

**STUDENTS' PERCEPTIONS OF
THE REQUIREMENTS OF SUCCESS IN
AN OPEN, DISTANCE AND eLEARNING (ODeL) INSTITUTION:
THE CASE OF UNISA**

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DECLARATION

I declare that this thesis is my own, unaided word. It is being submitted for the Degree of Doctor of Philosophy at the University of Witwatersrand, Johannesburg. It has not been submitted elsewhere before for any degree or examination.

Signature of candidate

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ABSTRACT

This research sought to determine the effects of students' perceptions of their abilities to perform various functions for successful study through ODeL on their actual performance. The study also focused on determining their understanding of their institutional context, specifically what differentiates open distance and e-learning (ODeL) institutions from contact institutions and the type of attributes, resources and support required to succeed in ODeL. The target population was students who had started studying at the University of South Africa (Unisa) for the first time during the first semester of 2015 and then re-registered again during the second semester of the same year.

To measure students' perceptions, three self-efficacy measures were used, namely self-regulated learning self-efficacy (SRLE), distance learning self-efficacy (DLSE) and computer and online technologies self-efficacy (COTSE). SRLE was an adaption of the Motivated Strategies for Learning Questionnaire (MLSQ) by Pintrich and de Groot (1990) and comprised fourteen (14) statements which were divided into three (3) subscales. These subscales were student persistence self-efficacy (SPSE), time and study environment management self-efficacy (TSEMSE) and seeking help self-efficacy (SHSE). The SPSE subscale had four (4) statements, TSEMSE had five (5) statements and SHSE had four (4) statements. All statements for the various subscales were rated using a 6-point Likert scale, from 'strongly disagree' to 'strongly agree'.

DLSE was an adaptation of the DLSE scale by Zhang, Duan, and Wu (2001) and had nine (9) statements which were rated using a 6-point Likert scale, from strongly disagree to strongly agree. COTSE was an adaptation of Miltiadou and Yu's (2000) Online Technologies Self-Efficacy Scale (OTSES) and had thirty-two (32) statements, which were divided into four (4) subscales, namely internet competencies self-efficacy (ICSE), myUnisa self-efficacy (MUSE), myLibrary self-efficacy (MLSE) and email communications self-efficacy (ECSE).

Unlike SRLE and COTSE, each of these statements in the COTSE scale was rated using a four (4)-point Likert scale, from ‘not confident at all’ to ‘very confident’.

To measure student success, students’ credit scores were obtained from the student database. A single case embedded study was used as a research strategy, and within that, qualitative and quantitative data was collected using an online survey. Permission was obtained from ethical committees at the University of Witwatersrand and at Unisa before commencing with survey administration and before requesting student data from the database. The survey was administered to 15 557 students but only 670 students responded. However, only 263 of the 670 were deemed as suitable for data analysis, this representing a response rate below 2.0%. Responses were received from mainly African females (43%) who were employed (63%) and had no dependents (69%). Furthermore, most of the respondents had no prior distance learning experience (84%).

The results of the quantitative analysis indicated a general understanding of the attributes, resources and support needed to study successfully through ODeL. Understanding of institutional context was reinforced by the results of the qualitative data. Regarding the effects of self-efficacy on student performance, DLSE had more importance in this study than SRLE or COTSE.

Overall, only DLSE was found to have a significant effect on academic attainment albeit with a low effect ($r = -.13$), explaining only 1, 7% of the variation in the academic achievement between successful and unsuccessful students.

DLSE also explained 10% of the variation in academic achievement between successful and unsuccessful students who, although new to Unisa, were not new to higher education (transfers). DLSE was also significant among those with no prior distance learning experience, $r = -.17$, explaining 3% variation between successful and unsuccessful students. Statistically significant differences were also found in DLSE levels for students with 6-9

modules whereby successful students had significantly higher levels of DLSE than unsuccessful students, $r=-.20$.

COTSE was statistically significant among students aged below 30 years, with a small to medium effect of $r=-.16$, thus explaining 2,56% variation between successful and unsuccessful students. SRLE had no significance at all in this study.

Keywords: distance learning self-efficacy; self-regulated learning efficacy; computer and online technologies self-efficacy; academic attainment; distance-learning success

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ACRONYMS

ACN203S	Cost Accounting and Control
AS-CSE	Application Specific Computer Self-Efficacy
BI	Behavioural Intention to use technology
CEMS	College of Economic and Management Sciences
CHE	Council on Higher Education
COTSE	Computer and Online Technologies Self-Efficacy
CSE	Computer Self-Efficacy
DCCAD	Directorate for Career Counselling & Academic Development
DHET	Department of Higher Education and Training
DIA	Department of Information and Analysis
DISS	Directorate of Instructional Support and Services
DL	Distance Learning
DLSE	Distance Learning Self-Efficacy
ECOM	Email Communications
ECSE	Email Communications Self-Efficacy
GPA	Grade Point Average
HE	Higher Education
HEI	Higher Education Institution
ICS	International Correspondence Schools
ICSE	Internet Competencies Self-Efficacy
ICTCoC	Information and Communications Technology Committee of Council
ICT	Information and Communications Technology
IGNOU	Indira Gandhi National Open University
IMM	Interactive Multimedia

INTCOM	Internet Competencies
ISES	Internet Self Efficacy Scale
KMO	Kaiser-Meyer-Olkin
LSQ	Learner Self-Efficacy Questionnaire
MANCOM	Management Committee
MDN	Median
MSLQ	Motivated Strategies for Learning Questionnaire
MUSE	myUnisa Self-Efficacy
MLSE	myLibrary Self-Efficacy
NCE	Nigeria Certificate in Education
NEHAWU	National Health Education & Allied Workers Union
NTI	National Teachers Institute
NQF	National Qualifications Framework
ODL	Open Distance Learning
OdeL	Open Distance and eLearning
OLI	Open Learning Institute
OTSES	Online Technologies Self-Efficacy Scale
OUT	Open University of Tanzania
OUUK	Open University in the United Kingdom
PALC	Public Adult Learning Centres
PEOU	Perceived Ease of Use
PEU	Perceived Ease of Use
PEUU	Perceived Ease of Use and Usability
PG	Postgraduate
POPI	Protection of Personal Information

PU	Perceived Usefulness
SHSE	Seeking Help Self-Efficacy
SN	Social Norms
SRC	Student Representative Council
SRIHDC	Senate Research and Innovation Higher Degrees Committee
SRLE	Self-Regulated Learning Efficacy
SRLQ	Self-Regulated Learning Questionnaire
STOU	Sukothai Thammathirat Open University
SPSE	Student Persistence Self-Efficacy
SUNY	State University of New York
TAM	Technology Acceptance Model
TSEMSE	Time and Study Environment Management Self-Efficacy
TSA	Technikon South Africa
TSE	Technology Self-Efficacy
TVET	Technical and Vocational Education and Training
UG	Undergraduate
UNISA	University of South Africa
URERC	Unisa Research Ethics Review Committee
USM	University Sains Malaysia
VC	Vice Chancellor
VUDEC	Vista University Distance Education Campus
WITS	University of Witwatersrand

1 INTRODUCTION

1.1 Introduction

The improvement of student throughput and success rates is a long-standing goal of higher education institutions, both contact and distance, and a salient and recurring feature of their institutional strategic plans. This is possibly due to the fact that ensuring favourable throughput and success rates is of utmost importance in striking a balance between access and success. For access without success would imply institutions essentially failing their most important stakeholders, the students, and consequently failing themselves. It is common knowledge that the reputation of any higher education institution lies in part in its ability to ensure the success of its students. Hence, this issue of improving throughput and success rates is the main driving factor behind most higher education research, as understanding the factors responsible for success holds the key to the attainment of this shared institutional goal.

This is perhaps more so in distance learning contexts given various reasons, the most important being perhaps that despite being in existence for over a century (Bower & Hardy, 2004), distance learning success rates still lag behind those of contact institutions (Chyung, 2001; Pierrakeas, Xenos, Panagiotakopoulos & Vergidis, 2004; Simpson, 2004; Simpson, 2013; Warrican, Leacock, Thompson, & Alleyne, 2014). Simpson (2014, p. 105) estimated distance education institutions to have less than one-quarter of graduation rates observed by contact institutions and termed this the “distance education deficit”. This is due to a myriad of factors, which are discussed in detail in the literature review section, such as issues of isolation experienced by distance learners, which often lead to their discontinuing their studies. Another important factor is the increased role that distance education plays in expanding access to higher education.

The South African White Paper for Post-School Education and Training released at the end of 2013 estimates an increase in participation rates at universities from 17,3% in 2011 to 25% in 2030, which in headcount enrolments translates to 1.6 million enrolments in 2030. Given current issues of access to higher education experienced worldwide including in South Africa, relating to the incapacity of existing contact institutions to meet the high demand of access to higher education, these projected enrolments will place an extra burden on an already ailing sector, particularly distance education.

The South African government has highlighted several strategies to expand the university and college system. These include increasing the number of technical and vocational education and training (TVET) institutions, the introduction of community colleges, which will be multi-campus institutions that will cluster public adult learning centres (PALCs) and the expansion of the distance education sector (DHET, 2013). If learning at a distance is to be a viable alternative for students, then distance learning (DL) institutions would have to be able to convince students that studying at a distance would not be a threat to their success. This can be done, in part, and perhaps to a large extent, by proving to students that their chances of success when studying through distance learning are as high as in contact institutions. To do this would require distance learning institutions to greatly improve their throughput and success rates. Research plays an invaluable role in this regard as it can assist institutions with acquiring the necessary knowledge to ensure tailored responses to addressing factors affecting student success in DL.

Whilst a wealth of research has already gone into determining the factors responsible for student success, there are still gaps in what is known regarding distance learning success, especially in the African context. According to Simpson (2013), student dropout and retention in distance education is roughly estimated to be the main focus in less than one-fifth of the articles published in distance education journals in North American and European

research reports. Whilst comparative figures may not be available, one expects an even lower estimate for the African context given that most of what has already been done around student retention and success has been in UK institutions, whose contexts vary greatly from the African and specifically, South African context.

A review of existing literature points to some of the following theories and concepts as the main attempts to explain the issues of student success in distance learning: Tinto's model of student dropout, Moore's theory of transactional distance, Bandura's self-efficacy theory and the concept of student-institution fit (Bowman & Denson, 2013; Liu, Lavelle, & Andris, 2002; McKenzie & Schweitzer, 2001, Morris, Finnegan & Wu, 2005; Williams, 1986). Tinto's model of student dropout makes two arguments. Firstly, that what individuals bring to higher education systems (e.g. individual characteristics, pre-enrolment experiences or family backgrounds) has an influence on their performance, retention and success. Secondly, the model argues that students' integration into their institutions' academic and social systems is the ultimate predictor of their success as it has a greater impact on their commitment to their studies than what they bring to the institutions. Tinto's arguments are supported by both Bowman and Denson's concept of the student-institution fit and Moore's theory of transactional distance.

Student-institution fit, which has its conceptual roots in the theoretical concept of person-environment interaction (Williams, 1986), departs from the premises that "the 'fit' [or interaction] between institutional and student attributes plays an important role in college students' adjustment, satisfaction and persistence" (Bowman & Denson, 2013, p. 124) and consequently success. The student attributes of interest would be those attributes that students bring with them to campus such as family background, individual, motivation and commitment to studies and goal commitment (Bean & Metzner, 1985; Bowman & Denson, 2013; Habley & McClanahan, 2004; Spady, 1971; Tinto, 1975).

The institutional factors, on the other hand, refer to those factors associated with the campus environment such as institution type, academic integration and social integration (interaction with faculty and student support services) (Bean & Metzner, 1985; Spady, 1971; Tinto, 1975). Proponents of this concept, therefore, argue that a good student-institutional fit not only leads to greater satisfaction with the institution but also academic achievement and personal growth (Huebner, 1980; Lenning et al., 1980; Walsh, 1978 in Williams, 1986). As argued by Tinto (1975, p. 96), “other things being equal, the higher the integration of the individual into the college systems, the greater will be his commitment to the specific constitution and to the goal of college completion”.

Transactional distance, on the other hand, refers to the psychological and communications space that needs to be crossed, which results from the separation of students and instructors in distance learning contexts (Moore, 1993). This separation has a profound effect on teaching and learning as it creates a space of potential misunderstanding between the instructor/lecturer's input and those of the students. Furthermore, the psychological and communications space created by this separation varies from student to student. Transactional distance is, therefore, a threat to ensuring a good student-institution fit as it affects the extent of students' social and academic integration and consequently their satisfaction, retention, and success, especially in distance learning contexts.

In open, distance and e-learning (ODeL) environments such as Unisa, information and communication technologies (ICTs) play an important role in facilitating student-faculty and student-student interactions. This makes access to and competence in the use ICTs of great importance in ODeL student engagement and consequently success (Garrison, 2011). In their survey of 99 undergraduate students from two different US institutions, one a “public doctoral university in the Midwest” (p. 128) and the other “a very small religiously affiliated liberal arts college in the South” (p. 128), Bowman and Denson (2013) found overall student-

institutional fit was associated with greater college satisfaction and lower social isolation and was consequently indirectly associated with the intent to persist with studies. Similar results were obtained by McKenzie and Schweitzer (2001) among many others.

Several studies conducted at Unisa seem to not only suggest a poor institutional fit between the University of South Africa (Unisa) and some of its students but also low levels of self-efficacy or motivation. In the 2010 dropout survey, which sought to determine the reasons for discontinuation of studies among a 2010 cohort of Unisa students, the realisation that they could not cope with distance learning was amongst the reasons provided for dropping out (Tladi, 2013). Lack of motivation was also cited as a factor, as was the need to attend lectures, feeling alone/isolated in their studies, poor communication from the institution and poor academic support, amongst other reasons. These results were supported by the results of the exam absence survey, whereby respondents attributed their absence from exams to lacking the motivation to write, not understanding the study material and not knowing what to expect in the exam, amongst other things (Tladi, 2013).

The results of the 2011 ICT survey by Liebenberg and Chetty, indicated that whilst access to ICTs (own computer) was high amongst the 22 690 respondents, there were other issues experienced such as slow internet access. Slow internet access was found to hinder the ability to download and play audio and video files regularly. Given that study material in e-learning environments is often distributed in these formats, this can have a negative effect on students' access to learning materials and consequently student engagement and success. With regard to the results of the 2013 on-campus registration survey, preference to see someone in person when registering, having no access to the internet and having no access to a computer were among the top reasons provided for registering on-campus instead of online (Tladi & Visser, 2013).

Citing Kuh et al. (2005), Bowman and Denson (2013) argued that if institutions were more transparent about their attributes, students would most likely choose institutions with which they have the best fit and where they are therefore most likely to thrive. This would, in turn, result in greater student retention and success. This argument is supported by Monroe (2006).

The main limitation of this argument is that it assumes that students always have the luxury to choose institutions they want to study at or those with which they have the best fit. However, this is often not the case with open and distance learning (ODL) institutions such as Unisa whereby enrolment is often determined by one or the interplay of the following factors:

1. Student characteristics: full-time employed adults with family responsibilities thereby making it difficult, if not impossible to enrol at a contact institution (Park & Choi, 2009)
2. Non-acceptance at contact institutions due mainly to not meeting entry requirements
3. Relatively lower study fees compared to other institutions

In such institutions, understanding students' perceived academic self-efficacy, therefore holds the key to providing support in order to mitigate the consequences of a poor institutional fit. Also of importance is determining their understanding of their institutional context as well as their perceptions of the requirements to succeed in such an environment. This owes to the argument that, in distance learning settings, where students are required to be more autonomous in learning tasks, due to the absence of contact tuition and active lecturers, having high self-efficacy, amongst other things, is considered very important in ensuring their success (Cascio et al., 2013).

1.2 Problem Statement and Rationale for the Study

As indicated in the introduction, the South African government has targeted a growth in university participation rates to increase from 17,3% in 2011 to 20,0% in 2030. This means there could be 1, 62 million headcount enrolments by 2030 (DHET, 2014). The government recognises the inability of current universities' infrastructure to accommodate such growth and consequently the importance of distance education in enabling such an expansion in participation rates. To this end, government has highlighted several strategies to expand the university and college system by increasing the number of technical and vocational education and training (TVET) institutions, the introduction of community colleges which will be multi-campus institutions that will cluster public adult learning centres (PALCs) and the expansion of the distance education sector (DHET, 2013). Whilst these plans would be beneficial in expanding access, such transformation takes time. Therefore, in the interim, to accommodate the growth in participation rates, growth in throughput and success rates of current institutions, particularly distance education providers, would be required.

The University of South Africa is a major player in the provision of access to higher education opportunities in South Africa. In 2014, 969 1555 students were enrolled in South African public higher education institutions, 372 331 (38,4%) of whom were distance education students and 596 824 (61,1%) were contact students. Unisa's headcount enrolments for 2013 were 350 777, thus accounting for 94,2% of distance education enrolments for that year (DHET, 2016).

For Unisa to continue being a major player in the South African higher education provision landscape, it is imperative that it improves on its throughput and success rates. However, as with other distance learning institutions, Unisa is plagued by low throughput and success rates relative to contact institutions. These low success rates are further threatened by the proposed change in Unisa's business model, from an ODL to an ODeL institution.

What this proposed change would imply for Unisa and how it could possibly impact on student success, are discussed in subsequent sections.

1.2.1 Unisa's proposed business model

The term “business model” lends itself to various definitions, determined by who is defining it and for what purpose. Laudon and Laudon (2014, p. 608) defined a business model as an abstraction of what an enterprise is and how the enterprise delivers a product or service, showing how the enterprise creates wealth. Osterwalder and Pigneur (2010), on the other hand, offered a more comprehensive definition of a business model as a concept that “describes the rationale of how an organization creates, delivers and captures value” (p. 14) explained through nine basic building blocks (customer segments, value propositions, channels (communication, distribution and sales), customer relations, revenue streams, key resources, key activities, key partnerships and cost structure) which cover the four main areas of business (customers, offer, infrastructure, and financial viability).

Regardless of the definition of a business model adopted, the essence is to generate money for the company whilst providing value to its customers. In the case of higher education institutions such as Unisa, these customers are the students who enrol for their studies with the said institutions. The value provided to them would then be about not only providing them with a good learning experience but also ensuring that they are not ill-prepared for participation in the world of work because of their studies.

In its 2015 Strategic Plan, Unisa stated, “contributing to good and responsible society by graduating individuals of sound character and versatile ability” as one of the roles it will play in society. In producing graduates with versatile ability, it is important that the university, therefore, keeps abreast with global trends and adjusts its services accordingly to ensure that graduates are adequately prepared for participation in the world of work. It is this realisation that influenced Unisa's proposed move from an ODL to an ODeL environment.

The move, which is a response to the changing technology landscape, was first discussed at an August 2012 Senate meeting following a presentation by Unisa's Pro Vice-Chancellor of a discussion document prepared by the unit: 'Organisational Architecture on the changing business environment and its significance to Unisa' (Bajinath & Makhanya, 2013). This was followed by several consultations with various stakeholders and groupings at various levels within the University to determine sentiments regarding the proposed changes. Thereafter, a document was prepared to detail Unisa's various choices in terms of its business model going forward, which was submitted to the Vice Chancellor (VC) for consideration in December 2012. Following this submission, "the VC hosted a high-level roundtable [in January 2013] to engage the document and gauge senior management's sentiments on the business model options" (Bajinath & Makhanya, 2013). Suggestions emanating from this roundtable were then incorporated into the document before submitting it to Management Committee (Mancom), Information Communication Technology Committee of Council (ICTCoC), Senate and Council for approval. Mancom approved the document with amendments during its meeting on 26 February 2013 and ICTCoC on 8 March 2013. Senate considered and debated the proposed business model on 13 March 2013, and approval from Council was obtained in April 2013 (Unisa 2013 Annual Report).¹

As mentioned earlier, the proposed business model entails a shift from an ODL environment to an ODeL environment by fully digitising the entire institution's operational environment supported by robust, effective and integrated ICT applications. What this implies in terms of operations and systems is the following.

Applications and registrations for study will be handled electronically, with a few exceptions; all teaching and learning material will be provided to students in digital form

¹ <https://staff.unisa.ac.za/index.jsp?link=https://staff.unisa.ac.za/cmsys/staff/default.asp?Cmd=ViewContent&ContentID=6856>

(however this does not imply that the use of text will be completely phased out)²; all students will have access to a personal e-tutor (to provide academic, affective and administrative support) and where applicable a personal e-mentor (to provide counselling, affective support, coaching, and life and study skills), as their primary support system whilst studying at Unisa; all student assessment – except undergraduate examinations and practical assessments – will be managed electronically and online, with both student submissions and academic assessment being handled in this way; to streamline and track student support services, access to all student support services will be coordinated through myUnisa, with a central coordinating Student Relationship Management System tracking all student requests for support and all students will require access to some form of digital device that enables them to read, view, listen to, or interact with Unisa’s teaching and learning material, as well as sufficiently good quality, broadband Internet access to enable them to use myUnisa and associated online Unisa services regularly and frequently (Baijnath & Makhanya, 2013).

Aspects of Unisa’s operations that will remain unchanged are the provision of face-to-face tutorials, examinations and graduation ceremonies.

1.2.2 Possible effects on student success

As will be seen in Chapter 2, distance learning success rates are less than those of their contact-learning counterparts. In fact, the 2014 graduation rate for distance learning was almost half the contact-learning rate (12,8% vs. 23,1%). Unisa’s graduation was the lowest, at 11,5%, despite having headcount enrolments of 328 491. Depending on how students will react to the proposed move towards a fully-fledged ODeL institution, this move might further negatively affect student success at Unisa and consequently in distance learning. As stated by Lee, Cho, Gay, Davidson and Ingraffea (2003), one of the key

² Instead of moving immediately towards a fully online environment, Unisa moved to a blended mode of teaching, learning and delivery (therefore both print and online) and in time, as service delivery and infrastructural matters (ICT, access, digitization etc.) are addressed, we migrate to online (Baijnath, 2015, email correspondence).

determinants of distance learning success is the seamless integration of technology. This integration is not only affected by students' acceptance and adoption of the proposed technology but also their satisfaction with e-learning. As such, it can be argued that, unless students react positively towards Unisa's proposed move to an ODeL institution, this move can be expected to have adverse effects on student success.

The Technology Acceptance Model (TAM) developed by Davis (1989) has been widely used to demonstrate the relationship between technology integration, acceptance, and adoption. According to the model, people's perceived ease of use of technology (PEOU) for learning and their perceived usefulness of technology (PU) in producing better learning outcomes are the keys to their acceptance and use of that technology. In fact, Davis found perceived usefulness to have a relatively bigger role on user attitudes towards technology than perceived ease of use. Perceived usefulness was found to be 2,65 times more important to the prediction of intention to use technology than perceived ease of use. For Lee et al, perceived usefulness accounted for 36,0% of the variation in attitude towards technology and 24,0% of the variation in the use of technology. Al-Gahtani (2014) found perceived ease of use to have a direct positive effect on the perceived usefulness of technology to learning and on the behavioural intention to use technology for learning. Perceived ease of use was measured in part by students' levels of computer self-efficacy.

Whilst perceived usefulness and perceived ease of use may be important in the initial stages of technology integration, it appears that post-integration, it is their satisfaction with e-learning that will be a key factor in determining the effects of such an integration. A study by Levy (2007) found students' satisfaction with e-learning to not only influence their decision to drop out or persist, but non-completers were also found to have significantly lower satisfaction levels relative to completers or persisters in the same e-learning course.

The main determining factor to student satisfaction, according to a study by DeBourgh (2003) is the quality of the pedagogy. DeBourgh's study, which sought to determine graduate students' satisfaction with a distance learning nursing course using five learner attributes ((1) previous technology courses, (2) technology competence, (3) between-class technology usage, (4) age, and (5) remote-site group size)) and three instructional variables (instructor/instruction, technology, and course management) found that the variable instructor/instruction explained 21% of the variance in course satisfaction scores. This, he attributed to the fact that, with time, students become acclimatised to their institutional reality, be it face-to-face or distance education. Therefore, once this acclimatisation occurs, "it is the quality and effectiveness of [the] instructor and instruction, not the technology, that is associated with satisfaction" (p. 149).

