*

1. Approximately how many hours do you spend teaching your students online? Kindly mark your response in the table below with an (x).

<b>Time spent teaching online</b>	<b>Your response</b>
0–5 hours a week	
6–10 hours a week	
11–15 hours a week	
16–20 hours a week	

2. Please indicate the **tools** (e.g. podcasts, discussion forums) you make use of to teach your students online and explain **why** and **how** you use it? Type your answers in the table below.

<b>Tool</b>	<b>Why do you use it?</b>	<b>How do you use it?</b>

3. Based on your experience, do your students have sufficient computer literacies to learn online?

4. Do you experience language as a barrier between you and your students when teaching online?

5. What challenges do you encounter when teaching your students online?

6. From your experience which factors contribute to your students' success to learn online?

7. Please comment on the benefits of online learning.

8. Based on your experience, which practices do you find work best for teaching your students online?

**End of questionnaire**

*Thank you for taking time to complete this questionnaire.*

## Appendix H: Email inviting participants to participate in study

Dear...

Hope this email finds you well. My name is Faiza Gani and I am doing research with Professor Geesje van den Berg, a Chief of Department in the Department of Curriculum and Instructional Studies towards a PhD at the University of South Africa. We have funding from the University of South Africa for completing the PhD. The study is entitled:

### ***A Framework for the Integration of Online Learning in Distance Education.***

The study is expected to collect important information that will highlight the current use of online learning in Distance Education. The study will furthermore explore the opportunities and challenges for integrating online learning in Distance Education. The information collected in the study will lead to the development of a framework. This framework is intended to serve as a guide which practitioners of Distance Education can refer to for the effective integration of online learning.

You are being invited to participate in this study because you are regarded as being knowledgeable about the phenomena that I am exploring. You were identified by the executive dean of your academic college and by colleagues within your academic college as being in a position to share useful information that could assist me in answering my research questions. I obtained your contact details from the University of South Africa's staff directory. The approximate numbers of participants for this study will be 100 participants. Participants will include lecturers and staff members from various directorates and departments within the institution.

The study involves the use of questionnaires, interviews and document analysis. The questionnaire consists of open-ended questions and the interview will be semi-structured in nature. If you volunteer to participate in the study you will be invited to kindly complete a questionnaire and a possible follow-up interview. The questionnaire will take approximately 60 minutes to complete. The time to conduct the interview will be approximately 60 minutes.

Permission to undertake this study has been granted by the University of South Africa's Research Permissions Subcommittee of the Senate Research, Innovation and Postgraduate Degrees Committee (**2017\_RPSC\_024**) and the Ethics Committee of the College of Education, University of South Africa (**2016/11/16/46075526/26/MC**).

Attached to this email is a ***participant information sheet***, which will provide you with more detail regarding my study.

If you decide to accept my invitation to participate in this study could you kindly complete the following:

1. The attached ***questionnaire***
2. The ***consent to participate in this study return slip***

You may return the completed questionnaire and the consent to participate in this study return slip to me via email at: ganif@unisa.ac.za

Should you require any additional information regarding this study please feel free to contact me using the details below.

I look forward to hearing from you.

## **Appendix I: Informed letter of consent**

### **Title: A Framework for the Integration of Online Learning in Distance Education**

Dear Prospective Participant

My name is Faiza Gani and I am doing research with Professor Geesje van den Berg, a Chief of Department in the Department of Curriculum and Instructional Studies towards a PhD at the University of South Africa. We have funding from the University of South Africa for completing the PhD. We are inviting you to participate in a study entitled:

*A Framework for the Integration of Online Learning in Distance Education.*

#### **WHAT IS THE PURPOSE OF THE STUDY?**

This study is expected to collect important information that will highlight the current use of online learning in Distance Education. The study will furthermore explore the opportunities and challenges for integrating online learning in Distance Education. The information collected in the study will lead to the development of a framework. This framework is intended to serve as a guide which practitioners of Distance Education can refer to for the effective integration of online learning.

#### **WHY AM I BEING INVITED TO PARTICIPATE?**

You are being invited to participate in this study because you are regarded as being knowledgeable about the phenomena that I am exploring. You were identified by the executive dean of your academic college and by colleagues within your academic college as being in a position to share useful information that could assist me in answering my research questions. I obtained your contact details from the University of South Africa's staff directory. The approximate numbers of participants for this study will be 100 participants. Participants will include lecturers and staff members from various directorates and departments within the institution.

#### **WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?**

The study involves the use of questionnaires, interviews and document analysis. The questionnaire consists of open-ended questions and the interview will be semi-structured in nature. If you volunteer to participate in the study you will be requested to kindly complete a questionnaire and a possible follow-up interview. The questionnaire will take approximately 60 minutes to complete. The time to conduct the interview will be approximately 60 minutes.

#### **CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?**

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form which you should kindly sign and return to me via e-mail. You are free to withdraw at any time and without giving a reason. There is no penalty or loss of benefit for non-participation.

### ***WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?***

The potential benefits that this study may yield will be to provide you as a lecturer and other practitioners of Distance Education with guidance as to the effective integration of online learning in Distance Education. These guidelines can be integrated with your current practice of online learning.

### ***ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?***

There are no foreseeable risks, harm, discomfort or side-effects that might emanate from your participation in the research. The only foreseeable negative consequence that might emanate from your participation in the research is one of inconvenience as you will have to take time to complete the questionnaire and the possible follow-up interview. You are not at risk of being identified as confidentiality of the information you provide will be maintained. In the case of you experiencing any injury or harm I will immediately report this to the University Ethics Research Committee and the College of Education Research Ethics Committee for immediate action and investigation.

### ***WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?***

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research. Your name will not be recorded anywhere and no one will be able to connect you to the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

A transcriber will have access to the data for transcription of the data and he/she will maintain confidentiality by signing a confidentiality agreement. Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

The data you provide will assist me in writing my thesis for completion of my PhD but may also be used for journal articles and conference proceedings. I will ensure the protection of your privacy by publishing the information I gather in such a manner that you will not be identifiable.

### ***HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?***

Hard copies of your answers will be stored by me for a period of five years in a locked cupboard in my office for future research or academic purposes. Electronic information will be stored on my work computer which is password protected. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. If the information needs to be destroyed the hard copies will be shredded and the electronic copies will be permanently deleted from my hard drive through the use of a relevant software programme.

***WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?***

You will not receive any payments, reward or incentives for participating in this study. There are no foreseeable costs for your participation in this study.

***HAS THE STUDY RECEIVED ETHICS APPROVAL?***

Permission to undertake this study has been granted by the University of South Africa's Research Permissions Subcommittee of the Senate Research, Innovation and Postgraduate Degrees Committee and the Ethics Committee of the College of Education, University of South Africa. Copies of the approval letters can be obtained from the researcher if you so wish.

***HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?***

If you would like to be informed of the final research findings, please contact Faiza Gani on 0799219222 or email ganif@unisa.ac.za. The findings are accessible for 12 months.

Should you require any further information or want to contact the researcher about any aspect of this study, please contact ganif@unisa.ac.za OR 079 921 9222.

Should you have concerns about the way in which the research has been conducted, you may contact Professor Geesje van den Berg at vdberg@unisa.ac.za OR 012 429 4589. Alternatively, contact the research ethics chairperson of the College of Education who is Dr Madaleen Claassens and can be reached at mcdtc@netactive.co.za.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Mrs Faiza Gani

CONSENT TO PARTICIPATE IN THIS STUDY (Return slip)

I, \_\_\_\_\_ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the interview via means of a tape recorder.

I have received a signed copy of the informed consent agreement.

Participant's name & surname (please print)

\_\_\_\_\_

\_\_\_\_\_

Participant's signature

\_\_\_\_\_

Date

Researcher's name & surname (please print)

\_\_\_\_\_

Researcher's signature

\_\_\_\_\_

Date

## Appendix J: Transcriber confidentiality agreement

### TRANSCRIBER CONFIDENTIALITY AGREEMENT

I, [name of transcriber], agree to transcribe data for this study. I agree that I will:

1. Keep all research information shared with me confidential by not discussing or sharing the information in any form or format (e.g., disks, tapes, transcripts) with anyone other than, the researcher on this study;
2. Keep all research information in any form or format (e.g., disks, tapes, transcripts) secure while it is in my possession. This includes:
  - using closed headphones when transcribing audio-taped interviews;
  - keeping all transcript documents and digitized interviews in computer password-protected files;
  - closing any transcription programs and documents when temporarily away from the computer;
  - keeping any printed transcripts in a secure location such as a locked file cabinet; and
  - permanently deleting any e-mail communication containing the data;
3. Give all research information in any form or format (e.g., disks, tapes, transcripts) to the researcher when I have completed the research tasks;
4. Erase or destroy all research information in any form or format that is not returnable to the researcher (e.g., information stored on my computer hard drive) upon completion of the research tasks.