Given the importance of student satisfaction to success, it is assumed that it will be Unisa students' satisfaction with the move towards ODeL, post acclimatisation, that will influence their success. However, pre-acclimatisation, it will be their perceived ease of use and perceived usefulness of technology into teaching and learning activities that will matter.

The results of the on-campus registration survey conducted at Unisa, whereby students indicated a preference to register on campus despite having the option to register online, seem to suggest that this acclimatisation to their changing institutional context has not yet occurred. As was indicated in the survey, among the reasons provided for registering on campus were that they were not comfortable with registering online. Further evidence for this lack of acclimatisation is provided by the unedited quotes below, which were taken from various student surveys conducted at Unisa.

"Learning alone in distance (sic) learning was my challenge" (2010 Dropout Survey)

"I did not cope with the Honours programme through dictance(sic) learning" (2010 Dropout Survey)

“I also did not have proper support group, assistance, lecturers were only available during the week. I could only be available after hours or weekends” (ACN203S exam absence survey)

“Did not understand the module as I was all alone struggling” (ACN203S exam absence survey)

While the extent of the prevalence of this unpreparedness for learning in an ODL institution is unknown, it can be assumed that by digitising an already difficult learning environment, the issues highlighted above, may only be exacerbated.

Furthermore, it can be assumed that, if Unisa students find registering online daunting, then they are likely to have negative attitudes towards e-learning, which might then affect their effective use of it for learning and consequently negatively affect their success.

This assumption will be partly tested later in the study when looking at the effect of students’ computer and online technologies self-efficacy (COTSE) on their actual performance. However, given the incongruence regarding the various findings regarding the relationship between COTSE and student success, as will be seen later, this might be found to have no negative effects on success.

1.2.3 Research contribution

Given what was discussed regarding the pressures of access into higher and Unisa’s role in expanding access in subsections 1.2.1 and 1.2.2, and most importantly the university’s ability to expand access due to the possible effects that its proposed move to ODeL might imply, this research can play a crucial role. The main contribution that this study can make is in providing recommendations on how to improve student success and throughput rates at Unisa and avoid possible negative impacts that may be posed by the proposed move to ODeL.

Unlike previous studies conducted at Unisa which focused on a specific cohort, e.g. students who had dropped out of their studies or those who had missed exams, this study will be focusing on a broader student population. As such, this provides an opportunity, depending on the response rates that will be observed, to determine the extent of the prevalence of the issue of a poor student-institution fit.

Furthermore, while previous studies conducted at Unisa have looked at various aspects related to student success, such as the exam absence and student dropout surveys (Tladi, 2012; Tladi, 2013), no study has focused specifically on students' perceptions of the requirements for success in an ODeL institution and linked those perceptions to their academic performance/success. Even outside of Unisa, most of the studies conducted on student success have focused on proving the significance of predetermined lists of factors deemed important for student success from the researchers' point of view instead of asking the students to identify the factors they consider important and then linking those to actual performance/success. Further to that, most of these studies have been conducted in the UK or US distance learning institutions, whose contexts vary vastly to the African and South African contexts, thus affecting their applicability.

Therefore, by determining what students perceive as the requirements to succeed in an ODeL environment, such as Unisa, their perceived readiness to succeed in such an environment, and linking that to their actual performance, this research provides further opportunity to (1) not only contribute to the bridging of the gap in research at Unisa, but most importantly, to (2) identify those perceptions and beliefs that can either negatively or positively affect student success, and to (3) make recommendations, based on the findings, on how to promote positive perceptions or beliefs and address negative ones in order to have a positive effect on student success at Unisa.

1.3 Aims and Objectives of the Study

The aim of this research was to determine how students' perceptions of their abilities to succeed in an ODeL institution can be improved in order to improve their academic performance and consequently their success. To achieve this, the study had the following objectives. The first objective was to use mixed method research, particularly an online survey with quantitative and qualitative questions, to discover what perceptions students hold regarding their abilities to succeed in an ODeL institution. The quantitative aspect of the questionnaire used three self-efficacy measures, namely self-regulated learning self-efficacy (SRLE), distance learning self-efficacy (DLSE) and computer and online technologies self-efficacy (COTSE). The qualitative aspect used open-ended questions to allow the respondents to provide answers which were not catered for in the provided response options. The second objective was to apply statistical tests to quantitative data on students' perceived abilities to succeed from the research survey and data on students' actual performance (credit scores), obtained from the student database, to determine if there are correlations between held perceptions and actual student performance. The last objective is to make inferences and recommendations based on the observed results. That is, where specific perceptions of their abilities are shown to be linked with successful performance, recommendations will be made on how to enhance these in order to ensure that students succeed in their ODeL studies.

1.4 Research Questions

In addressing the problem of a possible student-institution fit at Unisa, as well as other issues that may affect student persistence and success as discussed in the preceding section, the research will focus on the following questions and sub-questions.

1.4.1 Main research questions

The main research questions that this research sought to answer is:

- What effects do students' perceptions of the requirements of success in an ODeL environment have on their academic performance?
- What is their perceived readiness to succeed in such an environment?³
- How are students' perceptions related to their actual performance at Unisa?

1.4.2 Secondary research questions

In addition to the main research questions. The following secondary questions were asked:

- What are students' understanding of what an ODeL institution is?
- What are students' perceptions of the individual attributes that are required for successful study in an ODeL institution?
- What are their perceptions of the resource requirements for succeeding in such an environment?
- What are their perceptions of the type of support they think is required to ensure success in such an environment?

1.5 Conclusion

Chapter 1 has introduced the study, by providing the background for the research, the rationale for conducting this research and the aims and objectives of this research. With Unisa's current role as a major player in the provision of higher education access and its continued ability to provide access, as per government's plans to expand access, the need to ensure the success of students enrolled at Unisa is of utmost importance. To enable this, this research plays an invaluable role in helping understand perceptions that could be deterrents to success and in making recommendations on addressing these to increase students'

³ This self-efficacy question was to be measured using various academic, computer and online technologies' self-efficacy questions. As such the role of technologies, self-regulated learning, etc. was to be tested using questions posed here.

probabilities of succeeding. In addition, the various research questions that the study sought to answer and their relation to the study's aims were provided.

2 STUDENT SUCCESS

Chapter 2 aims to define student success, as used in literature and as it applies to the current study. Thereafter, statistics on enrolment and success in public higher education institutions are provided to paint a picture of the status quo. The chapter ends with a summary of the main points.

2.1 Defining Student Success

According to the 2007 Official Gazette of the Hispanic Educational Telecommunications System, student success can be defined in many ways and its definition is determined by the type of institution, its nature, and mission, its student population and the needs of its students. The definition of student success, I argue, can also vary in educational research, depending on the purpose/aim of the research. Some definitions, such as that by Cuseo (nd), are more comprehensive, whereas others, such as those by DeTure (2004) and Pritchard and Wilson (2003) are one-dimensional, using one of the key indicators identified by Cuseo as definitions of student success.

Cuseo (nd) based his definition of student success on the Webster dictionary's definition of success, as a favourable or desired outcome. As such, Cuseo defined student success as a favourable or desirable student outcome, represented by any of the following indicators:

- *student retention or persistence* (entering, remaining, re-enrolling and continuing further studies);
- *educational attainment* (persisting until completing the qualification enrolled for);
- *academic achievement* (achieving satisfactory or superior levels of academic performance whilst progressing through studies);

- *student advancement* (enrolling for further studies after completion of initial studies or gaining employment after completing studies); and
- *holistic development* which looks at the students' intellectual, emotional, social, ethical, physical and spiritual development as they progress through and complete their studies.

In his study on the influence of cognitive style and self-efficacy on student success, DeTure (2004) defined student success in terms of grade point average (GPA). Powell, Conway and Ross (1990, p. 5) defined student success as “successfully completing their first Athabasca University distance education course”. Pritchard and Wilson’s (2003) definition of success had a retention and attainment element to it in that success was defined using GPA (current and high school), SAT or ACT⁴ scores and their intent to drop out measured by asking students to rate their agreement with the statement “I doubt I will be in college next year” using a four-point scale (1=strong disagree and 4=strongly agree). Evidently, Cuseo’s definition is comprehensive, as all the other definitions provided fall within the various indicators provided in his definition.

2.2 Student Success as applied in Current Research

For purposes of this research, student success is defined as qualifying for re-admission for further studies at Unisa in 2016 by students who registered for a new qualification for the first time at Unisa during semester one of 2015 and continued with their studies during semester two of 2015. The reason for opting for this definition of student success for the current study is as follows. Unisa’s academic progression policy states that

⁴ The ACT or SAT score is an average rounded test score earned during a single test administration of four tests in English, Mathematics, Reading, and Science and ranges from 1-36. It has been used by postsecondary institutions abroad when making admission, placement and scholarships decisions (<http://www.act.org/aap/infosys/scores.html>) accessed 11/03/15

in order for students who had registered for a new undergraduate or honours qualification for the first time in 2013, 2014 or 2015 to be able to be readmitted in 2016, they need to pass 36 credits per year/over 2 consecutive semesters in their first year of study⁵ and pass 48 credits per year/over 2 consecutive semesters from their second year of study. Students who fail to pass the required credits will not be able to study further at the undergraduate level at Unisa. However, those students wishing to be re-admitted to Unisa after being excluded because of poor performance in a qualification may only do so after providing proof of successful study at NQF level 4, 5 or higher at another training institution or a Unisa short learning programme. [Furthermore], to satisfy the requirement of this rule, the student must have completed at least 48 credits before an application for re-admission will be considered (Unisa, 2015, <http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=97256>)

As such, by meeting Unisa's re-admission requirements in 2016, those students who registered for a qualification for the first time at Unisa during semester one, continued with their studies during semester two of 2015 and qualified for re-admission in 2016 are taken to have succeeded in their studies in the interim. This definition of student success is therefore represented by the indicator “academic achievement” by Cuseo, as indicated in the preceding section. That is, achieving satisfactory or superior levels of academic performance (obtaining 36 credits) whilst progressing through studies (qualifying for readmission).

2.3 Higher Education (HE) Access and Success in South Africa

According to the Higher Education Act 101 of 1997, higher education refers to all learning programmes resulting in qualifications greater than grade 12 or its equivalent.

⁵ Students enrolled in alternative pathway or extended programmes need only pass 24 credits per year/over 2 consecutive semesters

Higher education institutions are, therefore, institutions that provide higher education on a full-time, part-time or even distance basis and can either be private or public institutions.

The Council on Higher Education (CHE) defines public higher education institutions (HEIs) as “institutions that have been established and funded by the state through the Department of Higher Education and Training (DHET). These include universities, universities of technology and comprehensive universities” (CHE, <http://www.che.ac.za/content/what-difference-between-public-and-private-higher-education-provider>). Private institutions, on the other hand, are defined as privately funded or sponsored institutions owned by organisations or individuals. Sections 2.3.1 and 2.3.2 provide data on enrolments and graduations in South African public HEIs. These statistics, given as absolutes and proportions, are provided to support the context within which the problem statement and the rationale for the study are set. The statistics aim to provide numerical evidence on enrolment rates, graduation rates and Unisa’s important role in the provision of public higher education opportunities. By providing data on enrolments and graduations in public HEIs, including Unisa, one can then understand the status quo and the importance of exploring ways of improving student success rates, particularly at Unisa.

2.3.1 The demography of public higher education access

According to a report released by the South African Department of Higher Education and Training (DHET) in March 2017, South Africa currently has 25 public HEIs, 11 of which are traditional or general academic universities, six are universities of technology (formerly known as Technikons) and nine are comprehensive universities. Included in the 26 public higher education institutions are the two new institutions, namely Sol Plaatjie University and the University of Mpumalanga, both of which opened their doors in 2014, as well as one comprehensive university, namely the Sefako Makgatho Health Sciences University (SMU), which became operational in 2015 (DHET, 2017). The CHE defines traditional universities

as “institutions that offer a broad range of general formative and professional programmes at both undergraduate and postgraduate levels” (CHE 2015, p. v). Universities of technology are defined as “institutions that offer a range of programmes that are vocationally and/or professionally-orientated, primarily at the undergraduate level” (CHE 2015, p. vi) whereas comprehensive universities are those that “offer the full spectrum of programmes, including vocational, professional and general formative programmes at both undergraduate and postgraduate levels” (CHE 2015, p. ii). Comprehensive universities were established by merging of a former Technikon with a traditional university (DHET, 2016).

Public higher education institutions accounted for 87,0 to 90,1% of total student enrolments between 2011 and 2015, whereas private HEIs accounted for 9,3 to 13,0% of total student enrolments (see Table 1)

Table 1: Student enrolments in public and private HEIs, 2011-2015

	2011	2012	2013	2014	2015
Public	938 201	953 373	983 698	969 155	985 212
	90,1%	90,7%	89,1%	87,2%	87,0%
Private	103 036	97 478	119 941	142 557	147 210
	9,9%	9,3%	10,9%	12,8%	13,0%
Total	1 041 238	1 050 852	1 103 640	1 111 713	1 132 423
	100,0%	100,0%	100,0%	100,0%	100,0%

Source: Adapted from DHET (2017, p.6)

However, in terms of percentage growth, private HEIs experienced higher growth of 42,9% between 2011 and 2015 and 3,3% between 2014 and 2015. The growth in public HEI enrolments was much lower at 5,0% and 1,7% respectively. Looking at enrolments in public HEIs according to institutional type, Unisa, which is the only public distance learning institution in South Africa accounted for 36,1% of total enrolments in 2013, followed by traditional universities at 34,8%, universities of technology at 16,2% and comprehensive

universities at 12,9%. For 2014 and 2015, Unisa's share of enrolments in public HEIs was slightly lower at 33,9% and 32,2% respectively.

Another important statistic to look at regarding enrolments in public HEIs is enrolments by first-time entering undergraduates. This statistic, unlike overall headcount enrolments, is an indicator of students who are new to higher education and as such, an indicator of the university's contribution to enabling access to higher education studies. Table 2 provides statistics on first-time entering undergraduate students to public higher education institutions for the period 2011 to 2015. Evidently, enrolments by first-time entering undergraduates constituted 17,4% to 19,1% of total enrolments in public higher education institutions for the period 2011 to 2015. Between 20,7% and 34,0% of enrolments by first-time undergraduates were at Unisa. The proportional change in first-time entering students in public HEIs was -4,01% overall and -29,11% for Unisa between 2011 and 2015 and 2,12% and 23,7% between 2014 and 2015 respectively. The observed negative growth in enrolments by first-time entering undergraduates in public HEI enrolments poses a challenge to the attainment of government's enrolment target of 1 620 000 students by 2030, which requires a 3,5% year on year increase (DHET, 2016).

However, the observed growth between 2014 and 2015, overall and for Unisa, suggests a recovery.

Table 2: First-time entering undergraduates to public HEIs, 2010-2014

	2011	2012	2013	2014	2015	% change (2011/5)	% change (2014/5)
All Public HEIs	179 105	169 765	158 389	168 356	171 930	-4,01%	2,12%
% of Total	19,1%	17,8%	16,1%	17,4%	17,5%		
Unisa	60 912	52 227	33 828	34 897	43 181	-29,11%	23,74%
Unisa % Total	34,0%	30,8%	21,4%	20,7%	25,1%		

With regard to mode of learning, most students studied through contact learning (59,3-61,6%) between 2011 and 2015 (see Table 3), with Tshwane University of Technology (TUT), the University of Johannesburg (UJ) and the University of Pretoria (UP), being the top three with regard to total number of enrolled students at 56 172, 49 452 and 49 403 respectively. Conversely, distance learning mode constituted 38,4-40,9% of total enrolments between 2011 and 2015, with Unisa accounting for 89,0% of 2015 enrolments.

Table 3: Enrolments in public HEIs by mode of learning, 2011-2015

	2011	2012	2013	2014	2015	% change (2011/5)	% change (2014/5)
Contact	556 695	566 239	581 048	596 824	605 480	8,76%	1,45%
	59,3%	59,4%	59,1%	61,6%	61,5%		
Distance	381 505	387 134	402 650	372 331	379 732	-0,46%	1,99%
	40,7%	40,6%	40,9%	38,4%	38,5%		
Total	938 201	953 373	983 698	969 155	985 212	5,01%	1,66%
	100,0%	100,0%	100,0%	100,0%	100,0%		

Source: Adapted from DHET (2017, p.8)

Over 50% of public HEI enrolments in 2015 were for undergraduate degrees,⁶ approximately 28% for undergraduate certificates and diplomas, 8,9% for postgraduate below Masters⁷, 5,5% were for Masters degrees, 2,2% were occasional students⁸ and 1,9% were Doctor degrees. Racially, Africans dominated overall (70,8%) and according to mode of learning-contact (69,2%) vs. distance (73,0%), followed by Whites at 17,3% overall, 17,8% contact and 14,2% for distance learning. Coloureds were third overall (6,7%) and in contact mode (6,7%), with Indians being fourth overall (5,0%) and in distance learning mode (5,7%) (DHET, 2017).

⁶ Include professional Bachelor's degrees (4 years+ formal time), e.g. BTech, MBCHB

⁷ Postgraduate and post-diploma diplomas, postgraduate bachelor's degrees and Honours degrees

⁸ Not registered for a formal degree or diploma.

Furthermore, females constituted 58,3% of overall enrolments in public HEIs for 2015, 54,0% for contact and 65,2% for distance learning mode with males comprising 41,7%, 46,0% and 34,8% respectively (DHET, 2017). In terms of age, approximately 38% of students in public HEIs were in the age-group 20-24, followed by 27,2% in the age group 25-35 years, 16,2% aged over 35 years and 18,2% aged below 20 years (CHE, 2016).

2.3.2 The demography of public higher education success

Unfortunately, the observed high enrolments rates in public high education institutions (HEIs) were not matched by equally high student success rates. In 2014, the overall graduation rate of public HEIs was 22,9% (CHE,2016). For 2015, the number of graduates from public HEIs was 191 524, thus representing 19,4% of total public HE enrolments (DHET, 2017). However, this rate varied greatly when disaggregating by institutional type, mode of learning, race, gender, and age-group.

Despite having a headcount enrolment of 328 491 students in 2014, Unisa⁹ had the lowest graduation rate of 11,5%. For 2015, Unisa's graduation rate was 11,8% (DHET, 2017). Traditional universities had the highest graduation rate for at 23,4% for 2014, with universities of technology and comprehensive universities following closely at 22,2% and 22,6% respectively. In terms of mode of learning, contact learning had the highest graduation rate at 23,1% relative to distance learning at 12,8% (CHE, 2016).

Students enrolled for postgraduate (PG) studies below Masters qualifications had the highest graduation rates in 2014 (44,4%), followed by Masters students at 21,7%, undergraduate (UG) certificates and diplomas at 18,7%, UG degrees (15,9%) and Doctoral degree students at 12,6% (CHE, 2016). For 2015, 45,8% of graduates received undergraduate degrees, 19,7% of whom were from Unisa and 7,3% were from UP. The

⁹ Unisa's statistics are provided separately in the CHE report given its uniqueness as the only public distance education institution in South Africa.

proportion of students who graduated with UG certificates and diplomas was 26,8% (DHET, 2017).

Furthermore, the UG graduation rate for 2015 was higher for students studying through contact mode (83,0%) relative to distance mode (68,0%).

Racially, Whites had the highest graduation rate for 2014 at 23,8%, followed by Coloureds and Indians at 19,2% and 19,1% respectively, with Africans being lowest at 18,0%. As with access, females had a higher graduation rate (19,9%) relative to males (18,0%) (CHE, 2016). Similar observations were made for 2015 (DHET, 2017).

The trend in graduations by age group, on the other hand, was different from the trend in access by age group whereby most graduates were in the 20-24 years group (26,6%), followed by those aged over 35 years (20,6%). As expected, the age group below 20 had the lowest graduation rate at 1,6%. This is because, depending on the type of qualification one is enrolled for at this age group (certificate, diploma or undergraduate degree), the time from enrolment to completion can be anything from a few months to over three years. Those aged between 25-35 years had a graduation rate of 19,3% in 2014 (CHE, 2016). Unfortunately, the DHET report does not provide enrolments and graduations data by age group for 2015.

2.4 Conclusion

Chapter 2 has defined student success broadly and as applied in this study. The chapter also outlined the demography of public higher education access and success in South Africa. As was seen during the discussions, public higher education institutions play a very significant role in creating learning opportunities in South Africa. Overall, 87,0% of student enrolments for 2015 were in public HEIs, of which 61,5% were studying through contact mode. Unisa was a major player, accounting for 32,2% of total headcount enrolments in public HEIs for 2015, 89,0% of enrolments studying through distance learning programmes and 25,1% of enrolments by first-time entering undergraduates. However, despite high

headcount enrolments, both in public HEIs in general and at Unisa, low student success rates were observed. The overall graduation rate for public HEIs for 2015 was 19,4%, with Unisa having the lowest graduation rate of 11,8% despite a headcount enrolment of 337 944 students for 2015. This mismatch in enrolment and success patterns raised concerns and threats to government's plans of expanding access to higher learning opportunities as discussed earlier in the study.

A further mismatch that was observed when looking at the demographics of access and success pertained to Africans. Specifically, despite accounting for most of the enrolments for 2015, Africans had the lowest graduation rates. Most graduates were White. Furthermore, most of the graduates were undergraduate students under the age of 35, which was similar to observed enrolment patterns.

3 RESEARCH FOUNDATIONS

Chapter 3 discusses the research foundations grounding this study and the rationale for using them, before concluding with a summary of the main points.

Due to the acknowledgement that student success, especially in open, distance and e-learning contexts, is a result of a myriad of factors, this study adopts a multi-dimensional approach to grounding this research. The study looks into Bandura's theory of self-efficacy, the concept of student-institution fit as made popular by Tinto's model of student dropout and others, and Moore's theory of transactional distance as foundations for this research. All these aspects informed questionnaire design, as will be discussed later.

3.1 Bandura's theory of self-efficacy

3.1.1 Defining self-efficacy

As was discussed above, this research is partly grounded in self-efficacy theory. Bandura (1994, p. 1) defined perceived self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that have influence over events that affect their lives". People with a high level of self-efficacy are thought to view challenges as tasks to be mastered, develop a deeper interest in their activities, display a strong commitment to their interests and activities and recover quickly from setbacks and disappointments (Bandura 1992 in Cascio, Botta & Anzaldi, 2013). Academic self-efficacy, on the other hand, is therefore concerned with people's beliefs to successfully perform given academic tasks at designated levels (Schunk, 1991 in Ferla, Valcke, & Cai, 2009).

Self-regulated learning is perhaps the most important determinant of student success in distance learning. This is because if students can self-regulate their learning, then they can supposedly self-observe, self-judge and self-react (Pintrich, 1995; Zimmerman, 2000; Bong, 2013). Bong (2013, p. 64) defined self-observation as "the systematic monitoring of one's

performance; self-judgment as the comparison of one's performance to a known standard and self-reaction as the responses to the evaluation of one's own performance". Self-efficacy, which is a key component of self-regulated learning, "influences all of these three processes and mediates the effects of goal setting on subsequent achievement strivings (Bong, 2013, p. 64)". Hence the importance of self-efficacy in determining academic performance and success.

With regard to determining the relationship between self-efficacy and academic achievement or performance, different measures of self-efficacy have been employed. These include course or course content specific self-efficacy measures; specific content domain or class measures; educational requirements self-efficacy measures; academic milestone self-efficacy measures; generalised academic behaviours self-efficacy measures and self-regulatory behaviours self-efficacy measures" (Gore Jr, 2006).

Course or course content-specific self-efficacy measures are those concerned with students' perceived ability to correctly respond to items assessing course content knowledge. *Specific content domain or class measures* are those concerned with measuring students' perceived confidence in their ability to attain a specific grade in a class. *Educational requirements self-efficacy measures* are those that measure students' confidence in their abilities to successfully complete the educational requirements in specific general studies or specific academic disciplines (Gore Jr, 2006, p. 94). Examples of these are studies making use of the Online Technologies Self-Efficacy Scale (OTSES) or computer self-efficacy to determine students' readiness for online learning. *Academic milestone self-efficacy measures* are those that assess students' confidence in their ability to perform specific accomplishments necessary for academic success in specific academic disciplines e.g. science and engineering or nursing (Gore Jr, 2006, p. 94).

Generalised academic behaviours self-efficacy measures are those concerned with measuring students' confidence in their ability to successfully complete college related tasks such as mastering course material, performing well on course tasks and receiving higher grades (Gore Jr., 2006). Examples of research using such measures include Wood and Locke, 1987; Zajacova, Lynch and Espenshade; 2005 and Gore Jr, 2006, amongst others.

Lastly, *self-regulatory behaviours self-efficacy measures* are concerned with self-efficacy as it relates to the degree to which students metacognitively, motivationally and behaviourally regulate their learning processes and the effect that has on academic performance (Gore Jr, 2006).

3.1.2 Rationale for the inclusion of self-efficacy theory

Often used interchangeably by some scholars with academic 'self-concept' (Byrne, 1984; Shavelson & Bolus, 1982), which refers to people's "knowledge and perceptions about themselves in achievement situations (Wigfield & Karpathian, 1991 in Bong & Skaalvik, 2003, p. 6), 'self-efficacy' is adopted for the current research due to the following reasons:

- Unlike self-concept, which has no universal definition, self-efficacy has a universal definition as provided earlier (Bong & Clark, 1999)
- Self-efficacy is more suitable for the research questions – unlike self-concept, self-efficacy is "less concerned about what skills and abilities individuals possess but more about what people believe they can do with whatever skills and abilities they have". (Bong & Skaalvik, 2003, p. 5)
- Given that the research is mainly interested in whether students think that they have what it takes to succeed in an ODeL institution and not their skills and abilities, this makes self-efficacy more suitable.
- The way questions are phrased in self-efficacy assessment is more appropriate for this research. In self-concept assessments, questions usually begin with phrases such as "I

am good at ... I have done well” whereas self-efficacy questions usually start with “How confident are you that you can...?” “How well can you...?” which enable one to devise a scale to measure perceived competence.

- According to Bong and Skaalvik (2003, p. 28), “self-concept better predicts affective reactions such as anxiety, satisfaction, and self-esteem whereas self-efficacy better predicts cognitive processes and actual performance”.
- Self-efficacy is more suitable for the research context – “While competence evaluation in self-concept relies heavily on *social comparison* and therefore tends to be normative, self-efficacy evaluation is primarily *goal-referenced* and mostly affected by *one’s enactive experiences* (Bong & Skaalvik, 2003, p. 29). This then renders self-efficacy evaluations more suitable to the Unisa context as a distance-learning environment characterised mainly by independent learning and minimal social and academic interaction between students thus making social comparisons difficult.
- Self-efficacy is more suitable for the research objectives – According to Bong and Skaalvik (2003, p. 29), self-concept beliefs tend to be past-oriented, stable over time and resistant to change, whereas self-efficacy beliefs are more dynamic and malleable (through repeated success and failures), which renders them more amenable to experimental procedures aiming at efficacy enhancement.
- As such, given that the current research not only aims to determine students’ perceived self-efficacy levels but to also provide recommendations to management, in areas where research finds students to have low self-efficacy beliefs, recommendations can be made for targeted interventions.

3.2 Tinto's model of student dropout

Given the importance of Tinto's model of student dropout to the current research, this subsection gives a detailed and critical description of the model by explaining how each of the various factors provided in Figure 1 contribute to the decision to drop out.

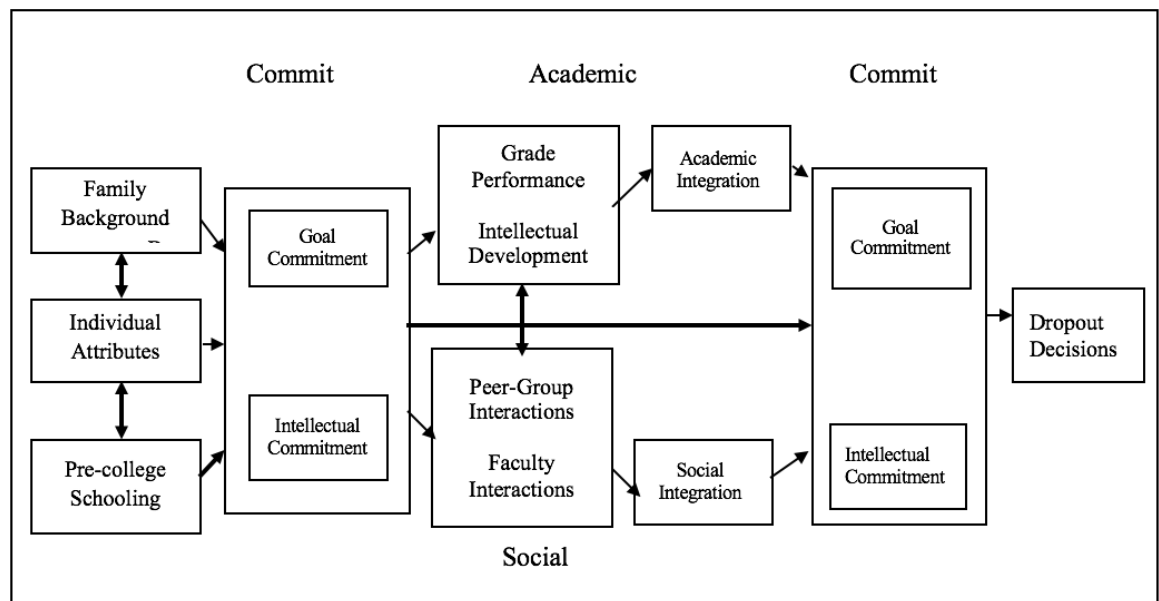


Figure 1: Tinto's theoretical model of student dropout (adapted from Tinto, 1975)

The model argues “the process of dropout from college can be a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person's experiences in those systems continually modify his goal and institutional commitments in ways which lead to persistence and/or to various forms of dropout” (Tinto, 1975, p. 94). According to the model, what individuals bring to higher education institutions, whether it is their individual characteristics such as age, race, gender, etc., their pre-enrolment experiences such as their high school grades and other achievements, or their family backgrounds, has direct and indirect impacts on their performance as they influence their educational expectations and commitment to their studies, regardless of institution type (contact vs. distance).

The model further argues that it is the extent to which individual students are integrated into the institution's academic and social systems that is the ultimate predictor of their success. This, it argues, is due to the effect that the impact of their social and academic integration has on their commitment to their studies, despite individual characteristics and prior experiences (Tinto, 1975). As Tinto aptly put it, "other things being equal, the higher the degree of the integration of the individual into college systems, the greater will be his commitment to the specific institution and to the goal of completion" (1975, p. 96).

This, Tinto argued, is due to the fact that the decision to either drop out from higher education or adopt some other form of dropout behaviour (e.g. transfer to another institution) is determined by "the interplay between the individual's commitment to the goal of college completion and his commitment to the institution" (1975, p. 96). However, having low institutional commitment and minimal social and academic integration would not necessarily lead to students dropping out, specifically when they have sufficiently high commitments to the goal of college completion. Instead, either of the following scenarios might play out: (1) persisting until completion, (2) persisting until forced out of the system due to insufficient levels of academic performance,¹⁰ or (3) transferring to another institution.

3.2.1 Tinto's model unpacked

In unpacking the model, I look at the various factors influencing student success such as individual characteristics, institutional characteristics and external factors. This, as explained earlier, is of utmost importance given that some of this model informed the questionnaire design for this research. Although the model is quite old and others have been

¹⁰ At Unisa, this often takes place in one of two ways: (1) students either have to change qualifications due to the qualifications in which they are enrolled being phased out (no longer offered to incoming students but only offered to return (repeating) students for a specified period before being taken out of the curriculum, or (2) the new enrolment policy requires that student attain 32 credit points to enable readmission during the following year or semester.

proposed, it is preferred not only for its popularity but also because later models are mainly an adaption of this one (Bean & Metzner, 1985; Kember, 1989, etc.)

3.2.1.1 *Individual characteristics*

According to Tinto (1975), individual characteristics which matter with regard to influencing students' decision to either stay or go are (1) family background, specifically the family's socio-economic status, the parents' level of education, the quality of relationships within the family and parents' expectations of their children's education; (2) individual characteristics such as ability or competence measured in terms of past grade performance, personality and attitude, gender; (3) past educational experiences; and (4) goal commitment expressed in terms of the individuals commitment to the goal of college completion measured in terms of educational plans, educational expectations or career expectations.

With regard to family background, the argument is that students from families with lower socio-economic status are more likely to drop out relative to their higher socio-economic status counterparts. The same argument is provided for students from families with less educated, less affluent parents as well as those who do not enjoy "open, democratic, supportive and less conflicting relationships" (Weigand, 1957 in Tinto, 1975, p. 100; also Congdon, 1964; Merrill, 1964; Trent & Ruyle, 1965). In institutions such as Unisa where most of the students are employed with families, one could argue that it is more their socio-economic status (specifically financial stability) rather than their parents that is an important determinant of success.

Individual characteristics, specifically ability and gender, have also been linked to student success. Measured in terms of grade points, student ability has been shown to be positively correlated with student persistence. Other measures of ability that have been deemed important, especially in distance learning contexts, are literacy, writing skills,

communication skills and computer skills or beliefs in the ability to use computers and beliefs in the ability to use e-learning (Sharma, Dick, Chin & Land, 2007).

Gender, on the other hand, is considered a factor with males having a higher likelihood of persistence and college completion relative to females. However, research on the matter has been inconclusive. For example, for Woodman (1999) in Simpson (2006) and Powell, Conway and Ross (1990), the inverse was true. Park and Choi (2009), on the other hand, found no link between gender and persistence. Considering how old Tinto's model is and how societal roles have changed since then, with both males and females active participants in the economy especially given economic policies that favour the upliftment of women, such results are to be expected.

Past educational experiences, which have been shown to affect student persistence and success, include the characteristics of the high school or previous academic institution such as its facilities and academic staff (Dyer, 1968 in Tinto, 1975). Goal commitment is considered to rank second to ability in terms of its influence on student persistence and success, with individuals with higher levels of goal commitment considered more likely to persist and succeed as opposed to their lower goal commitment counterparts.

3.2.1.2 Interactions with the college/university environment

As mentioned earlier, Tinto's model argued that when assuming constant external conditions, student dropout is a result of student experiences with the university's academic and social systems, which affect their integration into such systems and consequently their re-evaluation and modification of their goal commitments, where necessary (Tinto, 1975).

Regarding academic integration, grade performance and intellectual development are considered the two important measures thereof. Because grades are seen as rewards for academic participation as well as the institution's "evaluation of the student's attributes and achievements in relation to the system's values and objectives" (Tinto, 1975, p. 104), that is,

the student-institution fit, grade performance is therefore seen as “both a reflection of the person’s ability and the institution’s preference for particular styles of academic behaviour” (Tinto, 1975, p. 104). As such, low-performing students may opt to either persist or drop out from the institution they consider themselves to have a poor fit with depending on their goal commitment. High-performers, on the other hand, may opt to stop, drop out or transfer to another institution, where they may consider themselves to have a better fit, depending on their goal commitment.

Intellectual development is seen to impact on the decision to persist or drop out in two ways. Firstly, depending on the value placed on the higher education experience, that is, intrinsic (as a process of gaining knowledge and appreciating ideas) or extrinsic (as a means of vocational development), student’s assessment of their intellectual development will either negatively or positively affect their decision to persist (Tinto, 1975). Therefore, where emphasis is on vocational development, student assessment of their intellectual development might have no impact on their decision to stay or leave. Instead, their grade performance will have an impact.

Social integration is seen to operate in the same manner as academic integration in affecting the decision to stay or leave and consequently success whereby poor social integration is seen to increase the probability of dropping out. Measures of social integration, as used by Tinto, are the extent to which the student successfully interacts with other students, participates in extracurricular activities and interacts with both academic and support staff.

Given the limited opportunities for social integration in distance learning as far as interacting with other students and partaking in extracurricular activities, this can be argued to have less of a predictive effect on dropout in such contexts relative to contact institutions.

Conversely, where it negatively influences student persistence, it may be seen as an indicator of a poor student-institution fit.

However, this view changes when seen from Braxton and Hirschy's (2004) point of view. Unlike Tinto, Braxton and Hirschy saw social integration being a result of institutional commitment to student welfare, institutional integrity and communal potential, with greater levels of institutional commitment to student welfare, institutional integrity and students' perceptions of the communal potential on campus leading to a higher likelihood of students achieving social integration. The first two constructs, institutional commitment and institutional integrity involve students' perceptions of faculty, staff and administrative actions whereas the latter involves students' perceptions of the extent of the possibility of an affinity group with their peers.

With regard to institutional commitment to student welfare, they argued that students' experience of their interactions with both academic and support staff affects their perception of the value placed on them by the institution and consequently the effort they place into not only integrating into that institution but also their studies. Therefore, where students not only feel valued by the institution but also that faculty, staff and administrators want them to succeed, they are more likely to not only want to be connected to those individuals, i.e. seek help when needed, but may also be committed to not letting them down by putting more effort into ensuring success in their studies. Institutional integrity is seen to influence students' social integration by affecting the trust that students have in the institution because of their experiences with both academic and support staff. According to Braxton and Hirschy, institutional integrity is measured by how closely aligned the actions of faculty, staff and administrators are with the institution's mission, goals and values. Students form perceptions on institutional integrity based on their experience of the consistency of the alignment of staff actions with institutional mission, goals and values. Therefore, where

students experience misalignment in staff actions and the institutional mission, values and goals, there could be a decrease in their levels of trust in that institution which can in turn have a negative effect on their inclination to actively participate or be integrated into that institution. For example, students' negative experiences of an individual or office can be generalised to other faculty, staff and administrators or even the institution at large and consequently lead to disinterest in interacting with personnel, which then hinders social integration.

These arguments are supported by the results of the 2014 dropout survey conducted at Unisa whereby poor academic and administrative supports were given as some of the reasons for discontinuing studies. Students also felt uncared for as they complained of not getting feedback from lecturers and not receiving the support they expected from administrative staff. Statements like "Unisa lecturers are just not caring", "Unisa lies", "and your admin department never supported me by doing what they said that they would do" taken from the 2014 dropout survey are evidence of this.

As previously stated, communal potential varies from institutional commitment and institutional integrity in its sole focus on student perceptions of the potential of forming interactions with peers and not faculty, staff and administrators. As Braxton and Hirschy (2004) put it, communal potential refers to the potential that there is a possible group of students with which a student would like to connect and consequently the likelihood of forming meaningful social relationships in the student community. Citing Kuh (2001-2002), Braxton and Hirschy argued that forming subgroups of students, particularly in larger and I add, distance learning contexts, that lack a "coherent, salient, campus culture", can facilitate social integration thus reducing the feelings of isolation associated with such environments, which have been shown to negatively affect student persistence. The limitation of this argument is that perceptions of communal potential on their own are useless without actually

taking advantage of such opportunities for communal potential. For example, Unisa provides e-tutorial support for various modules for their students. As part of these e-tutorials, module specific discussion forums are held whereby module related constructs are discussed by students amongst themselves and even with tutorial staff, affording students the opportunity to interact with their peers on module specific matters that support their learning and perhaps even consequently their success in that specific module. Although discussion forums are facilitated by tutorial staff, they afford students the opportunities to not only interact with their peers but to identify peers, with whom they can form support groups with, based on their participation in the discussion forum. However, for this group formation to occur, initiative is required on the part of the said students, by posting such a suggestion in the discussion forum and arranging to meet in person and then regularly for study purposes.

3.2.1.3 Institutional characteristics

Institutional characteristics such as institutional type, resources, student composition, size and staff composition are considered to influence dropout through their effect on the students' development, both vocationally and intellectually, as well as their integration into both the academic and social systems (Tinto, 1975). For example, contact institutions have been shown to have better persistence and success rates relative to distance learning institutions. The same applies to small to medium sized institutions relative to mega universities such as Unisa with large student numbers which puts strain on available resources, both physical and human (academic and support staff) thus negatively influencing student access to resources and consequently their integration.

3.2.1.4 External factors

Other things that the model refers to, which can impact on dropouts through their impact on goal and institutional commitment, are external impacts such as the cost-benefit

analysis of staying in college and individual perceptions. With regard to the cost-benefit analysis of staying in college, Tinto (1975) argued that where students fail to see investing in higher education in terms of time, resources and energy as a worthy investment due to for example, the changing demand and supply in the job market or discriminatory employment policies, individuals may decide to drop out of their studies.

3.3 Moore's theory of transactional distance

In a distance-learning environment, the applicability of Tinto's model is afforded by Moore's theory of transactional distance. As Moore (1993) put it, transactional distance refers to the psychological and communications space that needs to be crossed which results from the separation of students and instructors in distance learning contexts. This separation has a profound effect on teaching and learning as it creates a space of potential misunderstanding between the instructor/lecturer's input and those of the students. Furthermore, the psychological and communications space created by this separation varies from student to student.

Whilst transactional distance is more prominent in distance learning setups, Rumble (1986 in Moore, 1993, p. 23) argued that it can be found in any educational programme, including face-to-face education. As such, Moore argues that this implies that distance education research can draw on and contribute to theory and practice of conventional/contact institutions. In the same light, it is argued that, whilst Tinto's model was developed for contact institution settings, it can therefore be applied to distance education settings using the theory of transactional distance as will be highlighted in the discussions that follow.

The extent of transactional distance is thought to be a function of the following teaching and learning variables: dialogue, structure and learner autonomy.

Dialogue, which is synonymous with interaction, refers to a purposeful, constructive and valued interaction or a series of interactions having positive qualities that other

interactions might not have (Moore, 1993). In education settings, its purpose is to improve students' understanding of not only their learning environment but of their learning material as well. Its occurrence, including the extent and nature thereof, is determined by an array of factors, namely "the educational philosophy of the individual or group responsible for the design of the course, the personalities of the teacher and learner, the subject matter of the course and environmental factors" (Moore, 1993, p. 24). Among environmental factors, the medium of communication is considered one of the most important as it has a direct impact on the extent of and the quality of the student-lecturer interaction. For example, whilst in contact institution settings, the medium of interaction might be face-to-face and consequently a two-way interaction, two-way interactions are also possible in distance education settings by using correspondence through the mail or electronic media such as teleconferencing facilities, email or discussions forums. Whilst using mail correspondence, the two-way interaction will be less spontaneous, less intensive and less dynamic as opposed to whilst using highly interactive electronic media. As such, the choice of communications media has the ability to not only increase student-lecturer interaction and even student-student interaction but can consequently reduce transactional distance as well.

Other environmental factors that are thought to influence dialogue and transactional distance which tie Moore's theory to Tinto's are the physical environment in which students learn; the students' personality as it relates to their commitment to their studies which in turn influences their willingness to interact with academics and other students; and the students emotional environment, particularly "the regard with which their studies are seen by significant persons in their homes and workplaces" (Moore, 1993, p. 25).

Structure refers to the way either a course or teaching and learning programme is designed and obviously varies between contact and distant education settings (Moore, 1993). The extent of structure is dictated mainly by the nature of the communications media used

and by such things as the philosophy and emotional characteristics of lecturers, students' characteristics and personalities and institutional constraints. For example, in a distance learning setting where course delivery is through printed study material (correspondence model) which provides all the guidance, direction and advice that course designers can anticipate from students, there is more structure and little or no room for student-teacher interaction. As such, there is high transactional distance between the students and lecturers. Conversely, in settings with little structure, such as teleconference programmes, there's more room for student-lecturer interaction and consequently lower transactional distance. Therefore, highly distant learning settings, e.g. correspondence based models, with more structure and less interaction require more autonomous learners as opposed to their less structured counterparts. In contact settings, on the other hand, even when course material is highly structured, there is still more room for student-lecturer interaction through the attendance of lecturers. Therefore, learner autonomy has less of a role to play than in distance learning settings.

Moore argued that successful distance teaching and learning therefore depends on the provision of appropriate opportunities for student-lecturer interaction and appropriately structured learning materials by institutions and instructors, which will assist in bridging the transactional distance. Student-instructor interaction can be increased through the provision of learner support that promotes interaction such as e-tutor services or discussion groups as is the case at Unisa. Going back to Tinto's model of student dropout, bridging the transactional distance in this manner will in turn lead to greater student social and academic integration and consequently higher student retention and success.

Learner autonomy is defined as the extent to which, in the teaching and learning relationship, it is the students and not the lecturers who determine the goals, learning experiences and the evaluation decisions of the learning programme (Moore, 1993, p. 31).

As such, students that are more autonomous are seen to be quite comfortable with academic programmes with less interaction whereas less autonomous students prefer those with more interaction. This suggests that students that are more autonomous would fare better in distance education settings as opposed to their less autonomous counterparts, given that they have higher goal commitment. As was discussed earlier, Tinto's model considers goal commitment as the second most important determinant of student persistence and success.

3.4 Conclusion

In Chapter 3, Bandura's self-efficacy theory, which forms part of the research foundations grounding this research was discussed in some detail. Also mentioned were Tinto's model of student dropout and Moore's theory of transactional distance, which together were used to provide theoretical grounding for this research.

4 LITERATURE REVIEW

Chapter 4 provides a discussion of literature as it relates to the current research. The discussion of literature is divided into the following sections.

Section 4.1 and related sub-sections provide a definition of distance education as well as a critique of Unisa's history as a distance education provider, from correspondence college to proposed ODeL institution. The aim was to assist the reader with understanding Unisa's journey from a correspondence university to the proposed ODeL institution.

Section 4.2 and related sub-sections provide a critical review of the literature on self-efficacy, using a mixture of old and more recent literature. Given the fact that the current study focuses on a distance learning context, when reviewing literature, attention is given specifically to studies which focused on distance learning contexts. However, although the current study focuses on the South African context, for the literature review, a global picture is painted. This owes partly to the lack of sufficient research on self-efficacy and academic achievement, which focused on the African, and particularly the South African context. This section will then conclude with a summary of the salient points. Unlike in the first section, the review of literature in this section is more critical, highlighting the strength and weakness of various research and the role of current research in addressing those gaps.

Section 4.3 focuses on literature on student success in distance learning, particularly the role of Tinto's theory of student dropout and Moore's theory of transactional distance.

Section 4.4, which is the final section of the literature review, provides a discussion of the role of ICTs in distance learning. Also provided is a critical discussion of the factors that affect the adoption of technology in teaching and learning. This is then followed by a summary of the main points from the chapter as a conclusion.

4.1 The Definition and Evolution of Distance Education

4.1.1 Defining distance education

Although distance education dates back over 150 years (Bower & Hardy, 2004), it has no universal definition. Instead various definitions have been provided by various scholars. The common thread among the various definitions is their emphasis on reaching large numbers of students, wherever they are located. The various definitions also emphasise the importance of technology in not only enabling access but also bridging the transactional distance. The distance or physical separation referred to being that between the student and the educator, the student and their institution as well as between students in the delivery of education.

Keegan (1986, cited in Beldarrain, 2006, p. 139) defined distance education as “those programs that allow the learner and instructor to be physically apart during the learning process and maintain communication in a variety of ways”. Moore (1973, cited in Rumble 1989, p. 28) defines it as “the family of instructional methods in which the teaching behaviours are executed apart from the learning behaviours, including those that in a contiguous situation would be performed in the learner’s presence, so that communication between the teacher and the learner must be facilitated by print, electronic, mechanical or other devices”.

Holmberg (1977, cited in Keegan 1980, p. 13) defined distance education as “various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which nevertheless, benefit from the planning, guidance, and tuition of a tutorial organisation”.

For Peters (1973, cited in Keegan 1980, p. 13), distance education is about imparting knowledge, skills, and attitudes to a large number of students, wherever they are, at the same

time through the division of labour and extensive use of technical media. All this is done with the guidance of organisational principles.

Unisa defines distance education as “a set of methods or processes for teaching a diverse range of students located at different places and physically separated from the learning institution, their tutors/teachers as well as other students (Unisa, 2008, p. 1)”.

Distance education or learning differs from open learning in that distance education is a method of education provision whereas open learning “has to do with access, structures, and the presence of dialogue and support systems (Rumble, 1989, p. 28)”. As aptly distinguished by Escotet (1980, cited in Rumble 1989, p. 30):

Open education is particularly characterised by the removal of restrictions, exclusions and privileges, by the accreditation of students previous experience; by the flexibility of the management of the time variable; and by substantial changes in the traditional relationship between professors and students. On the other hand, *distance education* is a modality which permits the delivery of a group of didactic [educational] media without the necessity of regular class participation, where the individual is responsible for his own learning.