---

Signature of transcriber

Date

---

Signature of researcher

Date

## Appendix K: Example of transcribed interview

Interviewer: Goodday, how are you doing?

Participant: I am good thanks.

Interviewer: Ok thanks for meeting with me, and before we began with the interview questions, I would like to follow up on questionnaire items that I needed more clarity on. Is this fine with you?

Participant: Okay you will have to refresh my memory, as I cannot really remember what I wrote.

Interviewer: The first question I wanted to follow up on XXX is the use of your discussion forums because I noticed you said you have sort of different sections. One for admin, one for topics from your study guide, and another one for your exam preparation. So I wanted to find out from your experience, of these where do you find students engage the most?

Participant: Mmm, ja so I split it up in admin stuff, mmm and then the 3 main parts of the study guide, and then specifically exam stuff...mmm what I do find, oh and then there is a section on instructions and introductions. I try to explain to them, to tell them who I am and ask them who they are and then there is an instruction bit, where I ask them very nicely to ask questions in the right forums. But I still get questions in the wrong place, so I find that a struggle. They don't really stick to what I want them to do, but it only probably means that I am not explaining it clear enough. Mmm but generally I get questions in specific discussion topics related to assignments where I would say at the top this is only for administrative and technical issues where they would ask stuff that has been tested in the assignment that has already been discussed in another forum. So I think this is a problem that lies with me.

Interviewer: So you're finding that they might not be navigating the site properly?

Participant: Yes, I suspect that's my fault, but that is exactly the thing.

Interviewer: Do you think it's that you need to give clearer instructions, or is it related to the way you're setting up the forum?

Participant: Mmm, it might be a little bit of both, because I am not sure how I would make instructions clearer because if I would put it in an announcement or email it to them too early half might not be registered and if you do it too late, others might have started the assignments already. So what I do with the first discussion I have a section that says start here. And some follow and others do not. Mmm..maybe I have to word my stuff differently. And the other thing

I do because it works well for me I use the discussions tool and not the discussion forum so that I can carry over the basic discussions to the next semester, and just clear the content and update where I have to. So maybe they are used to other lecturers using the discussion forums and I use the discussions tools and that's why they struggling. I'm not sure.

Interviewer: So they are engaging? Just in the incorrect place?

Participant: Yes, the majority are but here and there they post in the incorrect place and then you have to say ok your question has already been answered elsewhere.

Interviewer: Ok, do you find that they engage more before the exams?

Participant: Yes, yes definitely before the assignments are due and before the exam. Definitely when they have to do an assessment they try to engage, some for the first time.

Interviewer: Do you think their engagement is related because assessment is credit bearing?

Participant: Yes

Interviewer: Because I also noticed that you said you upload additional resources? Now these resources are you uploading it more like additional reading?

Participant: Yes I tell them. I'll have a website with a map, an interesting little Youtube video, I don't have a lot of this. I need to work on this. But like I said in the questionnaire the module I am working on is being phased out so I have to design a new course and come up with...as I was drafting the new study material I was thinking of ways that I can build a better XXX site. But at the moment I do not have a lot of additional resources, but they're interactive stuff and I tell students everything in this folder is just interesting stuff, none of it will be tested in the assignment or exams. So ja.. that's what I do.

Interviewer: Ok, and how are their responses to that? Are they interested in that?

Participant: If you look at, I haven't used this in a while, but you can look at site statistics where you can see what they open and what they don't. So few semesters ago when I checked, before I restructured my discussions, they were only going to the exams and additional resources and now that the discussions are structured a bit better, and its clearer, the discussions are getting more traction. But still a lot of them open up the additional resources, which has kind of made me feel guilty because I could be putting better stuff up if I see that a lot of them go there.

Interviewer: Ok, once they open it up do they engage with you regarding that?

Participant: No they do not, now that you asked that question, I should probably create a discussion forum that specifically asks a question about that. That would make sense. So yes I never get anyone who asks me questions about the additional stuff.

Interviewer: I noticed you mentioned that you tackle topics that students are struggling with...how do you determine these topics? What is it based on?

Participant: I inherited a module and study guide from someone. When I went through the study guide I realised there were parts that I don't not even understand. So what I do is I look at stuff where I get a lot of email queries, and parts of the guide that are difficult to understand as well as questions students found challenging in the exams and I tackle those topics. And start a discussion forum, with a detailed explanation and examples and then what they do is say: well thank you this is helpful or I get that but I still don't understand that. And what works well because it starts with a general discussion is that I think a lot of them tell me after a semester. I either write them an email or use the poll function, and then I would ask questions like: have you ever asked a question in the discussion forum that has not been answered. So kind of experience has taught me what it they have challenges with.

Interviewer: And you mentioned that you start off with a general discussion and then you want them to say ok I understand this, or I am having issue with this? Do they do that?

Participant: Mmmm...part of the conversations would be part of this helps a lot, the explanations are great, or they would say I still don't understand. And so obviously I can't catch everything they don't understand so I have an additional forum that will say any other queries and then I tell them anything you have a question on you are welcome to post under this forum. And then that gets rather active and students come with questions and this also helps me because if I continuously get questions on something I don't have a discussion forum for I will know to put it in for next year.

Interviewer: And then we did touch on this...the aspect of using polls, does this help to improve your practice?

Participant: What I find with the polls is that there is so much you can do with it, but so few students actually go and answer the questions, So last year I had a whole bunch of questions, on whether I would answer the telephone, answered their emails and I did a general thing of what they think about me and the module in general, but I hoped that more of them would complete it. But maybe they didn't understand that it really is anonymous and can't see who they are. The other thing is I don't want to open the polls to soon in the semester and then ask them questions about whether they have learnt anything from the module, if they have only

done it for a month. So I am still struggling with how to use the tool. But generally what I like about it, is that students who answer are honest. So many will say well: this didn't work at all, or there could have been more examples of this.

Interviewer: Does this feedback help you going forward? Sort of what to do and what not to do?

Participant: Yes, yes

Interviewer: I want to touch on the issue of your students' language literacy and ICT literacy, can you tell me more about this?

Participant: Yes some do experience challenges because the module I teach has many Latin terminology as such students email me and ask questions regarding this. What I then do is I refer them to the discussion forum if the question has already been answered. So I would say, do you have access to the internet and they would say yes so as to check the discussion forum. And some would tell me that they have never accessed the online learning platform before because they cannot afford it. And some do struggle to navigate the site and that might be why they ask questions in the correct place. but what I noticed because my department teaches a lot of first year and fourth year modules, is by the time they get to the fourth year they have kind of figured it out.

Interviewer: In terms of the number of students, are many of them interacting online?

Participant: What I can see it that it is getting better over time, I don't know if its because we are getting younger and younger students who are fresh out of high schools, and have devices and are computer literate so it's much better than 2 or 3 years ago. But I have 3900 students and it's not even close to that, maybe only 150 to 200 students interact online. But I think others might be there and reading the stuff but not asking questions.

Interviewer: Ok, like an observer?

Participant: Yes, yes

Interviewer: I noticed you mentioned that if your discussions are answered well, students are able to answer their own questions, Do you mean they are able to answer each other, or just by reading your responses?

Participant: I think a lot of them if they go to the right place and I have anticipated their questions if they read their question will be answered. But what I also see and I like as times goes on is students helping each other. But my discussion might be flawed because I don't

get them to engage with each other. I registered for a short learning programme and I learnt a little bit of the constructivist things. So I don't make them talk to each other, I am still the source of knowledge and its up-down. So that is something I need to work on, is to structure discussion so that they kind of talk to each other

Interviewer: Ok so when do help each other, you allow them the freedom to do so?

Participant: yes, yes what I would do then is say: dear XXX thanks for answering XXX question, you are completely on the ball but you might have left out this or when someone gets something wrong I would say thank you for the attempt I see why you said this, this is where you went wrong. You halfway there, etc. So wherever they talk to each other I say thanks for helping each other out, yes, no halfway etc.

Interviewer: I am sensing you want them to talk to each other why do you regard that as important?

Participant: Mmm, I just think that and this I never understood until recently is that is they way we learn, we learn from each other, it's a more connected world and the lecturer and the study guide is no longer the only source of information, I understand now that we are learning more about how people learn.

Interviewer: And you think this is possible in an online environment?

Participant: Yes, I just need to figure out how.

Interviewer: Xxx you also mentioned something about micro-learning strategies, can you tell me more about that?

Participant: I am not doing it at the moment, but I am excited about trying it out for the new modules. Its to take a small chunk and teach it in a video, podcast etc. and show them later how to related this relates to other things.

Interviewer: So breaking up the study units into smaller chunks?