Dating back to the 1950s and 1960s, open learning has been described by Coffey 1997 in Rumble (1989, p. 29) as a system “in which restrictions placed on students are under constant review and removed wherever possible...” Fricker (1988, cited in Rumble, 1989, p. 29) defined it as “an attempt to break down the traditional barriers to training such as pre-qualifications, age, geographical location, availability, scheduling, learning style and cost” whereas Lewis (1988, cited in Rumble, 1989, p. 29) defined it as “a means to enable individuals, of whatever age, to take responsibility of their own learning in respect of content (what is learnt), learning methods (how the content is learnt), the place of learning, the time of learning, feedback on progress, and who can help learning occur”.

Though different, distance and open education share common ground not only in their lack of a universal definition but also in their mandate of widening access to education to students who wouldn't otherwise have this access under traditional/contiguous learning setups. Open distance learning therefore encompasses both the characteristics of distance education and those of open learning. Unisa (2008, p. 2) defines open distance learning as:

a multi-dimensional concept aimed at bridging the time, geographical, economic, social, educational and communication distance between student and institution, student and academics, student and courseware and student and peers. Open distance learning focuses on removing barriers to access learning, flexibility of learning provision, student-centeredness, supporting students and constructing learning programmes with the expectation that students can succeed.

4.1.2 The Evolution of Distance Education

When reporting on the evolution of distance education, literature often distinguishes between three generations: first, second and third, varying mainly in terms of the mode of delivery. Others have gone on to provide fourth and even fifth generations, and these will also be discussed.

4.1.2.1 *First generation distance education*

According to Bower and Hardy (2004, p. 6), “correspondence study was the first form of distance education”, a claim supported by Anderson and Simpson (2012), Moore and Keasely (1996, cited in Passerini and Granger, 2000), Sumner (2000) and others. This method of learning was characterised by a combination of printing press technology and postal services and driven by a strong sense of social justice: to bring educational opportunities to those who would otherwise not be able to under the traditional education system such as women and the working class. A further characteristic of this education

method was its didactic teaching style or “guided didactic conversation” as termed by Holmberg which was characterised by:

- Easily accessible presentations of study matter; clear, somewhat colloquial language, in writing easily readable; moderate density of information.
- Explicit advice and suggestions to the student as to what to do and what to avoid, what to pay attention to and consider, with reasons provided.
- Invitations to an exchange of views, to questions, to judgements of what is to be accepted and what is to be rejected.
- Attempts to involve the student emotionally so that he or she takes a personal interest in the subject and its problems.
- Personal style including the use of the personal and possessive pronouns.
- Demarcation of changes of themes through explicit statements, typographical means or, in recorded, spoken communication, through a change of speakers, e.g. male followed by female, or through pauses. (This is a characteristic of the guidance rather than of the conversation (Holmberg, 1983, p. 3)).

Although its origins are disputed, evidence provided by Bower and Hardy (2004) and Battenberg (1971, cited in Holmberg, 1995, p. 47) seems to suggest an informal provision of this type of study as far back as 286 years ago [1728] by a shorthand teacher named Caleb Phillips who offered to send weekly lessons to students living in the United States of America who were interested in learning shorthand by advertising in the *Boston Gazette*. This was apparently followed in 1833 by an advertisement in *Lunds Weckoblad* No. 30 offering an opportunity to study “composition through the medium of the post (Baath 1980, p. 13 and Baath 1985, cited in Holmberg 1995, p. 47). Thereafter came the works of Isaac Pitman who “reduced the main principles of his shorthand system to fit into postcards”, mailed these to

students with the instruction to use these to transcribe short Bible passages which would then be sent back to him for correction (Holmberg 1995, p. 48; Bower & Hardy, 2004). This led to the formation of the Phonographic Correspondence Society in 1843, which later became known as the Sir Isaac Pitman Correspondence Colleges (Dinsdale 1953, p. 573; Light 1956; The Times of 24 December 1952 in Holmberg 1995, p. 48).

Then in 1856, a school for language teaching by correspondence was formed by Charles Toussaint and Gustav Langenscheidt in Berlin Germany (Noffsinger 1926, cited in Holmberg, 1995; Bowler & Hardy, 2004). Other early forms of correspondence include Anna Eliot Ticknor's Boston-based Society to Encourage Study at Home, founded in 1873, and characterised by a mainly female clientele who studied through the exchange of letters with teachers, monthly correspondence with guided readings and frequent tests (Mathieson, 1971, cited in Holmberg, 1995). Also worth mentioning are the following British institutions: Skerry's College in Edinburgh which was founded in 1878; Foulks Lynch Correspondence Tuition Service in London founded in 1884, University Correspondence College in Cambridge founded in 1887 and the Diploma Correspondence College, later known as Wolsely Hall in Oxford, founded in 1894 (Dinsdale, 1953, cited in Holmberg, 1995) as well as the following US institutions: Illinois Wesleyan College founded in 1874, Correspondence University in Ithaca, New York, founded in 1883 and the "university extension department of Chicago University founded in 1890 (Mathiesen, 1971, cited in Holmberg 1995). Another important pioneer of distance education is Hermods in Sweden founded in 1898 (Gadden, 1973, in Holmberg 1995).

In Africa, specifically South Africa, the University of South Africa, formerly known as the University of Cape of Good Hope is known as the pioneer of distance education. Although established in 1873, Unisa first began its move towards the provision of distance education with the launch of the Division of External Studies in 1946 before becoming "the

world's first correspondence university" (Unisa, n.d.)¹¹ in 1959. Further discussions on Unisa's history as a distance education provider will be discussed in subsequent sections.

4.1.2.2 *Second generation distance education*

Termed the multimedia model by Taylor (1995), second-generation distance education provision was characterised by a move from a strictly correspondence system of its predecessor, which was characterised mainly by mailed printed material such as study guides to the use of radio and television transmissions and audio recordings (Holmberg, 1995; Bower & Hardy, 2004; Anderson & Simpson 2012). This change in the use of methods and media for the provision of distance education is said to have been driven by "advances in technology and limitations in the postal system such as time delays, lost mail and cost (Bower & Hardy, 2004, p. 7). According to Simonson et al. (2000, cited in Bower & Hardy, 2004), early provision of distance education through radio broadcast dates to the 1920s but later lessened with the official implementation of televised broadcast in the 1950s. Western Reserve University is considered the first institution in the United States to offer televised courses on a regular service.

Another important characteristic of second-generation distance education was the growth in public's recognition and acknowledgement of distance education as an innovative promise for the future rather than a less respected endeavour (Holmberg, 1995). Although Holmberg (1995) credits Unisa as being the pioneer in the establishment and support of public distance education providers, the formation of the Open University United Kingdom in 1969 is hailed for overturning the scepticism surrounding distance education (Holmberg, 1995; Bower & Hardy, 2004). As Bower and Hardy (2004, p. 7) put it "the Open University sparked similar programs around the globe, generated public recognition, and conferred prestige on distance education".

¹¹ <http://www.unisa.ac.za/140/index.php/history/>

In terms of forms of distance education provision during this period, two distinctions can be made. These are large-scale, mainly distance-learning institutions and small-scale, dual/blended-learning institutions. Lastly, as with its predecessor, second-generation distance education was characterised by the following (Anderson & Simpson, 2012, p. 4):

- Teacher dominated communication with teaching and learning facilitated through structured material;
- Learning was seen as an individual rather than a social process (i.e. no interaction).
Instead, it was intended that information given in the material was there to be acquired by the student.

4.1.2.3 Third generation distance education

A distinguishing factor of third and later generations of distance education is the recognition of the importance of interaction in the learning process. Whereas in the past distance education provision was about sending material to students and then expecting them to acquire knowledge from them without any interaction with lecturers, this era emphasised the need to interact. As such, this saw an increase in the use of more sophisticated technologies such as audio and video teleconferencing, the use of the internet to facilitate interaction such as online discussion sessions, e-tutors, etc.

4.1.2.4 Fourth generation distance education

The internet is credited for the advent of this generation of distance learning whereby learning was delivered by means of interactive multimedia (IMM), internet based access to worldwide web resources and computer mediated resources (Taylor, 1995; Passerini & Granger, 2000).

Passerini and Granger (2000) also credited the introduction of internet technology for bridging the distance created by distance learning, not in a physical sense but by allowing for

interaction between students despite the physical distance between them using discussions forums, chat rooms and bulletin-boards, etc. In the ideal world, this introduction of internet technology would be hailed as the solution to one of the factors attributed to attrition in distance education, namely interaction in that:

Rather than being an obstacle to interaction, “distance” becomes the seed of interactions among participants with diverse backgrounds and experiences, and facilitates the realization of other learning models within the constructivist approach, such as socio-cultural learning. (Passerini & Granger, 2000, p. 4)

However, the reality is often different, with participation levels in these platforms less than ideal. For example, a survey conducted among students who had not sat for ACN203S (Cost Accounting and Control) examinations at the College of Economic and Management Sciences (CEMS) at Unisa despite qualifying to write, found that fewer students made use of online support and discussions forums (Tladi, 2013). Only 38,5% of 156 students indicated that they were aware of the Principle of the Week Initiative¹² and of these, 68,3% reportedly made use of it. Furthermore, although 85 of 155 students were aware of tutorial support, only 22 of the 85 made use of tutorial support and of these 22, only eight made use of e-tutors.

4.1.2.5 *Fifth generation distance education*

This generation of distance learning, as provided by Taylor (1995), has the characteristics of fourth generation distance education with some modifications or additions. For example, interactive multimedia, internet-based access to worldwide web resources and computer mediated communication are retained. However, automated response systems are added to the latter. A further addition to this generation, according to Taylor, is campus portal access to institutional processes and resources. Therefore, the introduction of Open

¹² This is an online discussion forum using MyUnisa (a chatroom) whereby course concepts are posted weekly and students can discuss and ask questions.

Education Resources (OERs) is pertinent to this generation. So are moves towards online application and registration systems.

4.1.3 Types of Distance Education Providers

Most literature distinguishes between two types of distance education providers, namely *single mode* institutions and *dual mode* institutions. However, a third type of distance education provider has been identified, namely *parallel mode* institutions. As their names suggest, these distance education providers are mainly differentiated by how courses are offered. *Single mode institutions* are those institutions whereby distance education is their sole activity. That is, all their courses are offered using distance education methods, therefore there are no on-campus lecturers (Moore & Kearsley, 1996). Examples of these include the Open University in the United Kingdom (OUUK), Unisa, the Open University of Tanzania (OUT), the Indira Gandhi National Open University (IGNOU) in India and the Sukhothai Thammathirat Open University (STOU) in Thailand.

Dual mode institutions are mainly traditional institutions which have incorporated distance education into campus and classroom based teaching, thus offering some courses in face-to-face mode and others in distance education modes (Moore & Kearsley, 1996). This might result in their having the same instructors, same course syllabus and taking the same or similar examinations (Moore & Kearsley). Examples of these are University Sains Malaysia (USM) and the University of Zambia. Another distinguishing feature of this type of institutions relative to single mode institutions is that, unlike single mode institutions which offer distance learning on a large scale, these institutions do so on a relatively small scale.

Parallel institutions, on the other hand, are those institutions that offer components of a particular course in both face-to-face and distance modes as components of the same course (Moore & Kearsley, 1996).

4.1.4 Distance Education Provision in South Africa

Several distance education providers exist in South Africa, with Unisa being the largest and only single-mode distance education university. Other providers are either dual mode or colleges. Examples of colleges providing distance education in South Africa are Lyceum College, formerly known as Lyceum Advancement College and Intec College, formerly known as International Correspondence Schools. Founded in 1917, Lyceum offers a range of qualifications from certificates to Bachelor's degrees in Business studies, Education, Fleet Management and Public Safety (<http://www.lyceum.co.za>).

Although its history dates to 1896 with the establishment of the International Correspondence Schools (ICS) in Scranton, Pennsylvania, Intec only opened offices in South Africa, Johannesburg, in 1972 and soon continued its expansion with branches in Durban and Port Elizabeth (<http://www.intec.edu.za>). Its educational provision includes high school, technical school, vocational school, business school, computer school and creative school studies.

Other distance education providers in South Africa included Technikon South Africa (TSA) and Vista University Distance Education Campus (VUDEC) both of which were subsumed into Unisa during the merger.

4.1.5 Unisa's History as a Distance Education Provider

According to the information on Unisa's website, although Unisa has been in existence for over 140 years, its history as a distance education provider only dates to 1946. Established on 26 June 1873 and operating as an examining body for Oxford and Cambridge Universities (that is, offering examinations but not tuition and with the ability to confer degrees on successful candidates), Unisa was initially known as the University of the Cape of

Good Hope. The university only became known as Unisa in 1916, a period which also saw the migration of Unisa's head office from Cape Town to Pretoria (<http://www.unisa.ac.za>).

Unisa's distance education trajectory mirrors the general distance education trajectory provided earlier, both in terms of its three generational transition from a print and postal service driven correspondence model to an Open Distance Learning (ODL) model and then towards a proposed ODeL environment and also its social justice mandate of bringing education to the marginalised such as the Black population during apartheid and incarcerated citizens such as the late former president, Mr Nelson Mandela.

4.1.5.1 *The correspondence institution*

Unisa's transformation into a distance education provider dates back to 1946 with the appointment of Prof AJH van der Walt who was tasked with investigating "the possibility of devising a system of postal or correspondence tuition for non-residential students" (<http://www.unisa.ac.za>). This led to the establishment of the Division of External Studies on 15 February 1946, which then marked Unisa's move from a strictly examining university towards a correspondence university.

"In 1959, Unisa became the world's first [fully fledged] correspondence university, using study guides, cassette tapes and limited face-to-face tuition (<http://www.unisa.ac.za>). The use of radio, audio and video cassettes increased during the 1970s. Notable achievements during Unisa's era as a correspondence university were allowing many disadvantaged Black students access to education during South Africa's turbulent apartheid years. Among these, South Africa's late first black president, Mr Nelson Mandela, studied with Unisa during his incarceration at Robben Island.

Then following the 1997 Higher Education Act, which "insisted that HE meet both individual education and societal development needs", decisions were made by the then Minister of Education, Kader Asmal, to merge Unisa with Technikon SA and VUDEC to

form a single dedicated distance education institution. This merger was effected in 2004, making Unisa the “largest distance education institution in Africa and among the largest in the world” (<http://www.unisa.ac.za>). A year after the merger, Unisa adopted a new vision, which included a move from a distance education provider to an open distance learning institution. This move that was preceded by visits to other open universities such as the OUUK, the launching of the integrated learning management platform and ODL initiatives guided by the establishment of the UNESCO Chair in ODL.

4.1.5.2 *The ODL institution*

According to the definition of open distance learning provided earlier in the chapter, ODL is concerned with removing time, geographical, economical and communication barriers to accessing higher education and providing flexibility of learning using tailored learning programmes and support to ensure student success. By moving from a distance education provider and redefining itself as an ODL institution, Unisa aimed to, amongst other things, position itself as the leading distance education provider in South Africa, Africa and internationally. To help facilitate the move to ODL, Unisa developed the ODL student walk model to not only simplify the concept but to also help students to understand it. This was done by the provision of products at each stage of the walk such as brochures, CDs, DVDs, FAQs, websites and mobi-sites on what ODL implies.

Initially rolled out during the 2010/11 period, the ODL project operates at the five levels of the ODL student walk namely Awareness, Application, Registration, Teaching and Learning and Graduation and Lifelong learning (Department of Corporate Communication and Marketing, 2012). Managed through what Unisa termed responsible open admission, open learning would afford students the flexibility and choice of what, when, where, at what pace and how they wanted to learn. Through responsible open admission, Unisa would then identify and provide the necessary support throughout the student walk, from pre-enrolment

to completion, to ensure a successful student walk. As such, assessing students' academic preparedness and then providing the necessary support, is an important characteristic of Unisa as an ODL provider (Unisa, 2008).

Following the identification of 'at-risk students', that is, students with low preparedness for distance education study and, as such, at the risk of failure of non-completion of studies, targeted interventions were then designed and provided. These include foundation courses, extended programmes, academic literacy skills facilitation as well as orientation to studying at a distance.

In terms of the media used for teaching and learning under ODL, Unisa has adopted a mix of media which is still highly print based but also includes 'technologies with limited interaction' such as digital media (audio and video cassettes, CDs, DVDs), satellite broadcasting, online distribution of content and information via myUnisa and corporate websites and audio and video podcasting and streaming; 'multimedia with interactive possibilities' such as telephony, multimedia CDs and DVDs, video and audio conferencing, SMS and MMS, email and discussion forums or chat facilities via myUnisa. Student support is provided by Unisa's Directorate for Career Counselling & Academic Development (DCCAD), the lecturers and tutors, both face-to-face and electronic.

As will be seen in the discussion that follows, although good on paper, the reality of ODL, especially as it relates to support provision and student success was different. Particularly, the model assumed that provision of support would be matched by uptake and with that, student success would follow. However, as illustrated by the various studies, this was not the case. This then obviously had implications for success. The examination absence survey was a good example whereby 3 738 students (respondents) opted to not sit for examinations despite qualifying to write due to unpreparedness. Although 43,0% of these students had indicated that they needed lecturer support to help them prepare for

examinations, only 29,4% of those contacted their lecturers. Furthermore, only 17,0% of the 40,5% of students who indicated that they were aware of tutorials, attended them (Tladi, 2013). Issues of student participation were also highlighted in the e-tutor component of the tutor evaluation surveys carried out at Unisa during September 2015 (Tladi & Molapo, 2016). Of the 886 e-tutors who responded, only 181 indicated that they were satisfied with student participation relative to 705 who were dissatisfied.

Another problem with the ODL model was that by giving students the flexibility at their own pace meant that the time from enrolment to graduation could end up longer than was required (1) to enable the university to remain financially viable, and (2) to increase access for new students. Universities obtain subsidies for the students they graduate. However, Unisa was taking in many more students than they graduated, and they thus ended up with a large number of unfunded students. Furthermore, with more students remaining in the system longer and with limited resources, Unisa's ability to increase access was being reduced. Hence, the readmission policy was introduced, as explained in section 2.2, whereby students who had newly registered for undergraduate or honours qualification for the first time in 2013, 2014 or 2015 were required to obtain at least 36 credits after two consecutive enrolments in their first year and 48 credits in their second year, in order to qualify for re-registration from 2016 onwards.

4.1.5.3 *From ODL to ODeL*

As previously mentioned, Unisa's move from an open distance learning (ODL) environment to an Open, Distance and eLearning (ODeL) environment was triggered by the changing technology landscape as a means of staying true to the commitments outlined in its 2015 Strategic Plan. This was despite the challenges that had been experienced with the ODL model, especially as it pertained to the use of available student support services.

In its 2015 Strategic Plan, Unisa stated “contributing to good and responsible society by graduating individuals of sound character and versatile ability” as one of the roles it would play in society. This would be done by keeping abreast with global trends and adjusting its services accordingly to ensure that graduates are adequately prepared for participation in the world of work. This influenced Unisa’s proposed move from ODL to ODeL.

This move was first discussed at an August 2012 Senate meeting following a presentation by Unisa’s Pro Vice-Chancellor of a discussion document prepared by the unit: “Organisational Architecture on the changing business environment and its significance to Unisa” (Baijnath & Makhanya, 2013).¹³ This was followed by several consultations with various stakeholders and groupings at various levels within the University to determine sentiments regarding the proposed changes. Thereafter, a document was prepared detailing the various choices Unisa had in terms of its business model going forward, which was submitted to the Vice Chancellor (VC) for consideration in December 2012. Following this submission, the VC hosted a high-level roundtable [in January 2013] to engage the document and gauge senior management’s sentiments on the business model options (Baijnath & Makhanya, 2013). Suggestions emanating from this roundtable were then incorporated into the document before it was submitted to the Management Committee (Mancom), Information Communication Technology Committee of Council (ICTCoC), Senate and Council for approval. The document was approved with amendments by Mancom during its meeting on 26 February 2013 and by ICTCoC on 8 March 2013. Senate considered and debated the proposed business model on 13 March 2013 and approval from Council was obtained in April 2013 (Unisa 2013 Annual Report).¹⁴

As mentioned earlier, the proposed business model entails a shift from an ODL environment to an ODeL environment over a ten-year period by fully digitising the entire

¹³ Derived from the intranet at Unisa

¹⁴ <https://staff.unisa.ac.za/index.jsp?link=https://staff.unisa.ac.za/cmsys/staff/default.asp?Cmd=ViewContent&ContentID=6856>

institutions operational environment supported by robust, effective and integrated ICT applications. This has various implications for operations and systems as discussed below.

Applications and registrations for study would be handled electronically, with a few exceptions; all teaching and learning material would be provided to students in digital form (however this did not imply that the use of text would be completely phased out¹⁵); all students were to have access to a personal e-tutor (to provide academic, affective and administrative support) and where applicable, a personal e-mentor (to provide counselling, affective support, coaching, and life and study skills), as their primary support system whilst studying at Unisa. All student assessment – except undergraduate examinations and practical assessments – would be managed electronically and online, with both student submissions and academic assessment being handled in this way. To streamline and track student support services, access to all student support services would be coordinated through myUnisa, with a central coordinating Student Relationship Management System tracking all student requests for support. All students required access to some form of digital device that enabled them to read, view, listen to, or interact with Unisa’s teaching and learning material, as well as sufficiently good quality, broadband Internet access to enable them to access and use myUnisa and associated online Unisa services regularly and frequently (Baijnath & Makhanya, 2013). Aspects of Unisa’s operations that would remain unchanged were the provision of face-to-face tutorials, examinations and graduation ceremonies.

Although still highly print-based, “with physical printing, warehousing, and distribution of [study] materials, as well as physical submission and return of assignments via the post and courier (Baijnath & Makhanya, 2013), some strides were made towards this

¹⁵ Instead of moving immediately toward a fully online environment, UNISA moved to a blended mode of teaching, learning and delivery (therefore both print and online) and in time, as service delivery and infrastructural matters (ICT, access, digitisation etc.) are addressed, we migrate to online (Baijnath, 2015-email correspondence).

ODEL business model. For example, the introduction of signature courses,¹⁶ starting with the 2013 academic year and a strictly online application and registration system. Furthermore, to facilitate access to ICT infrastructure and consequently enable students to participate in the proposed new environment, the university negotiated access to laptops, tablets as well as affordable broadband for students at reduced rates. It appears that the initiative is no longer in place, as clicking on the recommended weblink leads nowhere.

According to Prof Narend Baijnath (N. Baijnath, personal communication, 22 March 2016), the uptake of this initiative was low, which could explain why it ceased. Professor Baijnath suggested that failure of this initiative was a result of miscalculations of affordability by Unisa, based on wrong perceptions of what is truly affordable for students.

Further efforts to improve access to technology include the telecentre initiative. Unisa defines telecentres as “private facilities equipped with [1 450] computers connected to the internet, printers, photocopiers, scanners, faxes, telephones, and so on” (<http://www.unisa.ac.za/>) with the aim of “reach[ing] out to the rural and remote students nationally by providing them with access to internet/computer facilities, for academic purposes. Students can conduct a range of activities at the telecentres related to their studies such as typing of assignments, downloading study material, finding e-resources, checking examination time tables, etc. They are allowed two hours per session and a maximum of six hours per week.

The problem with telecentres is that they are targeted at mainly rural and remote students instead of the general student population. Perhaps this is based on the assumption that it is these students for whom access to technology is the biggest problem. Secondly,

¹⁶A signature course is a compulsory online module per college that any student that started a new undergraduate degree at Unisa from 2013 are required to register for and successfully complete. Participation in these courses is strictly online. As such, students would not receive printed study material for these signature courses, but will be required to have regular access to a computer and the internet to participate in their online learning activities and assessment.

their usage is very low. Data obtained from the Directorate of Instructional Support and Services (DISS) at Unisa indicated that there were 81 telecentres operating between January and June 2016. These were used by 609 to 1 523 students, spending between 2 237 to 8 003 hours. Registration data for the first period indicate a total of 142 774 formally registered students, thus suggesting that only less than 1,5% of registered students made use of all these telecentres.