Participant: Yes, yes and use different strategies to teach little bits.

Interviewer: You mentioned that the massive student enrolment influences what can be done online? Can you tell me more?

Participant: Yes there are certain things for e.g. peer assessment that I would like to do, but with close to 4000 students it will be challenge.

Interviewer: Ok that wraps up the questionnaire items that needed clarity. Could you tell me in general what have your experiences been teaching online?

Participant: Mmm... I have thoroughly enjoyed it. But the only sad thing is that I sometimes feel that I am teaching into this void and you don't know who is out there, who is listening, who is reading, who is caring, about what you're doing. And if they do not reply to your discussion, then it like you kind of totally out of touch with them.

Interviewer: So you like missing more interaction with your students?

Participant: Yes, yes. And the other thing is that you don't know if what you are doing is helping the student, because that instant feedback that you have in face-to-face teaching is not there.

Interviewer: So you sort of feel like you are not sure if what you are doing is effective/is helping?

Participant: Yes, yes and I feel like a small amount of students are interacting while the others might just be observing or reading.

Interviewer: Do you think you could change this?

Participant: Mmm.... I think getting them to engage with each other will also kind of help that in the sense that they would more like to speak to each other then directly with the lecturer and by having a look at that you might get an idea of what they understand and what they do not. Am I making sense?

Interviewer: Yes you are, you want that feedback from students to know if you are helping them?

Participant: Yes even if it's in a form of them speaking to each other, that is a form of feedback.

Interviewer: Ok so just to recap, because I had a question on how you plan your online activities. You have discussions and occasionally additional resources. So is the discussions tool the tool you use predominantly?

Participant: Yes and then I also use announcements. What I do with the additional resources, is I pop a whole bunch at the beginning of the semester and just leave it there so I could be doing this better.

Interviewer: I remember you mentioned earlier you registered for a short learning programme. I want to ask are you influenced by any theories when you teach online?

Participant: Really it's only since this semester that I have been introduced to these theories. So this is really the first time I am getting into e-learning, online learning, blended learning so my knowledge is limited. But the more I am learning, the more I am realising I can be smarter about this by thinking about what it is that I want to do. So I can see my online learning changing in the next few years. So at the moment am I using the tools without really thinking about it.

Interviewer: So would like your online learning to be guided by literature, like based on what works for online learning?

Participant: Yes. I think I have been thinking about it backwards. I have now realised that we are working in a connected society where people learn from each other, so I will definitely try to identify theories and paradigms that will work for my course, me degree, the field, the number of students in the module. So I think there must be a massive amount of factors that will influence your choice of theories. So I think one should think about what you want to do and structure your teaching and learning according to that.

Interviewer: Ok, and then your own role in the online environment, how do you view it?

Participant: My role could change significantly because at the moment I am not a facilitator of learning. and I have started realising recently that there are other ways of doing things.

Interviewer: Ok, so what would you say changed your view of teaching?

Participant: Mmm it's based on some research I did and the recent review of our XXX curriculum. So auditing what you have done kind of makes you think of what you are doing wrong.

Interviewer: So from what I gather you are more willing to become more of a facilitator?

Participant: Yes, yes. And the content of the new module I will be teaching is also more relevant and topical so I think there will be a lot more room for students to talk to each other.

Interviewer: And your students role, how do you view their role?

Participant: Well in the new module I am hoping to get them to speak more to each other and learn from each other. But it will be a learning curve for me, because initially I might want to jump in. So I will need to figure out how to do this.

Interviewer: Ok , so are there any specific characteristics you think an online teacher should have?

Participant: Mmm...I think a willingness to assess and evaluate yourself and to think about how you are teaching. Being open to change and even learning from your students, and asking them their experiences of the module.

Interviewer: Ok and for your students, what do you regard as important as characteristics for them?

Participant: I think they would need to have a certain level of computer literacy, a willingness to participate, ja.

Interviewer: Ok, do you regard our context as a factor for students to learning online?

Participant: I think it will be difficult to accommodate everyone, then how do you choose who to accommodate. This might have influenced my willingness to do more, because I do not want to exclude anyone.

Interviewer: From your experiences of teaching online, is there anything the institution should do to improve online learning?

Participant: Yes, I think it would be good if more students are given access to computers and the internet.

Interviewer: Ok that sums up my questions, unless there is anything else you would like to share?

Participant: No, I am ok for now.

Interviewer: Ok thank you so much for your time.