Shifting focus to the institution and its ability to support the move to a fully-fledged ODeL institution, it is clear that current infrastructure cannot support such a move. Speaking at an Extended Management Lekgotla held at Unisa 11-12 April 2016, Professor Mandla Makhanya, Unisa's Principal and Vice Chancellor stated that Unisa had decided to put a halt on the rollout of ICT projects and to do a status review, as millions of rands had been spent trying to develop state of the art systems which were not in place, functioning effectively or doing as promised (Makhanya, 2016, p. 2).

This has meant that goalposts had to be shifted regarding the move towards ODeL to 2030 (from 2025), to allow time for the development of a fully-functional ICT system in preparation for this move (Makhanya, 2016, p. 5). Further challenges that were experienced at Unisa and in higher education in general which contributed to the halt on this move were internal politics, particularly opposition from the student representative council (SRC) in alliance with the National Health Education and Allied Workers Union (Nehawu) and some academics, particularly the older cohort (N. Baijnath, personal communication, 22 March 2016).

Current financial woes experienced by the university having received a qualified financial audit,¹⁷ were exacerbated by the highly publicised fees must fall strikes by students across the country. These strikes resulted in the university opting not to increase their fees

¹⁷ The university's decision to not increase fees resulted in a serious shortfall in its projected income. The Department of Higher Education and Training only provided for 70% of this shortfall, with the remaining 30% having to be carried by Unisa (Unisa, 2016).

during the 2016 academic year. In addition, service disruptions as a result of strikes led to the insourcing of workers which put further strain on already limited fiscal resources. The university also had to ensure the safety and security of staff, students and visitors by sending SMS messages alerting them of the situation on campus, amongst other things.

With regard to the internal politics affecting the move towards ODeL, according to Baijnath (N. Baijnath, personal communication, 22 March 2016), Nehawu feared that the move would result in the loss of jobs for those who worked for print production at Unisa. However, Baijnath (N. Baijnath, personal communication, 22 March 2016) believed no jobs would have been lost as workers would have been re-skilled. But attempts to engage Nehawu on the matter were futile as they would not agree to consultations on the matter.

Until investigations into the status of Unisa's ICT systems and their ability to support a move to ODeL are conducted in 2025, it cannot be said with certainty how plausible such a move is.

4.1.6 Conclusion

Unisa's evolution as a distance learning institution has been somewhat 'textbook-like' in that the University has, over a 140-year period, evolved from a strictly correspondence model to a fifth generation distance education provider. This is indicated by its move of the application and registration system to strictly online and the introduction of signature courses. However, as with all change, this transition has been and continues to have challenges. Internally, issues such as opposition from some stakeholders, ICT system issues and financial issues have resulted in the halting of the move to ODeL. Externally, student unrests, resulting in the university taking a decision to not increase its fees and the insourcing issues experienced at Unisa and other institutions of higher learning have been a hindrance. It remains to be seen when management will decide to resume with this gradual move towards

becoming an ODeL institution. Perhaps an important lesson that can be learnt from this failure to move towards ODeL is that instead of considering changes in the external environment as a catalyst for change (for example, the changing technological landscape), institutions need to consider their own contexts and readiness to respond to changes in the external environment. By simply responding to the external environment with the hope of gaining competitive advantage, without being ready, institutions risk not only losing money but also possibly negatively impacting on student success.

When one considers current issues of the uptake of student support services, the current state of Unisa's ICT systems and Unisa's current graduation rates, perhaps the halting of the move to ODeL was a blessing in disguise. Given how heavily reliant on technology the proposed move is, perhaps instead of moving to ODeL, Unisa must first focus on addressing current challenges. Extensions to a house cannot be made when the initial property was not built on firm foundations. When making extensions, issues with the initial structure need to be addressed. In the same light, instead of making drastic changes to an ailing system, Unisa needs to first address issues of low uptake of support interventions, particularly e-tutorials and efforts to improve access to ICT infrastructure and technologies. This can be done while preparing the university's ICT infrastructure for the postponed move in 2030.

4.2 Self-efficacy and academic achievement

As is clear from the research evidence that follows, the relationship between various types of self-efficacy measures and student success is neither straightforward nor conclusive. Some studies have found no significant relationship between self-efficacy and academic achievement (e.g. Balami, 2015; Bothma & Monteith, 2004), others found there to be an indirect relationship whereas others found there to be a significant relation. However, even

where a significant relationship was established, the strength of the correlations varied between studies

Zhang, Duan and Wu (2001)'s study specifically focused on distance learning self-efficacy (DLSE) and its role on student achievement among 112 students enrolled in various distance learning (DL) programmes (e.g. graduate programmes in computer application and business management and undergraduate programmes in economics, law and English). As with most distance learners, the students in this research were mostly in full-time employment. Approximately 65% of them were first-time entering students enrolled in the year 2000 and 35% had previous distance learning experience, having started learning in 1998 or 1999. The researchers developed their own distance learning self-efficacy (DLSE) measure, which comprised eight statements related to their confidence in distance learning and their belief in their ability to study successfully through distance learning. The measure included statements such as "I feel that there is no way to learn successfully in DL courses" and "I believe that I can learn as much as in face-to-face courses", which were measured on a 6-point Likert scale (1=strongly disagree and 6=strongly agree). It should be noted that Zhang, Duan and Wu's instrument was adopted as is, for the current study.

To measure attainment, students were asked to rate their perceived attainment on the following nine areas: "(1) memorisation of basic facts and concepts; (2) basic skills; (3) conceptual understanding; (4) knowledge integration; (5) application and problem solving; (6) creative/critical thinking; (7) communication with others; (8) skills for information access and independent learning; and (9) academic research abilities. The areas were rated using a four-point scale (1=extremely little, 4=extremely much), and an average rating of 2.77 was observed, thus implying a general feeling of positive attainments in DL.

With regard to DLSE, there was an average rating of 3.94, implying relatively high beliefs in distance learning and their ability to succeed through it. Furthermore, first-time

students had significantly higher self-efficacy scores than those with previous distance learning experience. A significant difference was also found between males and females regarding their self-efficacy scores, with men having significantly more positive beliefs than females. The results also indicated a significant relationship between DLSE and students' overall attainment.

Unfortunately, the fact that a different measure of student attainment was used for this study instead of actual course performance scores or even credit scores as in the current research is a limitation for this study. This is because, while rating of such things as memorisation of basic concepts and facts and academic research abilities are important aspects of learning, the goal of studying is obtaining a qualification. And to obtain a qualification, course success is imperative. This gap is addressed in the current study by linking DLSE to actual performance.

Using a different measure of distance learning self-efficacy developed by Peng, Wang, Huang and Chen (2006), Wang, Peng, Huang, Hou & Wang (2008) found no direct relationship between distance learning (DL) self-efficacy and learning outcomes. Instead, DL self-efficacy, defined as “the extent of the distance learner’s self-confidence in their ability to participate in distance learning, and their view of their own skills related to distance learning” (Wang et al., 2008, p. 25) was found to indirectly influence learning outcomes through its effect on learning strategy. The Wang et al. study (2008) was conducted among 135 adult distance learners who majored in software development and the application of electronic information technology at Beijing Radio and Television University.

DeTure (2004), on the other hand, focused on the predictive role of online technologies self-efficacy on student success. Her study was conducted among 73 students enrolled in six general education courses whose content, tests and discussions were provided online, during autumn of 2002 at a south-eastern community college in the United States.

Study participants were mainly females (79,5%) aged between 18 and 58 years with an average age of 27 years. As with the current study, the online technologies self-efficacy scale by Miltiadou and Yu (2000) was used. Student success was measured using the final grade. The results indicated no significant correlation between OTSES and the final grade. Instead, online technologies self-efficacy was found to be a poor predictor of student success in online courses whereby students with higher OTSES did not receive higher grades than those with lower OTSES. Similar results were echoed by studies by Duvall and Schwartz (2000) and Kerr, Ryneearson and Kerr (2006) and Puzziferro (2008) which also found computer/internet self-efficacy to have no significant effect on academic achievement. It should be noted however, that unlike DeTure and Puzziferro, Duvall and Schwartz and Kerr et al. used completely different measures of computer self-efficacy. Duvall and Schwartz made use of the 8-item Internet Self Efficacy Scale (ISES) by Eastin and LaRose, (2000) whereas Kerr et al. developed their own 3-item scale.

For Wang and Newlin (2002), a mixed picture was painted, whereby although there was a positive correlation between computer self-efficacy and the final exam grade attained by students, there was no correlation between computer self-efficacy and the total points earned at the end of the semester. This they attributed to the fact that self-efficacy measures, like exams are done at the individual or personal level whereas activities that contribute to semester points such as assignments can be collaborative, thus nullifying the possible effects of the individual student's self-efficacy beliefs.

Using a different measure of computer self-efficacy, namely application-specific computer self-efficacy (AS-CSE), Johnson, Hornik and Salas (2008) found having higher computer self-efficacy skills to be an added advantage in e-learning when individuals have similar course skills, knowledge and motivation. Their study, which assessed amongst other things, the role of application-specific computer self-efficacy (AS-CSE) on course

performance amongst 345 individuals, 80% of whom reported having high levels of previous computer and internet experience, found that having higher AS-CSE resulted in better performance relative to having lower AS-CSE.

The significance of computer self-efficacy seems to, in some cases, also be influenced by the type of course, that is whether it is computer dependent or not. For example, Rex and Roth (1998), whose study assessed the relationship between self-efficacy and performance in an introductory computer literacy course, found there to be a significant relationship between the two. Similar findings were attained by Jadric, Bubas and Hutinski (2010) whose study assessed the relationship between internet self-efficacy and final test assessment results in an Informatics I course. The results indicated a statistically significant yet low correlation ($r=0,15$) between the two variables. The variables with the highest correlation were time management ($r=0,22$), learning skills ($0,21$) and computer literacy ($0,19$).

For Zajacova, Lynch and Espenshade (2005), the focus was on the joint effects of academic self-efficacy and stress on academic achievement. Their study was conducted among 107 first-time entering undergraduate students enrolled at one of the City University of New York campuses during the spring semester of 1997-1998. To measure self-efficacy, the researchers developed their own self-efficacy measure based partly on the Academic Milestones Scale by Lent, Brown and Larkin (1986) and the College Self-Efficacy Inventory by Solberg, O'Brien, Villarreal, Kennel and Davis (1993). Academic achievement was measured using the cumulative grade-point average (GPA) for the first two semesters, total number of credits earned during the first two semesters and re-enrolment at the beginning of the third semester. The total number of credits earned per semester were used to distinguish part-time students from full-time students. Full-time students were defined as those who took at least 12 credit hours per semester.

The results indicated a strong positive correlation between academic self-efficacy and first year students' grades and credits. Self-efficacy was found to be the single strongest predictor of GPA even when taking into consideration high school performance and demographic variables.

Self-efficacy for learning and performance, also known as academic self-efficacy, was also found to be a significant predictor of students' final grades by Lynch and Dembo (2004), Gore Jr (2006), and Wood and Locke (1987). However, Gore Jr argued that its predictive ability was dependent on when these beliefs were measured, the types of beliefs measured and the nature of the criteria used. For example, despite the consistency between Zajacova, Lynch and Espenshade, Gore Jr and Wood and Locke's findings (whereby academic self-efficacy was found to be the strongest predictor of first year grades and credits even when considering high school performance and demographic variables, the strength of the correlations varied. Zajacova, Lynch and Espenshade had a relatively lower ($\bar{r} = .27$) compared to Locke et al (1984 in Wood & Locke, 1987, $\bar{r} = .54$) and Bandura and Cervone (1986 in Wood & Locke, 1987, $\bar{r} = 0.54$). This was attributed in part to the timing of the measurements whereby in Wood and Locke's study, self-efficacy measures were conducted two months prior to the end of the course. Conversely in the other studies they were measured only minutes before the actual performance. Gender, seems to also be an important attribute, in some cases. For example, Shkullaku (2013), whose study made use of an abridged version of Romppel et al. (2013)'s General Self-Efficacy Scale GSE-6, not only found there to be a significant relationship between general self-efficacy and academic achievement but also significant differences between males and females regarding self-efficacy scores. However, despite this, no significant gender differences were observed with regard to academic performance. An earlier study by Bouffard, Boisvert, Vezeau and Larouche (1995), on the other hand, found there to be gender differences in the strength of

the correlation between self-regulated learning self-efficacy and academic performance whereby males had a slightly stronger correlation ($r=.29$) relative to females ($r=.18$). It should be noted that Shkullaku's study was based on a contact-learning context.

With regard to the effect of self-efficacy on student persistence, Zajacova et al. (2005) found that self-efficacy had no significant effect on student persistence in the second year (re-enrolment), which, as the researchers argued, might suggest that the decision to re-enrol for the third semester might be influenced by other reasons unrelated to their beliefs in their abilities to cope with academic demands.

The results varied from those by Holder (2007), which found a significant correlation between self-efficacy and student persistence. In Holder's study, self-efficacy was used, along with other variables, to determine the factors that distinguished persisters from non-persisters, among a sample of 209 persisters and 50 non-persisters enrolled in associate, bachelor's or masters level distance learning courses at a Midwest university in the USA. The following predictors of persistence were used: pathways, agency [Hope scale]; time and study management, meta-cognitive self-regulation, learner autonomy [Academics]; computer/internet self-confidence, fiscal support, emotional support [Environment]; intrinsic goal orientation, end goal orientation, self-efficacy for learning and performance and compliant learner [Motivation], divided into four scales – Hope, Academics, Environment and Motivation. The results indicated significant differences between persisters and non-persisters regarding the 12 predictor variables, which together accounted for 9,0% of the variance between persisters and non-persisters. The three topmost predictors of variation between persisters and non-persisters were emotional support, self-efficacy for learning and performance, and time and study management.

For his 2008 study, Puzziferro focused on two self-efficacy measures, namely online technologies self-efficacy (OTSES) and self-regulated learning self-efficacy (SRLE) to

determine, amongst other things, the relationship between self-efficacy and performance.

The study was conducted among 815 learners enrolled in 163 out of 250 liberal arts courses in a south-eastern community college in the United States, which were taught entirely online over a twelve or sixteen-week period. Participants had an average age of 29 years and were mostly female (80%). Student performance was measured using the final grade.

Approximately 43% of the respondents had attained a final grade of an A (excellent), 22 % had a B (good), 10,3% had a C (average), 3,4% had a D (minimal pass), 9,6% had a F (Fail/Fail non-attendance) and 8,5% had a W (withdrew).

As with the current study, self-regulated learning self-efficacy was measured using Pintrich and de Groot's (1990) Motivated Strategies for Learning Questionnaire (MSLQ) and online technologies self-efficacy was measured using Miltiadou and Yu (2000)'s Online Technologies Self-Efficacy Scale (OTSES). However, unlike in the current study which only used four subscales out of the nine subscales from the original MSLQ scale (numbered 6-9), Puzziferro, used all nine subscales for his study, namely (1) rehearsal; (2) elaboration; (3) organization; (4) critical thinking; (5) metacognitive self-regulation, (6) time and study environment; (7) effort regulation; (8) peer learning and help seeking. The results indicated no significant differences in students OTSES scores by final grade. With regard to MSLQ, significant differences in scores by final grade were found for the time and study environment and effort regulation subscales. For time and study environment management, significant differences were found between students with a final score of W and those with a score of A, as well as between the W and B groups and the D/F/FN and A groups. This, as Puzziferro explained, meant that students who received higher grades in online courses reported a higher likelihood to effectively schedule, plan and manage their time and study environment to positively support their learning relative to students who received lower grades or those who withdrew from the online course.

For effort regulation, significant differences were observed between the W and A, B and C groups, thus implying that withdrawals (W) had a significantly lower ability to manage their tasks and commit to their studies despite any obstacles they might encounter relative to students who received excellent to good grades. Similar results were observed between the D/F/FN group and the A group.

A limitation of this study is its failure to indicate whether the respondents were full-time students or juggling work and studies. All that is provided is their average age and gender (mostly female). What is also not known is their marital status and whether they have dependents or not it. All this information would have been useful when interpreting the observed results. These variables are considered in the current study.

A similar study was conducted by Wang, Shannon and Ross (2013) among 256 students enrolled in online courses during the Fall 2008, Spring 2009 and Summer 2009 and Fall 2009 in the colleges of Business (32,8%), Education (26,9%), Engineering (18,4%), Liberal Arts (9,8%), Human Science (3,9%), Science and Mathematics (3,1%), Agriculture (2,7%) and others (2,3%) at a south-eastern university in the United States. Most of the respondents were female (53,1%) and undergraduate students (62,9%). As with Puzziferro, Wang et al. used Pintrich and de Groot's (1990) Motivated Strategies for Learning Questionnaire (MSLQ) and Miltiadou and Yu's (2000) Online Technologies Self-Efficacy Scale (OTSES) to measure self-efficacy.

Course outcome was measured using the grade for the most recent online course (A, B, C or D). Unlike Puzziferro's study, Wang et al. also looked at educational level (undergraduate vs. graduate, the number of online courses and the grade for the most recent online course. The results indicated that students with greater prior distance learning experience had better learning strategies relating to online courses which then resulted in their having higher levels of OTSES. Having higher OTSES significantly resulted in their

getting better grades in online courses. This is despite no significant differences in OTSES scores being found based on previous distance learning experience. MSLQ was found to indirectly affect the final grade through its effect on students' level of satisfaction with their course and OTSES, which had a direct influence on the final grade for the most recent online course. The observed significant relationship between OTSES and course performance is contrary to results observed by Puzziferro, which found OTSES to have no significant influence on course outcomes.

Although Wang et al.'s study employs the same measures as some as those included in the current study, although modified, as well as a similar survey administration method (using the university's email system), several limitations were noted, which may have affected the results. The main limitation of the study, as reported by the researchers themselves, is their use of students self-reported grades instead of actual final grades and then representing grades using categories (A, B, C, D) instead of numerically (e.g. % or GPA). The latter, they blamed for possible minimising the actual variance between the scores whereas the accuracy of self-reported grades cannot be ascertained. The current study avoids these limitations by not only using actual credit scores recorded on the student system but also reporting these numerically.

Joo, Lim and Kim (2013), on the other hand, sought to investigate, among other things, the predictive role of self-efficacy on learner satisfaction, achievement and persistent in a large online university in Korea, which was established in 2002. The study, which used structural equation modelling, was conducted among 897 mostly first-year students enrolled in an introductory course. Approximately 88% of these students were working whilst studying.

Unlike in Puzziferro's study, self-efficacy was measured using a modified version of Pintrich and de Groot's (1990) Motivated Strategies for Learning Questionnaire, comprising

only nine statements. The original questionnaire was translated into Korean and adapted for the online university context. The statements included items such “‘I’m confident I can understand the most complex material presented by the instructor in this course’ and ‘I expect to do well in this class’” (Joo et al., 2013, p. 152). Learner satisfaction was measured using a modified version of an instrument developed by Shin (2003) which comprised eight statements relating to general satisfaction with learning at an online university using a 5-point Likert scale (1=strongly disagree and 5 strongly agree). Statements included items such as “Studying in this online university is worthwhile to me”. Shin’s instrument was also used to measure persistence, using six statements such as “I will certainly enrol for the next semester”. Achievement, on the other hand, was measured using the course final grade. Course participation and completion required watching weekly 90-minute lecture videos, during a 16-week semester; participation in at least one online discussion on a lecturer-assigned topic using learning support tools such as Q&A and Forum and writing mid and final exams for the semester.

The results found self-efficacy to not only be a significant predictor of learner satisfaction but also a predictor of student achievement. Although, self-efficacy was not found to have a direct influence on the intent to persist, it did have an indirect influence on persistence through its mediating role on satisfaction.

Although positive, one should consider the following, when looking at the results. Unlike South Africa, South Korea is a technologically advanced country, with a largely urban population. As such, when taking this and the requirements for course completion in Joo et al.’s study into consideration, such as watching weekly 90-minute lecture videos and participating in at least one online discussion, one would expect the students to measure highly on self-efficacy as measured by Pintrich and de Groot’s instrument adapted for the study. This is because, although the instrument measures, amongst other things, belief in the

ability to self-regulate, set time aside for studies, etc., the fact that participation was a pre-requisite for course completion meant that the instrument might have not been a good measure in this context. By watching a weekly 90-minute video for 16 weeks, going through lecturer-prepared PowerPoint presentations related to the course, partaking in online discussions, students were obviously more likely to have more confidence in their ability to do well and to understand the course material and to also perform well in the course.

In the current study, however, participation in online discussion forums, whilst available for some courses, is not a prerequisite for course completion. Furthermore, students are not provided with weekly lecture videos they are required to watch throughout the semester to qualify to complete for the study. Instead, they are provided with study material, including lecturer and e-tutor notes, where applicable, which they must engage with in their own time, according to their various learning styles, and mainly on their own, given that the majority are employed. Students must also complete assignments and prepare for examinations, which might not only affect their confidence in their ability to do well but their actual achievement as well. Furthermore, Joo et al.'s study, unlike the current study, only uses nine of the fourteen items available in the MSLQ, which could also explain observed results.

De Fátima Goulão's study (2014), which sought to determine the relationship between the academic self-efficacy of 63 online adult learners and their actual performance, also found self-efficacy to be a predictor of academic achievement. The study, which was conducted among first-year undergraduate students enrolled in an Education and Literacy course, also used an adaptation of Pintrich and de Groot's MSLQ, comprising eight statements, instead of fourteen, rated using a 7 point Likert scale (1= strongly disagree and 7=strongly agree). The statements included items such as "I expect to do well learning about Education and Literacy with this online learning context" (p. 246) and "Considering the

difficulty of the material of Education and Literacy, the learning context, and my skills, I think I will do well” (p. 246). Performance was measured using the final grade, which comprised either a face-to-face exam (100%) or 40% e-portfolio and 60% face-to-face exam. Unlike with Joo et al.’s study, where self-efficacy was measured at the beginning and the end of the course, in de Fátima Goulão’s study, the questionnaire was only administered at the beginning of the course, before any course evaluation had taken place. This meant that the students’ levels of self-efficacy could not be affected by their exposure to learning material and most importantly, their performance in the course evaluation and lecturer feedback. However, obtained levels of self-efficacy were reasonably high, which could explain the observed significant relationship between self-efficacy and performance. Furthermore, the fact that only 63 students, with an average age of 42 years were surveyed could have also had an influence on the results. Despite being first-year undergraduate students, the fact that the students were older could imply that they were more determined to succeed, hence the observed high self-efficacy scores. Although self-efficacy was found to be significantly related to academic performance, no significant differences were found in self-efficacy according to gender.

Nwosu and Okoye’s (2014) study differed from the other studies, not only because it was based in an African context (Nigeria), but also in that a completely different measure of self-efficacy was used and students were also asked to indicate the scores they thought they would receive in the exams right after finishing with the exam. The study was conducted amongst 133 second year students enrolled for the Psychology of Learning course during 2012/2013. To measure self-efficacy, the study used a 20-item questionnaire with statements related to tasks in the Psychology of Learning course, which were measured on a four-point scale (1=strongly agree and 4=strong disagree). Unfortunately, sample statements were not provided in the article. In this study, the questionnaire was administered 20 minutes before

students wrote the exam. This meant that they had had sufficient exposure to the course material throughout the duration of the course and during preparation for the examination. as had possibly. Students were also asked after they had written the examination, to write the scores they thought they were likely to get for the examination. The study found no significant relationship between self-efficacy and student achievement, however, a significant relationship was found between their self-predicted scores and their actual performance.

Students' self-efficacy scores were not provided in this study, which means that one cannot determine whether the observed insignificance was due to the observed scores being low or not. Furthermore, that self-predicted scores were significantly related to actual performance was not surprising given that the scores were collected after the examination had been written. As such, they could have been affected by the students' experiences of the examination, which were presumably positive. With the self-efficacy scores, the fact that they were collected immediately before the examination was written could have meant that the students were nervous about the impending examination. This could have then influenced their self-efficacy scores and consequently the observed results.

Similar results were echoed by a study by Balami (2015), which also found no significant relationship between self-efficacy and academic achievement of 636 distance learners enrolled for the Nigeria Certificate in Education (NCE), levels 1-4, at the National Teachers Institute (NTI). As with Nwosu and Okoye, Balami made use of his own self-efficacy measure, termed the Learner Self-Efficacy Questionnaire (LSQ) and no sample statements were provided in the article. It is also not clear from the article how student achievement was defined, as the study only mentions using an "Achievement Data Format" to collect information on each candidate who sat for the 2011/2012 examinations in both the first and second semester examinations (Balami, 2015, p. 82)

Bothma and Monteith (2004), also gave an African, particularly South African context to the study, which was conducted among 143 second year distance learning students enrolled in a Further Diploma in Instructional Psychology at the University of North West, South Africa. In the study, successful students were defined as those who had attained a score of 55% or more during a semester examination whereas unsuccessful students were those who had attained 49% or less. Students whose scores were 50-54% were excluded from analysis. This definition of successful students varied from the one used in the current study, whereby success meant qualifying for readmission (obtaining 32 credit scores) to study after obtaining enough credits following enrolment for two consecutive semesters. Other factors that distinguished Bothma and Monteith's study from the current study were the mode of data collection, the sub-scales of the self-efficacy questionnaires used and the characteristics of the study participants. Unlike in the current study, Bothma and Monteith made use of second-year students instead of first-year or first-time entering students. Moreover, these students attended contact sessions, albeit not compulsory, and questionnaires were administered prior to the facilitation of these contact sessions.

With regard to the self-efficacy measures used, although Bothma and Monteith also used Pintrich and de Groot's MSLQ, there were differences in the subscales used by these researchers, relative to the ones used in the current study. Bothma and Monteith's study included a more extensive list of sub-scales of the MSLQ (10) whereas in the current study, only three subscales were used. Furthermore, in the current study, the MSLQ was used as a self-regulation scale whereas Bothma and Monteith made use of a modified version of Zimmerman's (2000) Self-Regulated Learning Questionnaire (SRLQ) to measure self-regulation self-efficacy.

The results indicated no significant relationship between self-efficacy and academic achievement for successful learners. Instead, self-efficacy was found, along with six other

variables, namely expectancy for success (4,25%), goal setting (15,20%), elaboration (4,98%), organisation (5,34%), study hours per day (1,43%) and regulation (1,09%), with negligible or average practical significance ($0,01 \leq f^2 \leq 0,25$) to only be a significant predictor of academic achievement among unsuccessful learners, accounting for 39,47% out of 56,33% of the variance in the academic achievement of these learners.

For successful learners, the following three variables were found to be the best subset of predictors of academic achievement: organisation (21,22%), planning (16,30%) and intrinsic goal contribution (11,05%), each having an above average or high practical significance ($f^2 \geq 0,21$). Together, these three variables were responsible for 48,56% out of 76,39% of the variance in the academic achievement of this group.

4.2.1 Conclusion

The complexity of the relationship between self-efficacy and student attainment was highlighted in the preceding discussion. As was seen, regardless of studies using, in some cases, similar measures of self-efficacy, there was incongruence in the observed results. In some instances, self-efficacy was found to be a significant predictor of student achievement (e.g. de Fátima Goulão, 2004, Joo et al., 2013, amongst others.); in others, no significant relationship was found (Balami, 2015, Nwosu & Okoye, 2014). For some studies, the relationship was not straightforward. For example, in Bothma and Monteith's 2004 study, whilst self-efficacy was not found to be a significant predictor of academic achievement among successful students, it made a significant difference in the academic achievement of unsuccessful students. In other instances, such as Wang et al. (2008), self-efficacy operated indirectly, by influencing other variables to impact academic achievement.

This incongruence in observed self-efficacy results, can perhaps be explained by the argument that academic achievement is about more than simply having the belief in one's ability to succeed, or being comfortable with using the technologies required for online

learning, as measured by various self-efficacy measures. Instead success is more a result of effective self-regulation (Bandura, 2002, cited in Hodges, 2008), specifically effective time and study management and effort regulation as demonstrated by the various studies discussed earlier.

The discussion of literature on self-efficacy also highlighted the gaps in research relating to self-efficacy and academic achievement, particularly with regard to the methodology and context. The current studies focus on the African, and specifically the South African context, and the way self-efficacy measures are adopted and adapted is unique. This therefore cemented the need and value of current research in bridging this research gap.

4.3 Student Success in Open and Distance Learning

Student success, although lacking a universal definition, as was discussed earlier, can be loosely defined as the successful completion of one's studies, whether formal or informal. Moreover, it is attained in part, through engagement with one's studies and the academic environment and persistence, amongst many other things.

For purposes of this research, it is taken to refer to the successful completion of formal studies at one institution, i.e. the successful completion of the student walk from enrolment to graduation.

Historically, studies on student success were centred on contact institutions. However, the advent of and subsequent growth of the distance education sector as well as its improved importance and role as a provider of higher education saw an increase in research on student persistence and success in this sector. Most of this research took lessons from what had been done with regard to contact institution student success research and adapted it to suit the non-traditional, distance education setting. Despite these developments, most of the available literature on student success is still on contact institution settings and very little

is on open, distance and e-learning institutions. Hence, most of what has been referenced here, is not very recent.

As with research on success in contact institutions, distance learning student success research has attributed student persistence and success to a myriad of factors. These factors, while sometimes different between contact and distance learning institutions in terms of mainly their impact and ranking with regard to their importance in affecting student success, can be grouped into the following broad categories: academic, motivational, psychosocial and financial (Brown, 1996; Cuseo, n.d.; Simpson, 2006; Sweet, 1986; Thomas, 2002; Tinto, 2006; Woodley, 2004 in Tladi, 2013). Furthermore, their effect on student success is often through their effects on other various important aspects of the student participation in higher education such as student engagement and student persistence in order to lead to positive or desired outcomes. Tinto's model of student dropout and Moore's theory of transactional distance, discussed earlier, are the main theories that have been widely used to explain student retention and success in distance learning contexts. However, some research evidence will be provided, focusing specifically on factors attributed to distance learning retention and success, before concluding the section with a summary of what was discussed.

4.3.1 Research evidence

Earlier studies such as that by Sweet (1986) which was an application of Tinto's model among 356 students who had enrolled for university level courses at the Open Learning Institute (OLI) in Richmond, British Columbia found *goal commitment*¹⁸ and *institutional commitment* to have direct effects on persistence, with goal commitment having the biggest effect. Other significant variables, albeit indirect, were *academic integration* (perceived academic performance and course material ratings), *social integration* (tutor ratings) and *background characteristics* (age, sex, and geographic location, locus of control

¹⁸ measured in terms of students' satisfaction with the overall course in relation to their personal goals

and goal expectation). With regard to the predictive power of the various factors applied in the model, *goal satisfaction* was found to be the biggest predictor of persistence, followed by *academic performance*, *institutional commitment* and *locus of control* (Sweet, 1986).

For Brown (1996), factors related to institutional integration proved most important whereby (1) *difficulty in contacting tutors* and (2) *insufficient support from them* ranked first and second in contributing to the decision to leave. Other factors which were found to significantly contribute to the decision to leave, were (in order of importance), (3) *course time too consuming*, (4) *change of employment*, (5) *feeling isolated from [institution]*, (6) *fees/costs too high*, and (7) *change in family circumstances*. These factors had mean scores of 3, 49-3, 02, where 1 meant not important and 5 meant very important. Other less significant factors (mean scores less than 3) were *more time needed with family*, *course expectations not met*, *inadequate written materials*, *course too difficult* and *alternative course nearby*.

Morgan and Tam (1999) found that although there were similarities between persisters and non-persisters such as lack of free time, insufficient/unsatisfactory communication with academics, missed contact with other students, study not related to job and course focus lacked personal relevance or interest, there were other issues that were unique to non-persisters namely poor family support, money problems, personal study problems and lack of prerequisite knowledge, amongst other things, that one could argue, led to the decision to discontinue studies as they exacerbated other issues.

These findings are corroborated by findings by Park and Choi (2009) whose study found external factors to significantly distinguish dropouts from persistent learners whereby students who *received support* from their families and/or organisations while taking online courses were less likely to dropout regardless of their academic preparation and aspiration.

Dupin-Bryant's (2004) study found only six of seven variables to be significant predictors of course completion. The seven variables were cumulative grade point average, class rank, searching the internet training, previous courses completed online, operations systems and file management training, internet applications training, and years of computer experience. The variable that was found to have no significant influence on course completion was years of computer experience, which is seen to be contrary to literature suggestions of the importance of computer experience in distance learning education success. However, this is acceptable considering that other and perhaps even better measures of computer competency such as searching the internet training and internet applications training, were employed and found to be significant.

A somewhat similar study by Menchaca and Bekele (2008) conducted among [72] students, [6] academic staff identified the following as prerequisites for successful learning in an online learning environment: ICT competency, e.g. typing, internet browsing, etc., participation in both asynchronous and synchronous communication with staff and other students, participation in group work or collaboration with others, some face-to-face interactions with both students and staff, preferably during orientation to establish support networks, being open to change, and having positive attitudes towards the use of technology.

These findings were corroborated by later studies by Puri (2012) and Gaytan (2015). Puri's study, which sought to investigate student perceptions on the critical success factors in professional courses at Amity University, was conducted among 24 undergraduate and postgraduate students. Approximately 44% of the respondents had less than one year e-learning experience, 29% had two years' experience and 26% had over three years' experience. The study looked at 27 variables, divided into six factors, namely pedagogical (concerned with aspects of teaching and learning, e.g. Prompt feedback, Alternative submission of assignments, Interactive course, Learning styles, Teacher as facilitator, Student

commitment, Multimedia tools/technologies); institutional-administration affairs (administrative affairs, student services, academic affairs e.g. staff willingness to learn, online payment system); technological (concerned with aspects on the hardware and software, planning of infrastructure used e.g. system reliability and availability and internet connection speed); evaluation (concerned with learner assessment and learner evaluation of teaching and learning environment, e.g. online tests/quizzes); resource support (concerned with all types of online support and both offline and online resources, e.g. language and IT support); and interface design (concerned with the look and feel of e-learning environments, e.g. user-friendliness). Pedagogical factors, institutional-administration factors and technological factors were considered the top three critical factors for successful e-learning, explaining between 16,9%-8,7% of the variation. The three remaining factors explained between 8,68%-7,37 of the variation.

For Gaytan (2015), the top five factors for student retention in online education as identified by the students were increased faculty instruction, meaningful feedback, the number of transfer credits received by the student, maintaining an adequate GPA and institutional support to students. The lecturers, on the other hand, gave the following as their top five: students' self-discipline, quality of faculty-student interactions, institutional support to students, last grade received in an online course and the number of transfer credits received by the student.

4.3.2 Conclusion

It is evident from Tinto's theory of student dropout, Moore's theory of transactional distance and the various literature on student success that success is a product of a myriad of factors. The combinations of the important factors are influenced by both institutional and personal contexts. However, evidence from the various studies seems to suggest that regardless of the context, personal commitment to one's studies, goal satisfaction, academic

performance, previous online learning experience, interactions with and support from faculty as well as personal attributes (e.g. time and family support) are important to distance learning support. It will be seen, following data analysis, whether responses from the current study are convergent with literature.

4.4 ICTs and Distance Learning Success

This section of the literature discusses the role of information and communication technologies in ODeL student success. The section also looks at an important factor related to technology integration, namely acceptance and adoption of technology in teaching and learning by both students and faculty. Thereafter, a summary of the main points is provided to conclude.

4.4.1 The role of ICTs in ODeL student success

The reason for the inclusion of the role of ICTs in ODeL student success in the grounding of this research is twofold. Firstly, given that contemporary open and distance education, unlike its predecessor (which was correspondence based), is about increasing access to education using technology to mediate learning, looking at issues of access to those ICTs is therefore of importance. As was discussed earlier, when looking at Tinto's model, specifically the role of social systems in student retention and consequently success, technology plays an important role in facilitating faculty and peer-group interactions, which are essential components of student engagement and consequently success.

Secondly, given that e-learning is more about "creating communities of learners, independent of time and space" (Garrison, 2011, p. 67) also known as "communities of inquiry either at a distance or blended within campus-based instruction" (Garrison 2011, p. 67), issues of competence or perceived competence to use these ICTs for engagement within these communities of inquiry are therefore brought to the fore.

Having access to a laptop or personal computer, a mobile device such as a smartphone or a tablet with internet functionality, email functionality and reliable internet connection, as well as being competent in the use of the various ICTs (such as the ability to send email, browse the net, download documents, participate in online discussion forums) can therefore be considered prerequisites to success in distance and e-learning environments. The importance of ICTs to distance learning success has been highlighted in several studies. Research by Jaffee (1997) indicated how the use of asynchronous learning technologies promoted interactivity (student-faculty and student-student), mediation, active and collaborative learning among students taking the sociology course entitled “Social and Economic Development” at the State University of New York (SUNY). Findings by Parkes and Stein (2013), on the other hand, reiterated the importance of ICTs in e-learning success as rated by both students and faculty.

Using Lotus Notes, Jaffee could continuously post learning materials, assignments and instructions for the students’ attention, moderate online class discussions, respond to students’ emails regarding the learning exercises, their assignments/tests and related scores/comments whereas the students could access the lecture material, instructions and assignments at any time, ask questions, integrate reading and research material, submit assignments/exams and participate in class discussions from anywhere at any time. Jaffee found the level of class discussions in this ALN course to exceed what he had experienced in traditional classroom settings, both in terms of quantity and quality. This, he attributed to “(1) the elimination of anxiety associated with public expressions of opinion inherent in traditional classroom settings; (2) the affordance to spend more time reflecting on questions, which is characteristic of asynchronous learning modes; (3) the motivation to present a solid understanding of course material and “to present arguments in a convincing manner” (p. 271) brought about by the fact that in asynchronous learning environments, responses to

discussion classes are not only visible to the lecturer but to other students as well. However, he did warn that this might not have similar results in “courses that are highly technical or those that involve drill-and-practice tasks and pure memorization” (Harasim et al., 1995 in Jaffee 1997, p. 263).

It can be argued that results may also vary depending on the context and learner characteristics. For example, one of the common complaints from the findings of various e-tutor surveys conducted at Unisa and informal conversations with tutors is the low levels of participation as well as the quality of participation in e-tutorials (Tladi & Molapo, 2016). E-tutors have alluded to the fact that in most instances, it is the same students who actively participate in discussion forums, by either posting questions or replying to existing questions. Furthermore, participation tends to peak towards examination time, with students requesting information relating to previous examinations. If one is to consider points 1 to 3 presented by Jaffee (1997), then one could argue that perhaps most of the students enrolled at Unisa are independent self-regulatory learners, who require very little or no student-student or student-tutor interaction. Hence, the observed participation behaviours regarding e-tutorial participation. Alternatively, it can be assumed that the students are passive participants, who learn from the questions and answers posted by others, instead of actively posting and replying to questions. In that case, it is not a matter of anxiety related to public expressions of opinion inherent in traditional classroom settings, as Jaffee argued, but a reflection of the students’ learning styles, as similar observations can be made in classroom settings. Furthermore, even where anxiety of public expressions of interest is eliminated, students need to be competent and comfortable in their abilities to use the ICTs to facilitate teaching and learning. After all, competence in the use of ICTs is a major player when it comes to student engagement in e-learning as highlighted by findings by Parkes and Stein (2013).

In Parkes and Stein's (2013) study, which sought to identify competencies required for effective performance in e-learning environments, 22 of the 58 e-learning competencies identified by experts as required for successful e-learning, were related to the use of technology. When rated by the students, 19 of these were deemed either essential or important. Among the competencies rated as either essential or important were: (1) downloads and uploads information and resources; (2) uses a web browser with skill and purpose; (3) adapts learning style to the e-learning environment; (4) anticipates and makes allowances for the "wait time" in asynchronous discussions; (5) uses technology to assist in the construction of knowledge; (6) uses technology to support own learning style; and (7) acknowledges the facilitation role of the lecturer in the learning environment.

Despite the positives Jaffee had experienced at SUNY, such as increased student-faculty and student-student interaction, there were also some initial drawbacks, which are inherent in technology-centred education delivery modes such as contemporary distance education and e-learning. Important amongst these were perhaps the issues experienced with connecting to the server and course databases due to administration or student failure in mailing or ordering the necessary computer related materials and documentation, technical difficulties with the software and modem interface and difficulties in understanding the procedures used to access, download and upload the necessary databases, consequently resulting in delays in starting the course. This then resulted in students only being actively involved in the class 2-3 weeks following its commencement, which meant they had to make up time to catch up for the lost time.

Besides technical issues, the success of technology in facilitating teaching and learning is heavily reliant on its acceptance and adoption by both students and faculty. That is because positive acceptance and adoption of technology by both students and faculty are important prerequisites in enabling technology to effectively facilitate faculty instruction,

student interactions and institutional support. These are some of the important factors for success in online learning, as previously illustrated.

For example, the view of the importance of the lecturer as facilitator in the learning environment by Parkes and Stein (2013) and the ranking of increased faculty instruction and meaningful feedback to students in Gaytan's (2015) study emphasise the importance of faculty in bridging the transactional distance associated with distance learning discussed earlier, that has been shown to result in student dropouts from e-learning and poor performance. Factors such as adapts learning style to the e-learning environment, anticipates and makes allowances for the "wait time" in asynchronous discussions, and uses technology to support own learning style (Parkes & Stein, 2013) emphasise the students' role. All these factors rely heavily on both stakeholders, namely students and faculty, positive acceptance and adopting integrated technology in teaching and learning. A discussion of factors responsible for the acceptance and adoption of technology follows below.

4.4.2 Factors affecting the acceptance and use of technology in teaching and learning

As was briefly discussed earlier, when looking at the possible effects that the move to ODeL might have on student success at Unisa (section 1.2.2), perceived ease of use of technology and perceived usefulness of technology in providing better learning outcomes were considered key to technology acceptance and adoption during the early stages of technology integration (Al-Gahtani, 2014). Post-integration, the quality of the pedagogy was considered important due to its effect on student satisfaction, which then affected student persistence and performance (DeBourgh, 2003; Levy, 2007).

The importance of perceived ease of use and perceived usefulness were also emphasised by Najmul Islam (2013), Schoonenboom (2014), and Tarhini, Hone and Liu (2014).

Najmul Islam, whose study was conducted among 249 students enrolled in a blended learning environment found perceived ease of use (PEOU) and perceived usefulness (PU) to predict 45% of the variance in the students' use of Moodle.¹⁹ As with Al-Gahtani, perceived usefulness was a better predictor of use than perceived ease of use. The study went on to determine the role of e-learning system use and perceived usefulness on community building assistance. Community building assistance was included due to its role in addressing the transactional gap and feelings of loneliness experienced by distance learners. As argued by Najmul Islam, collaboration with other students not only enhances students' learning in a specific topic but also help students achieve better learning outcomes by making them feel like insiders. This he attributed to the fact that collaboration can help provide clarity on similar confusions on a specific topic and contribute to students' motivation, involvement and consequently satisfaction with e-learning.

The results indicated that the use of e-learning systems combined with its perceived usefulness predicted students' perceived community building assistance. Perceived learning assistance and perceived community building assistance were found to predict perceived academic performance, explaining 54% of the variance in academic performance.

Schoonenboom (2014) used his own model of the Technology Acceptance Model (TAM) in his study conducted among 180 lecturers at a Dutch research university. The study aimed to determine the combined effects of the importance lecturers place on tasks (task importance) and the importance placed on performing those tasks (task performance) and their perceived ease of use (PEOU) and perceived usefulness (PU) of that technology in task performance on their intention to use that technology in performing instructional tasks. The results indicated that where low importance was placed on instructional tasks or on performing such tasks, and PU or PEOU were low, lecturers were less likely to use that

¹⁹ Moodle is a platform for online course creation that supports online course activities such as downloading course materials, assignment submissions, participation in discussion forms and checking course specific information, amongst other things.

technology. This therefore suggests that for lecturers, the adoption of technology is not simply about the technology itself and how useful or easy it is to use. Instead, it appears that it is the value that lecturers place on various instructional tasks that has bearing on their adoption of such technology. Therefore, unless lecturers view providing regular feedback online, for example through discussion forums, as highly important, they might be less likely to be open to using technology to post such feedback. This might then have negative effects on faculty-student interactions and consequently student retention and success.

Other factors related to lecturers' attitudes that were found to have a major effect on their intention to use technology in teaching and learning were: concerns about faculty workloads (31,8%), lack of administratively provided time/support to develop the course and materials (31,1%), lack of administratively provided time/support to learn technologies (26,4%), lack of commitment to spend the time to master the use of technologies (18,9%) (Nelson & Thompson, 2005). Nelson and Thompson's (2005) study was conducted among 114 lecturers and 79 programme leaders with an average age of 48 years, 16 years of higher education experience and 44% were professors,

Tarhini, Hone and Liu (2014) took the investigation further by not only determining the factors associated with technology acceptance and use but also determining the moderating roles of individual variables of user experience, age, education level and gender on technology acceptance and adoption. Their study was conducted among 596 undergraduates (64,1%) and postgraduate (35,9%) students, of whom 53,5% were male, 72,4% were aged 17-22 years and 53,1% rated themselves as being experienced with regard to technology relative to 48,7% who rated themselves as having some experience. With regard to the moderating role of experience, experience was found to moderate the relationships between perceived usefulness (PU) and behavioural intention to use technology (BI) as well as between perceived ease of use (PEOU) and behavioural intention to use

technology (BI). The relationship between PU-BI was found to be stronger for experienced users whereas the relationship for PEOU and BI was stronger for less experienced users. In addition to PU and PEOU, Tarhini et al. included the variable social norms (SN) to measure the impact of social norms on the behavioural intention to use technology. Using Azteín and Fishbein's (1980) definition, the researchers defined SN as a person's perception that most people who are important to him/her think he/she should/should not perform the behaviour in question. As such, depending on held perceptions, SN could either have a positive or negative effect on technology acceptance and use. As with the PEOU-BI relationship, the SN-BI relationship was stronger for less experienced users.

These findings suggested that less experienced users were not only more likely to use the system if they considered it easy to use but also if they believed others think they should use the system whereas experienced users were influenced by their perceptions of how useful they considered the technology to be based on their experience with similar technologies in the past instead of other people's views of the PEOU of the system.

With regard to age, age was found to only have a moderating role for the PEOU-BI and SN-BI relationships, with the effects being stronger for those aged 23 years and above. This implied that older students were more influenced by the ease of use and other people's opinions than young students possibly due to differences in computer self-efficacy and experience with technology between younger users and older distance learners.

As with age, education level was found to have no moderating effect on the PU-BI relationship. However, it was found to have a strong moderating effect on the SN-BI and the PEOU-SN relationships. This implied that less educated people, in this case undergraduate students' adoption of technology was influenced by both their perceived ease of use and people's opinions on whether they should use it. These findings are somewhat inconsistent with the results by age whereby it was the older students (23-35 years) who were more

influenced by PEOU and in that, one would expect undergraduate students to be represented by the age group 17-22 years instead of the age group 23-35. As such, one would have expected the results of the effects of education level to mirror the effects of age, with more educated and presumably older students relying more on PEOU and SN. Instead, the researchers argued that the observed results were expected given that less educated people would find technology daunting and therefore rely on other people's views regarding its adoption and use whereas being more educated would negate the effect of SN as both the users' education and experience would empower them. With regard to gender, a mixed picture was painted. Gender was found to only moderate the relationships between PU-BI and SN-BI, with the moderating effect being stronger for males than females for the PU-BI relationship and stronger for females than males for the SN-BI relation.

Holden and Rada (2011), on the other hand, looked at the influence of technology self-efficacy (TSE) and computer self-efficacy (CSE) on technology use in teaching and learning. Their study, conducted among 99 basic education teachers with an average of 42 years and an average of 14 years teaching experience employed in two rural school districts in Virginia, USA, found TSE to have a significantly stronger relationship with PEOU and perceived ease of use and usability (PEUU) than CSE. Furthermore, CSE was found to not have a direct effect on either PEU or PEUU. PEUU was a composite measure of usability and perceived ease of use. Usability was a composite measure of learnability, defined as "the ease learning how to use the system", functionality was defined as "the satisfaction of the system's incorporated features", navigation as "the ease of operating the system intuitively" and memorability as "the ease of remembering how to use the system" (Holden & Rada, 2011, p. 351).

4.4.3 Conclusion

The following are evident from the various studies reviewed here. Firstly, access to and competency in the use of ICTs are important prerequisites to not only the integration of ICTs in distance learning but also to studying successfully through distance learning. Post-integration, it is the acceptance of the integrated technologies by both the students and their lecturers that is important. This acceptance is affected by many factors, with perceived ease of use and perceived usability being the most important factors.

4.5 Conclusion for chapter

Chapter 4 has laid the foundation upon which the study is grounded. This was done by firstly defining distance education, before providing a trajectory of Unisa's journey as a distance learning provider. This helped to paint a picture of the journey, the issues experienced and some recommendations of considerations for the way forward were made. Thereafter, a critical review of literature on self-efficacy was provided, highlighting the strength and gaps in current research and explaining the role of current research in bridging those gaps. Also provided was literature on the roles of Tinto's model of student dropout and Moore's theory of transactional distance on student success. Lastly, the importance of ICTs in distance learning success was discussed.

5 RESEARCH DESIGN

Chapter 5 provides a critical discussion of the research design that was adopted for purposes of this research, starting with the research philosophy and ending with the data collection process. Data analysis, although forming part of the research design, will only be discussed in Chapter 7.

5.1 Adopted Research Design

When deciding on the research design, the research onion by Saunders, Lewis and Thornhill (2009), provided in Figure 2, was used as a guideline. The research onion provides a layer by layer approach to research design, like the peeling of an onion.

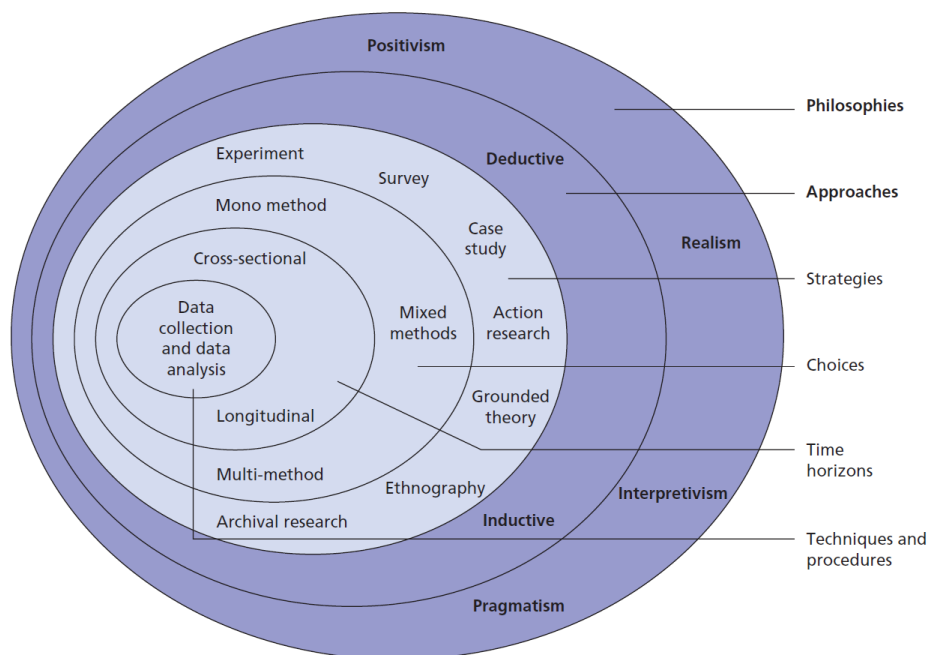


Figure 2: The Research Onion (source: Saunders, Lewis & Thornhill, 2009, p. 108)

As is evident in Figure 2, the first step in determining a research design is deciding on the research philosophy. The choice of a research philosophy, is then guided by or determines the research approach (inductive vs. deductive), research strategy (archival

research, ethnography, grounded theory, action research, case study, survey and/or experiment), the research method (mono, mixed or multi), the time horizons (cross-sectional vs. longitudinal) and the techniques and procedures to be used for the research. Using the research onion as a guide, the research design illustrated in Figure 3 was adopted for this study.

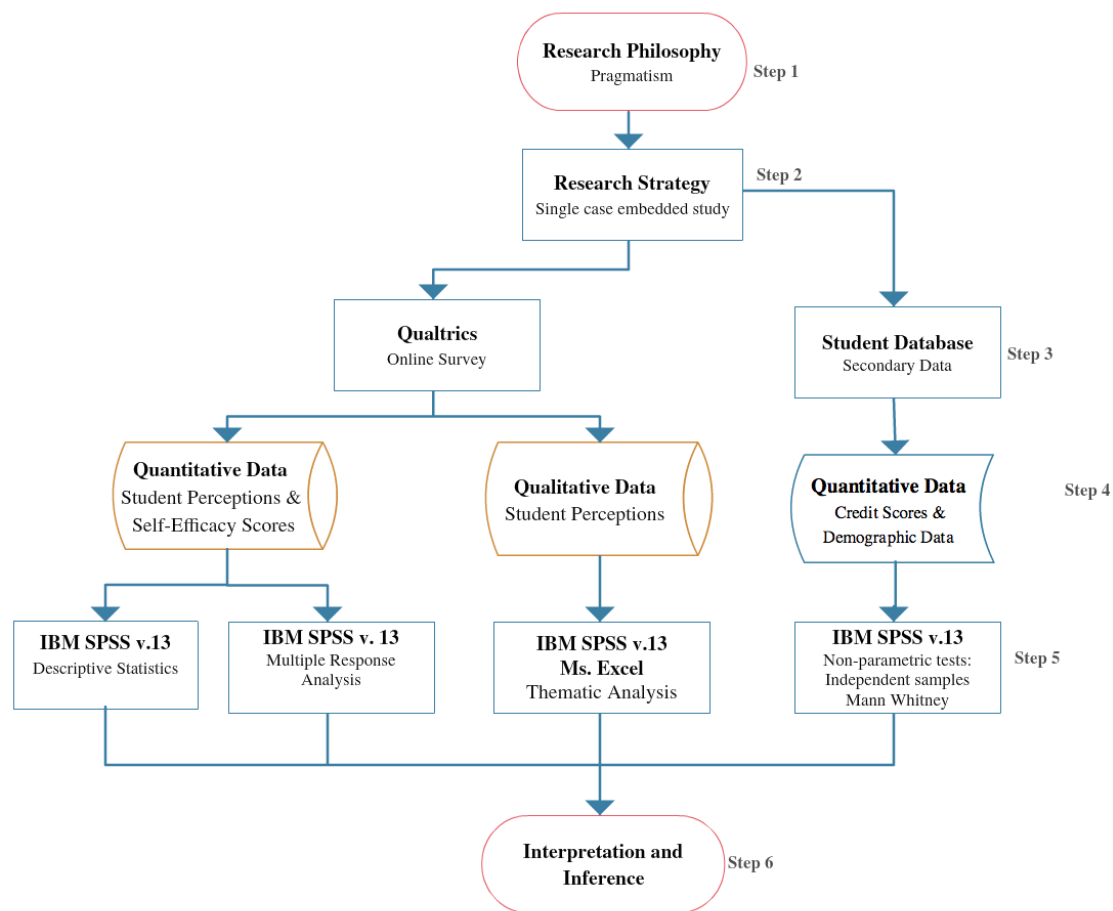


Figure 3: Adopted Research Design

As a first step, deliberations were made regarding a suitable research philosophy for this study. Research philosophies are defined as “basic belief systems or world view[s] that guide the [research] investigation, not only in [terms of] choices of method but in ontologically [concerned with the assumptions we make about the way in which the world

works (Saunders, Lewis & Thornhill, 2009, p.110)] and epistemologically [what is acceptable knowledge in a field of study] fundamental ways” (Guba & Lincoln, 1994, in Saunders et al, 2009, p. 106). As such, questions of which research method/s to adopt for a specific research topic are considered secondary to questions regarding the choice of research philosophy or paradigm.

Several research philosophies exist, paramount amongst these being positivism, realism, interpretivism, and pragmatism (see Figure 2). When deciding on the suitable research philosophy for this research, several considerations were made. These are discussed in section 5.2. Thereafter, the adopted philosophical stance, namely pragmatism, and the rationale for its adoption are provided in section 5.3.

Once the research philosophy had been decided upon, the research strategy, namely a single case embedded design, was selected. The rationale for the adoption of this research strategy is provided in section 5.4. Within this case study design, an online survey was conducted and secondary data was obtained from the student database (Steps 2 and 3). As illustrated in the fourth step, the online survey was a source of both qualitative and quantitative data required for this research. The secondary data, on the other hand, provided quantitative data on the respondents’ demographics as well as data on their credit scores that was essential for determining the links between students’ perceptions to their success and their actual performance. This meant that a mixed method approach, discussed in section 5.5, was adopted.

This was followed by the analysis of the various data sources as illustrated in step 5. In analysing the quantitative data from the online survey, descriptive statistics, in the form of frequencies, proportions, and means were conducted. Multiple response analysis was also used for questions where respondents could select multiple answers. For the qualitative component of the online survey, thematic analysis of emerging themes was conducted. For

the analysis of the secondary data, non-parametric testing using Mann-Whitney was used to test the relationship between students' perceptions, collected using the quantitative aspects of the online survey, and their credit scores, obtained from the student database. A detailed explanation of how data was analysed is provided in Chapter 7.

Once the analysis was complete, data was interpreted and inferences made from the findings. When interpreting the data, triangulation of the quantitative and qualitative data was applied, where applicable. Triangulation refers to comparing findings of different methodologies from the same study to see if there is agreement, complementarity or discrepancy between the findings (O'Cathain, Murphy & Nicoll, 2014). By using triangulation during the interpretation of findings, the study's validity can be increased, if there is agreement and/or complementarity in the findings attained using the different methods.

The sections below provide detailed explanations for the adoption of this research design. By so doing, it is hoped that the reader will not only understand the researcher's stance but also clearly understand the research subjects and how various aspects fit into addressing the research questions.

5.2 Considerations in Selecting the Research Philosophy

5.2.1 Positivism

Firstly, the researcher considered adopting the positivist approach due in part to some of the research questions. The current research aimed to understand (amongst other things):

- students' understanding of the term ODeL, or rather what an open distance and e-learning institution is;
- the resource requirements for succeeding in such an environment; as well as
- the type of support required to ensure successful study in such an environment

Given this, the researcher thought that the research lent itself to a positivist approach. The argument for this is that the data would be collected on real facts e.g. resource requirements could be computers, internet connectivity, whereas support types could include tutorial and lecture support. Furthermore, the definition of ODeL is taken as defined by Unisa policy, and as such is not open to amendment. Therefore, the researcher is viewed as having an objective stance akin to that in a positivist approach.

Moreover, given that questionnaire design was guided by the conceptual framework and the literature, a further argument in support of the positivist philosophy was, therefore, the further claim of objectivity on the part of the researcher. The argument is that, instead of phrasing questions based on researcher desires, thus introducing bias, question formulation was guided by existing studies. The researcher would not be directly involved in the data collection process, such as with, for example, one-on-one interviews, as the data would be collected by means of an online survey, also suggests a certain level of objectivity. The mode of data collection, an online survey, is mainly quantitative in nature, which is also characteristic of positivist philosophy.

Further support for the adoption of this paradigm was influenced by the fact that in researching the research question, not only was a conceptual framework (self-efficacy-discussed later) adopted, which supports the research questions but this framework and a review of the literature on student retention in open and distance learning contexts, will also influence instrument design. This is characteristic of the positivist paradigm, which uses existing theories to formulate hypotheses for purposes of data collection.

However, although this philosophy seemed apt for the research at hand, there were also several claims that were not met. Firstly, although the research method is a mainly quantitative survey, there are some qualitative aspects in the form of open-ended questions, the analysis of which could introduce researcher subjectivity. Another consideration of the

possibility of subjectivity on the part of the researcher is the fact that, being an employee of the institution from which the research subjects are sampled and being employed in a position (institutional researcher) whereby she is aware of the various issues faced by the research subjects because of other research conducted by the researcher herself, complete objectivity cannot be claimed. This is especially true given that the choice of research topic was influenced not only by the results of some of these surveys but also by observations of management's approach to implementing changes affecting the research subjects.

Replicability is another claim of the positivist philosophy, which cannot be assumed at the outset in the current research. This is because, the current research, whilst focusing on an ODeL context using an online survey as a data collection procedure, is a case study on Unisa, its ODeL policy and its research subjects. This is especially true given that Unisa is the only institution of its type in South Africa and Africa; therefore, the country and socio-economic context within which the research subjects exist are unique. This, therefore, affects the replicability of the results to other ODeL institutions.

Furthermore, the research is not aimed at establishing an absolute truth, as is often the case with the positivist approach. It is rather interested in understanding student perceptions with the view of making recommendations aimed at positively impacting on their student experience and consequently resulting in their retention and success. This, therefore, refutes claims of an unambiguously positivist approach.

5.2.2 Critical realism

Secondly, critical realism was considered based mainly on the fact that the current study focuses mainly on perceptions and not necessarily reality. Therefore, given the critical realism stance that what we see is not necessarily what is, but rather representations of what is real, influenced by our interpretations of reality, this paradigm seemed apt for this research.

Furthermore, critical realism holds a view of the social world as a constantly changing entity operating at various levels (individual, the group, the organisation/institution), with each of the levels being important in influencing the researcher's understanding of the research topic. This is especially important given that, in analysing the research results, the views of the respondents would not be analysed in isolation. Instead, group characteristics (e.g. race, gender, qualification level) and the institutional context/characteristics would also be considered when presenting and discussing the findings and the observations made would then be used to make recommendations for devising strategies aimed at ensuring student success at Unisa.

As such, the critical realism's view of the social world as constantly changing is more in line with this research whose main aim is to understand the reason for phenomena as a precursor for recommending change (Saunders et al., 2009). This was further supported by the philosophy's use of case studies in collecting data. The current research, although focusing on an ODeL context using an online survey as a data collection method, is a case study in that the focus is on a specific ODeL institution, Unisa, its proposed ODeL policy and its research subjects.

5.2.3 Interpretivism

This philosophy was considered based on its emphasis on the need to empathetically view the social world from the research subjects' point of view, and how that is aligned with the current research. As previously stated, this research focuses on determining the understanding of the research subjects' perceptions of the requirements of success in an ODeL environment, amongst other things. Hence it was seen as drawing on a social constructivist approach. However, social constructivism adopts an inductive approach to generating theories of meaning whereas the current research, which is grounded in self-efficacy theory, adopts a deductive approach (Creswell, 2003).

5.3 Adopted Philosophical Foundation and Rationale

Various research philosophies (positivism, critical realism and interpretivism) were considered and rejected due to the inability of the current research to unambiguously fit into any of their philosophical stances, resulting in the adoption of a pragmatic philosophical stance. Adoption of pragmatism is more fitting to the research at hand, in that pragmatism is a mixed method philosophy. Therefore, instead of arguing for the significance of one philosophy to the exclusion of another, it places emphasis on how to best address the research questions. This is essentially the crux of research.

As such, by choosing pragmatism, the researcher was therefore not limited in terms of the research approach (deductive vs. inductive) or research methods (survey, case study...). This was appealing given that, although the study adopted a mainly quantitative approach in the form of an online survey, there were also some qualitative aspects (open-ended questions). Furthermore, due to its sole focus on Unisa, this study is also a case study.

The suitability of pragmatism to this research also owes to the allowance of the adoption of both an objective and subjective role in interpreting the research results. This is particularly important given that the researcher cannot assume complete objectivity for various reasons. Firstly, although the research method is a mainly quantitative survey, there are some qualitative aspects in the form of open-ended questions, the analysis of which could introduce researcher subjectivity. Another consideration of the possibility of subjectivity on the part of the researcher is the fact that, being an employee of the institution from which the research subjects are sampled and being employed in a position (institutional researcher) whereby she is aware of the various issues faced by the research subjects due to other research conducted by the researcher herself, complete objectivity cannot be claimed. This is especially true given that the choice of research topic was influenced not only by the results

of some of these surveys but also by observations of management's approach to implementing changes affecting the research subjects.

5.4 Research Strategy and Rationale for Adoption

Saunders, Lewis and Thornhill (2009, p. 600) defined a research strategy as “a general plan of how the researcher will go about answering the research question(s)”. As such, they advise that when deciding on which research strategy to adopt, one should be guided by its suitability to the research questions, objectives and research philosophy as well as the amount of time and resources at the researcher's disposal. Furthermore, they state that, because research strategies are not mutually exclusive, it is possible to apply one strategy as part of another, as is the case in this research. This research used an online survey and secondary data within a single case embedded study to answer the research questions.

A single case embedded design is one where, although a single case, such as an organisation, is chosen as the unit of analysis, attention is also given to the examination of the subunit/s within that case (Yin, 2009; Saunders et al., 2009). For example, in this research, Unisa is the single case study. However, within this case study, the research focused on students enrolled at the undergraduate and honours levels, even though students registered for Masters with coursework and those on alternative pathways/extended programmes will also be affected by any changes in how teaching and learning are delivered at Unisa. The current research can thus be considered a single case embedded study.

According to Saunders et al. (2009), the use of single case studies is justifiable where the case is an extreme or unique case, as is the case in this research. As was highlighted in preceding chapters, whilst there are other institutions within South Africa that provide distance learning programmes, Unisa is the only public institution that is dedicated solely to providing open, distance and eLearning in South Africa.

The choice of using an online survey as an additional research strategy within the case study was informed by several factors. Paramount amongst these was the fact that with Unisa being a distance learning institution, most of the students are in full-time employment. As such, online surveys render them more accessible. Further to that, surveys, particularly online surveys, are suitable for large sample sizes, as is the case in this research, whilst also providing ease of administration due to their being automated. One can distribute to a large sample by simply sending links to the respondents' email addresses and responses are automatically captured without the need for manual data capturing.

Various research surveys conducted at Unisa, for example, the ICT survey and the student satisfaction surveys, have indicated high internet access among Unisa students, not only at work but also at home and on their smartphones. Therefore, given the compatibility of the survey software with various platforms, including those mentioned, it was anticipated that by using the online survey, the researcher would be able to reach a large number of students.

Another aspect of survey administration which makes the chosen method ideal is the fact that it eliminates the need for data capturing. This not only saves time and costs but also means that data cleaning and analysis can commence as soon as the survey closes. In addition, unlike telephonic surveys, which attract charges per call, online surveys are cheap and in some cases free, as the only associated cost is usually the subscription to the survey software, which, in many cases is already paid for by the researcher's institution. This was the case for this research, as Unisa had already subscribed to the survey software used.

Furthermore, it is easy sending reminders for participation to those who have not completed the survey as survey administration options allow the research to see who responded by linking invitations to responses using email addresses or student numbers. By

using respondents' email addresses, one can also have high confidence that the right person has responded to the survey relative to postal surveys.

Despite the positive aspects of online surveys as a research strategy as discussed above, as with other research strategies, they do have shortcomings, particularly regarding response rates. Although variable response rates can be obtained, Saunders et al. (2016) suggested a 30% response rate as a reasonable response rate to expect when the online survey is conducted within the organisation or using the intranet. A response rate of 11% or lower is to be expected when using the internet or conducting the survey outside of the organisation. For example, in this instance, although all respondents were affiliated with Unisa through their studies, and myLife email addresses were used, they were not employed by Unisa. As such, their access to the survey was not through the intranet. This meant that a response rate of 11% or lower was to be expected.

5.5 Adopted Research Method

This research adopted a mixed method approach using concurrent procedures. This method aligns with the chosen research philosophy (pragmatism), the research strategy and consequently is suited to the research question. Mixed method approaches are methods that use both qualitative and quantitative research methods to respond to the research question instead of choosing either qualitative or quantitative. Given the restrictions inherent in either type of method, this approach is therefore recommended for addressing any inherent biases in any single method (Creswell, 2003).

Creswell (2003, p. 16) defined concurrent procedures as ones “in which the researcher converges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem”. This is done by “[collecting] both forms of data at the same time during the study and then [integrating] the information in the interpretation of the overall results (Creswell, 2003, p. 16). As such, instead of adopting two separate methods, one

qualitative and the other quantitative, qualitative methods were nested within the quantitative method to enhance the richness of collected data.

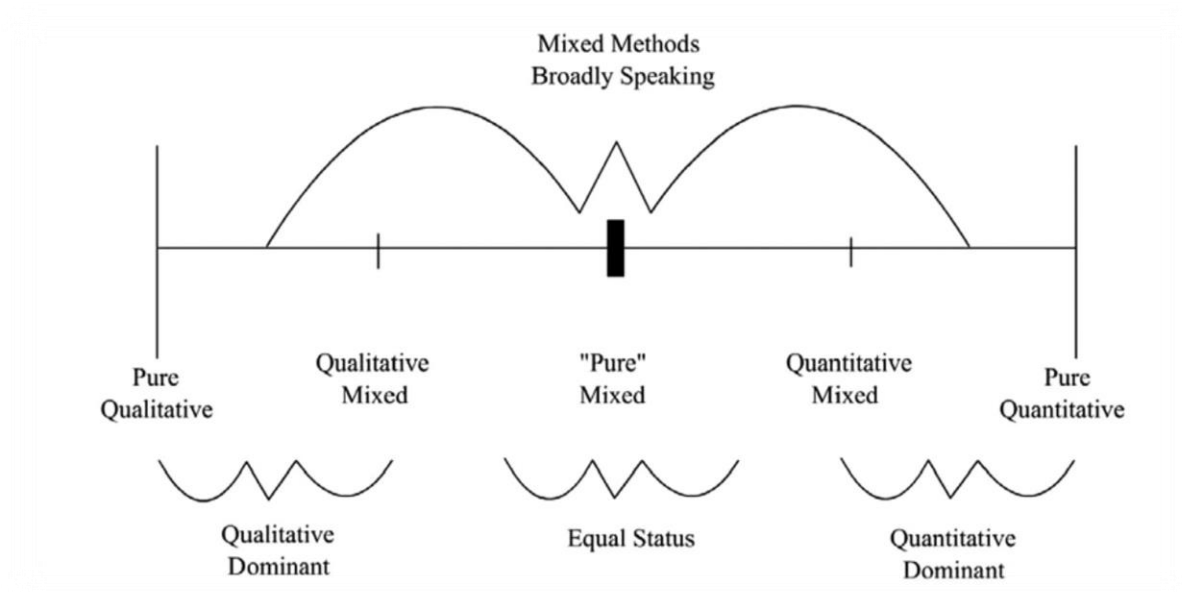


Figure 4: The Research Continuum

Source : Johnson, Onwuegbuzie, & Taylor (2007, p. 124)

Using Figure 4 above, which is a graphic representation of the qualitative-quantitative continuum, the method adopted here is, therefore, a quantitative dominant mixed method. It relies on a quantitative, post-positivist view of the research process, while concurrently recognising that the addition of qualitative data and approaches are likely to benefit most research projects.

5.5.1 Rationale for adoption and implications

As described in the preceding section, this research adopted a mixed method approach with concurrent procedures. Thus, an online survey with mainly closed-ended and some open-ended questions was used. The choice of this approach was due to the following reasons:

- ***Its suitability to the philosophical framework:*** as previously discussed, the philosophical stance adopted by this research is pragmatism, which proposes the mixed method approach as most suitable for this research. This is because, as with pragmatism, “mixed method research encourages the use of multiple worldviews, or paradigms (i.e. beliefs and values), rather than the typical association of certain paradigms with quantitative research and others for qualitative research” (Creswell & Clark, 2011, p. 13).
- ***Its suitability to the research questions:*** firstly, the nature of the questions of interest lend themselves to a mixed method approach.
- ***Its suitability to discovering the prevalence of certain perceptions:*** the researcher was mainly interested in the prevalence of certain perceptions and the proportions of students with specific perceptions/knowledge. Information on this can be attained by asking mainly structured questions with categorised response options, which can be administered by means of a survey rather than in-depth interviews or focus group discussions, etc.
- ***It enables views to be explored using open-ended questions:*** in addition to structured questions, the researcher was interested in some questions that required respondents to state their views. These were captured using open-ended questions. In some instances, these open-ended questions would be used to probe responses to close-ended questions to add to the richness of the collected data.
- ***The generalisability of the research findings:*** since the findings of this research will be used to inform management decision making and planning in as far as devising strategies aimed at improving the level of student success at Unisa, the generalisability aspect of quantitative side of the research (close-ended) deems it

appropriate for the current study with the open-ended side providing a story/giving a voice to the presented statistics.

- ***Its suitability to the sample:*** the fact that this method allows for the integration of both qualitative and quantitative aspects whilst using a quantitative data collection method (survey) makes it ideal for the research. This is especially important given the suitability of surveys to large sample sizes, which is characteristic of this research as it was aimed at the broader student population, with a few exclusions.
- ***Its suitability to the research objective:*** According to Zikmund, Babin, Carr & Griffin (2010, p. 134), “quantitative research is quite appropriate when a research objective involves a managerial action standard”. This, therefore, makes it suitable for this research which aims to raise Unisa management’s awareness of the type of student enrolled at Unisa, especially considering the proposed business model, to allow for tailored support/interventions. This can in turn help mitigate any potential effects on student retention and success that could result from the adoption of this ODeL business model (see problem statement). The qualitative aspect of the research will further enhance the case/s presented to management.
- ***The credibility of the research findings:*** the researcher argues that the adoption of this mixed method approach enhances the credibility of the research findings as the qualitative aspect of the findings can validate the observed quantitative responses.

5.6 Data Collection Techniques and Procedures

In responding to the study’s dual aims, primary and secondary data were collected. For the collection of primary data, that is, data on students’ perceptions, an online survey was used. For the secondary data, a request was sent to Unisa’s Directorate of Information Analysis (DIA). These two data collection methods are explained below.

5.6.1 Primary data collection: Online survey

As was illustrated in Figure 3, an online survey was used for the collection of quantitative and qualitative data from the respondents. The survey was administered using Qualtrics, an online survey administration software. The selection of the survey administration software was based on its ability to cater for the questions of interest and the fact that Unisa already had a paid subscription to it.

The questionnaire that was used for the online survey comprised mainly close-ended questions that were used to collect quantitative data and some open-ended questions. The open-ended questions were used to collect qualitative data. As previously mentioned, the development of the questionnaire was guided by the literature on self-efficacy, student success in open, distance and eLearning contexts as well as literature on the role of ICTs in open, distance and eLearning success. The structure of the questionnaire was as follows:

5.6.1.1 *Introductory page*

This page not only explained the purpose of the survey to the respondents but also addressed issues of anonymity, confidentiality, ethical clearance and what the data collected would be used for. In explaining the purpose of the study, the importance of the respondents' complete participation was stressed. However, respondents were also informed that participation was voluntary and as such, of their rights to withdraw at any point of the survey without any consequences. Also covered in the introduction was the estimated time it would take to complete the survey, how respondents could get hold of the results should they be interested and what their student numbers, which were requested in the survey, would be used for. It was hoped that by explaining what the student numbers were required for, students would be encouraged to not only provide them but to provide accurate student numbers as well.

The introductory page also provided the researcher's contact details for purposes of clarifying any questions relating to the survey. The final section of the introductory page was used to screen participants, by firstly asking them to indicate their interest (consent) in participating in the survey and thereafter answering two screening questions, namely:

- Did you start studying with Unisa for the first time during Semester I of 2015?
- Are you registered again during Semester II of 2015?

Respondents who did not give their consent to participate in the survey were redirected to the end of the survey. Respondents who answered "No" to any of the two screening questions provided above were also redirected to the end of the survey. This is because answering "No" to any of the screening questions made them ineligible to participate in the survey.

5.6.1.2 Section I: Demographics

This section collected data on some demographics which were used to test the hypotheses as well as those that could serve as proxies for other things, e.g. support, responsibilities or socio-economic status. These were gender, race, age, employment status, marital status, residential area (urban vs. rural), information on dependents and previous distance education experience. Students were also asked to provide their student numbers, which were used when extracting secondary data (this is explained in the section on secondary data collection).

5.6.1.3 Section II: Access to technology

This section was used to collect information relating to the respondents' access to and ownership of technology. Two separate questions were asked, one to address access and the other to address ownership of technological devices. The respondents could select more than

one response option, from the options provided below, depending on the devices they had access to and those that they had ownership to.

- Own laptop or PC (1)
- Other laptop or PC (e.g. work/spouse/computer lab...) (2)
- Own reliable internet connection (e.g. modem/3G card) (3)
- Other reliable internet connection (e.g. work/campus/internet cafe) (4)
- Mobile device (smartphone or tablet) with internet functionality' (5)
- Mobile device (smartphone or tablet) with email functionality (6)
- Mobile device (smartphone or tablet) with internet searching/browsing functionality (e.g. Google, Firefox) (7)

5.6.1.4 Section III: Understanding of an ODeL environment

Here information relating to students' understanding of an ODeL institution was collected as follows. Firstly, students were asked, using a YES/NO question, whether they knew what the acronym ODeL stood for. Thereafter, students were asked to indicate what they understood an ODeL institution to be and to specify what they believed to be the characteristics of such an institution. The last two questions were open-ended questions.

5.6.1.5 Section IV: Perceptions of the requirements of success in an ODeL institution

As the title states, this section was concerned with collecting information that was used in determining students' perceptions of the requirements of success in an ODeL institution. In keeping with the research questions, the section constituted 3 sub-sections, namely: (1) student type/characteristics, (2) required resources, and (3) required support for successfully studying through ODeL. For the question on student attributes, students were asked to rate twelve statements according to how they perceived them as important to successfully studying in an ODeL institution. When rating the statements, a statement with a

rating of 1 would be considered as highly important whereas a statement with a rating of 12 would be considered least important.

For the question on the type of resources required for successful study in an ODeL institution such as Unisa, students were asked to select the resources they deemed necessary from a list. The response options consisted of five resource types and an “other, please specify” option that allowed respondents to mention a resource that was not provided on the list. The question on the type of support they considered important for successful study in an ODeL institution was similar to the question on required student attributes. For this question, students were asked to rate eight statements, from 1 (highly important) to 8 (least important).

5.6.1.6 Section V: Perceived readiness for successful ODeL study

For this section of the survey, three self-efficacy measures, which are deemed important for successful study in an ODeL environment, were employed, namely self-regulated learning self-efficacy (SRLE), distance learning self-efficacy (DLSE) and computer and online technologies self-efficacy (COTSE). The SRLE measure was an adaptation of Pintrich and de Groot’s (1990) Motivated Strategies for Learning Questionnaire (MSLQ) and comprised fourteen (14) statements which were divided into three subscales. These subscales were student persistence self-efficacy (SPSE), time and study environment management self-efficacy (TSEMSE) and seeking help self-efficacy (SHSE). The student persistence subscale was used to measure students’ perceived ability to put in the effort required for successfully studying in an ODeL institution. The time and study management subscale was used to measure their perceived ability to manage their study time and environment in order to successfully study through ODeL. The seeking help subscale was used to determine their perceived ability to seek help in relation to their studies in order to succeed in their ODeL studies. The student persistence subscale had four (4) statements, time and study management had five (5) statements and seeking help had four (4) statements. All statements

for the various subscales were rated using a 6-point Likert scale, from strongly disagree to strongly agree.

DLSE was an adaptation of the DLSE scale by Zhang, Duan and Wu (2001). In adapting the original measure, some items were reworded to suit institutional context and others were replaced by ones that were deemed more suitable by the researcher. DLSE had nine statements which were rated using a 6-point Likert scale, from strongly disagree to strongly agree. The statements were a mixture of positive and negatively worded items relating to students' perceptions of distance learning and their ability to successfully study through distance learning.

Lastly, COTSE was an adaptation of Miltiadou and Yu's (2000) online technologies self-efficacy scale (OTSES). In adapting the original scale, only the internet competencies subscale from the original scale was retained as is. The rest of the subscales were recreated to fit the institutional context. COTSE had 32 statements, which were divided into four subscales, namely internet competencies self-efficacy, myUnisa self-efficacy, myLibrary self-efficacy and email communications self-efficacy. Unlike SRLE and COTSE, each of these statements in the COTSE scale was rated using a 4-point Likert scale, from Not confident at all to Very Confident.

The internet competencies self-efficacy (ICSE) subscale consisted of eight items which were used to collect data on students' perceived ability to use online technologies, such as opening a web browser, performing an internet search and downloading item, in order to succeed in distance learning. The myUnisa self-efficacy (MUSE) subscale was used to determine students perceived ability to make use of different aspects of myUnisa, such as accessing lecturer notes, posting messages in discussion forums, submitting assignments and obtaining information related to student support, in order to successfully study through Unisa. The myLibrary self-efficacy (MLSE) subscale was used to determine students' perceived

ability to use myLibrary search for and/or request books or other learning material from the Unisa library in order to succeed in distance learning. Lastly, the email communications self-efficacy (ECSE) subscale was used for collecting data on students' ability to perform various functions related to email communication.

5.6.2 Secondary data collection: Statistics request for student performance data

To link perceptions to actual student performance, student records were requested from Unisa's Directorate of Information and Analysis (DIA). The records of interest were the number of module credits accumulated for the 2015 academic year by students who had enrolled for the first-time for a Unisa qualification during semester I of 2015 and then continued with their studies during semester II of 2015.

The students whose data was requested from the DIA are those who participated in the survey and provided their student numbers. This is because the provision of student numbers allowed for the matching of responses to the student database, and consequently actual performance data. Once the student records were obtained from the DIA, students were then grouped into two categories: those who met the requirements for readmission (passed 36 credits in 2015) and those who did not qualify for readmission in 2016 or were phased out.

5.7 Sampling

This subsection describes various aspects of sampling employed in this research. A summary of this is provided in Figure 5.

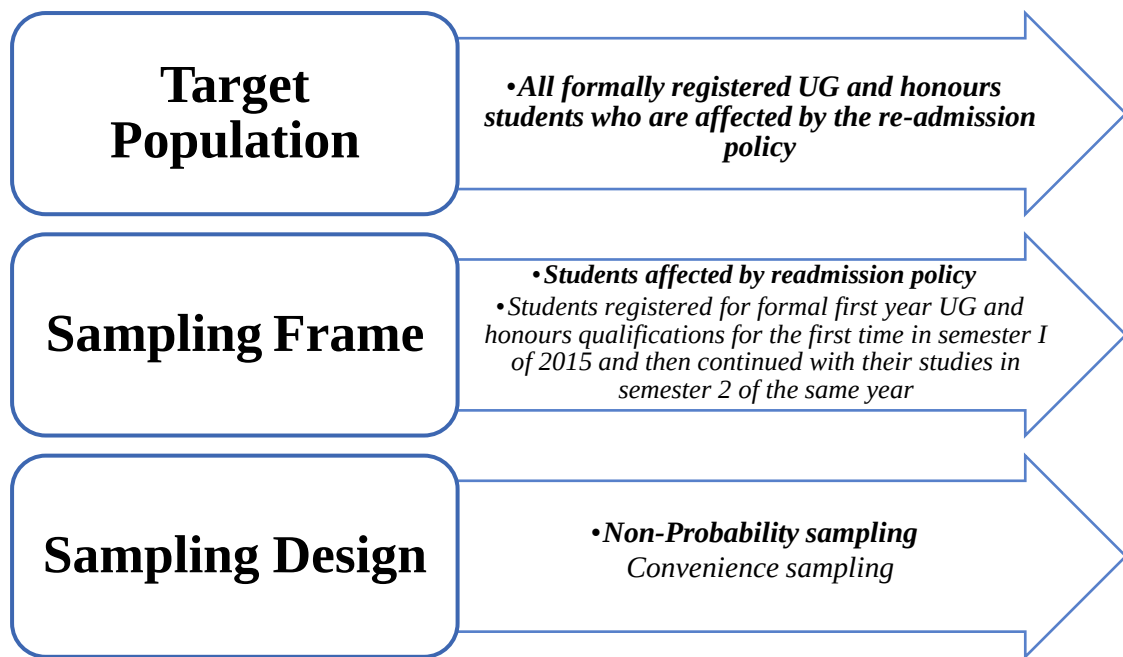


Figure 5: Sampling Design

5.7.1 Target population and sampling frame

As illustrated in Figure 5, because this research is a Unisa case study, the target population was, therefore, all registered Unisa students. However, within this large population, the research focused on students enrolled at the undergraduate and honours levels even though students registered for Masters with coursework and those on alternative pathways/extended programmes will also be affected by any changes in how teaching and learning are delivered at Unisa.

The reasons for focusing solely on undergraduate and honours students instead of the other identified groups was due to the fact that not only do undergraduates (243 092) and honours students (20 393) constitute most of the registered students at Unisa but also because they are the only groups, other than those registered on alternative pathways/extended programmes, affected by Unisa's readmission policy that will be implemented in 2016. Therefore, given that this policy has been used to define student success for purposes of this research, it made sense to only survey these students. As such, the cohort of students who

received invitations to participate was those students who registered for the first time at Unisa, either at undergraduate or Honours levels, during the first semester of 2015 and again in the semester of 2015.

By not focusing solely at the undergraduate level but opting to include honours level students in the sample as well, the researcher would be able to determine if there are any significant differences in perceptions and performance by level of study.

Although students enrolled for alternative pathways/extended programmes will also be affected by changes in the provision of teaching and learning as well as the readmission policy, they are excluded from the sample for the following reason. The fact that the students are enrolled for extended pathways/extended programmes implies that they did not qualify for enrolment in their qualifications of interest due to not meeting admission requirements. As such, it would not be wise to compare them with the other groups (UG and honours).

Regarding the decision to sample all eligible participants (undergraduate and honours), the following reasons informed the decision. Firstly, when conducting quantitative research, the generalisability of the research findings relies heavily on the response rate and how closely it matches the study population. Both the ICT survey conducted by Liebenberg and van Zyl (2014) and the student profile survey, also by Liebenberg and van Zyl (2014) had response rates of 3.8% respectively. The ICT survey had received 13 319 out of 351 161 responses whereas the student profile survey received 13 408 out of 351 277 responses.

Despite the varying response rates, the demographic characteristics of the survey participants for both surveys were found to be a good representation of the target population, thus contributing towards the establishment of external validity of the sample.

Given the unpredictability of response rates as evidenced by the two studies above, sending the invitation to participate to the entire eligible student population in the current study instead of sampling within this group affords the researcher the opportunity to not only

attain a large enough response rate to enable the generalizability of the findings but to also possibly closely mirror the reference populations' characteristics regardless of the response rate.

Sending the survey invitation to the entire eligible population would also be beneficial when responding to the second aim of the research, which intended to match students' perceptions to actual student performance. By having a large number of students responding to the survey (possibly over 10 000), due to convenience sampling the entire eligible student population, the researcher would then have a large enough sub-population from which to sample students to include in this analysis.

A further consideration when sampling was the age of the respondents, as this has implications for obtaining consent to participate. Therefore, to obtain informed consent, only students aged 18 years and above were included in the sample.

Further exclusions from the sample were occasional students, also known as non-degree purposes and students enrolled in short learning programmes. Occasional students are those students enrolled in formal modules not linked to a specific degree whereas short learning programmes are short courses ranging from three months to a year, aimed at broadening knowledge and skills in specific areas.

To obtain the desired sample, a request was sent to Unisa's Information and Communication Technology (ICT) department with the specifications about students to be included in the sample. The data that was required for students meeting the specifications was their student numbers, email addresses, and cell phone numbers. Students' email addresses and cell phone numbers were used when sending the invitations to participate. The student numbers were required to ensure that there was no duplication of invitations sent to students or responses received from students.

5.7.2 Sampling design

This research employed convenience sampling for the recruitment of study participants. Convenience sampling is one of three non-probability sampling techniques whereby units/participants are selected based on ease of access instead of randomly. The application of convenience sampling in this research will be as follows. Although all formally registered UG and honours students who are affected by the re-admission policy are our sampling frame, only those who registered for the first time during semester I and then again during semester II of the 2015 academic year whose email and cell phone details are captured in the student database were invited to participate in the survey.

Given what previous surveys conducted at Unisa have indicated in terms of response rate whilst using this type of sampling technique, the researcher had hoped to achieve a modest response rate of 6%, which is the average of that attained in the two studies described in the preceding section. However, an overall response rate of 4,3% which fell to 3,2% then 1,7% following attrition was obtained.

As with other non-probability sampling techniques, convenience sampling is often criticised for suffering from several biases brought about by the way participants are recruited. For example, in this study, the fact that having an email address was a pre-condition for inclusion in the survey introduces biases towards those students with email addresses. These selection biases can lead to the over-representation or under-representations of some segments of the population in the sample thus resulting in the sample not being representative of the target population. This is more so when the sampling frame is not known. This lack of representation then undermines the researcher's ability to generalise the research findings from the sample to the target population. For purposes of this research, this selection bias is justified considering our sampling frame (students affected by the readmission policy) and the definition of student success employed here.

In the current study, the fact that there is a sampling frame offsets the issue of lack of generalisability as it increases the likelihood that the sample population's characteristics will closely represent that of the target population, thus establishing external validity. This, in turn, allows for the generalisability of the findings, as has been shown in the preceding section. Furthermore, it is common knowledge that every survey carries the risk of non-response, which can impact negatively on the generalisability of the results. However, given the fact that the survey was sent to all students meeting the specified inclusion criteria instead of a select few within this group, I argue that there is a relatively larger sample size from which to expect responses thus increasing the possibility of the results being generalisable.

5.7.3 Ethical approval

The success of any research project lies not only in it having clearly stated objectives and a research plan but also in the researcher's ability to not only gain access to the required data but the research subjects as well. Access to the data and research subjects are governed by institutional research ethics principles, which needed to be adhered to. As such, ethical approval needed to be sought and attained prior to commencing with data access and survey activation. For this study, several levels of ethical approval had to be sought because the researcher was studying with the University of Witwatersrand (Wits) yet conducting research amongst students from the University of South Africa (Unisa).

The first stage of ethical approval was sought from Wits University in May 2015. Ethical approval was granted by the Wits Ethics Committee in Education of the Faculty of Humanities on 1 June 2015, with the protocol number: 2015ECE008D. The clearance certificate obtained from Wits University, along with the approved proposal, Ph.D. candidacy letter and application form were then used when applying for ethical clearance with the Unisa Research Ethics Review Committee (URERC). URERC granted ethical clearance on 29 June 2015, with reference number: 2015_URERC_010_ER.

After obtaining permission from URERC, permission had to be sought from the Research Permission Subcommittee (RPSC) of the Senate Research and Innovation Higher Degrees Committee (SRIHDC) at Unisa. Permission by RPSC of SRIHDC was granted on 14 July 2015, reference number 2015_RPSC_058. This permission allowed access to myLife email addresses of students who had registered for the first time at Unisa in the first semester of 2015 and again during the second semester and access to the secondary data providing information on the number of module credits attained by these students. However, in keeping in line with the Protection of Personal Information Act (POPI Act), No 4 of 2013, which prohibits the dissemination of personal information without prior consent of the owner, the permission prohibited access to students' private email addresses, for example, their Gmail and Yahoo addresses, and their cell phone numbers.

Once all the ethical clearance certificates were obtained, survey activation could commence. After closing the survey, the ethical clearance certificates were also used to request permission from the registrar for access to the secondary data on student credit scores. Once this permission was provided by the registrar, a request was then sent to the Department: Information and Communication Technology (ICT) for the provision of data on students' demographics and credit scores.

5.7.4 Survey administration

The survey was administered online, through Qualtrics, using a questionnaire discussed in the preceding section. Invitations to participate in the survey were emailed to the prospective respondents' myLife email addresses provided by Unisa's ICT department in August 2015. myLife email addresses are email addresses that students are assigned after registration with Unisa and registration on myUnisa. myLife email addresses were used instead of students' private email addresses because as per the Protection of Personal Information (PoPI) Act, the university is not allowed to give out students' private email

addresses. The survey was initially sent out by the researcher on 18 August 2015. However, to avoid limitations that are inherent in the survey software whereby invitations to participate that are sent out through the software are sometimes mistaken as spam, the survey was resent by bulk email by Unisa's ICT department on 21 August. The survey that had been sent out by the researcher on 15 August 2015 was closed on 15 October 2015 whereas the survey distributed by ICT was left open from 15 August 2015 until 30 March 2016. Responses were monitored during that period.

Following the observation of low response rates, reminders to participate were sent to students' cell phone numbers using Unisa's short messaging system (SMS) service. Initial reminders to participate were sent at the end of November 2015, three months after the survey was activated. The reason for only sending them at the end of November is that at Unisa, examinations are written during October-November. As such, it is considered unethical to send survey reminders when students are busy with examinations. Follow-up reminders were then sent towards the end of January.

5.8 Conclusion

This chapter has provided a discussion of the research design that was adopted for this study. As was explained in the chapter, this study adopted pragmatism as its research philosophy, using an embedded case study design as its research strategy. Within this research strategy, an online survey, with mainly quantitative and some qualitative aspects was conducted and secondary data on students' credit scores was obtained from the student database. The study adhered to research policies of the institutions with which the researcher was affiliated with, namely Wits University and Unisa, by seeking ethical clearance prior to commencing with the online survey and before obtaining access to student data from the database. Ethical clearance policies were further adhered to on the introductory page of the survey, by informing respondents of their rights to withdraw from the study with no

consequence, what the data would be used for and how confidentiality and anonymity would be maintained, amongst other things.

IBM SPSS Statistics version 23 and Microsoft Excel 2010 were used for data analysis. A detailed description of how data was analysed will be provided in Chapter 7.

6 DATA CLEANING AND PREPARATION

Chapter 6 explains how data used in this research was prepared and cleaned for analysis. Also included in this chapter are discussions on how reliability and validity tests were conducted.

6.1 Data Preparation and Cleaning

Following the successful closure of the survey, data was extracted and imported into IBM SPSS Statistics 23 for analysis. There were two datasets, one containing responses from the survey that had been sent out by the researcher on 15 August and the other containing results from the survey that had been sent out by the ICT department. Both datasets were initially dealt with separately during data cleaning. This is because the two surveys had been closed at different times. Thereafter, they were merged and analysed as one dataset. The process for data cleaning was as follows for each of the datasets.

Firstly, the overall response rates for each of the datasets were noted. This was done to keep record of how many responses were received for each of the times the survey was sent out and overall. Thereafter, data was filtered according to consent to participate (see Table 4).

As is evident from Table 4, there were overall 670 responses to the survey, of which 98 were from the survey that had been sent by the researcher and 572 were from the survey that had been sent by the ICT department. However, only 641 of the 670 overall responses were of students who had given their consent to participate in the survey.

Once each dataset contained only students who had consented to participate in the survey, further filters were applied to the survey. The first sub-filter was for those students who had indicated that they had started studying with Unisa for the first time in 2015. The

second sub-filter was for those students who had indicated that they had subsequently re-registered during the second semester of 2015. Attrition was observed after the application of each of the sub-filters. Attrition was also experienced due to missing cases due to non-response to subsequent questions.

Table 4: Consenting participants by data source

Data Source		Consenting	Not consenting	Total
Researcher sent survey	N	90	8	98
	%	91.8%	8.2%	100.0%
ICT sent survey	N	551	21	572
	%	96.3%	3.7%	100.0%
Overall	N	641	29	670
	%	95.7%	4.3%	100.0%

After filtering by first-time registration at Unisa during Semester 2 of 2015, only 554 valid responses remained, representing 86.4% of the 641 consenting students (see Table 5) and 87.4% of the 634 responses to this question.

Table 5: Consenting participants by first-time registration status

Data Source		First-time registration 2015		
		Yes	No	Total ²⁰
Researcher sent survey	N	43	45	88
	%	48.9%	51.1%	100.0%
ICT sent survey	N	511	35	546
	%	93.6%	6.4%	100.0%
Overall	N	554	80	634
	%	87.4%	12.6%	100.0%

²⁰ Excludes missing cases

Once the second sub-filter was applied, the number of valid responses was further reduced to 542 overall, of which 38 was from the survey sent by the researcher and 504 from the ICT survey (see Table 6).

Table 6: Consenting participants by re-registration status

Data Source		Re-register Semester 2 2015		
		Yes	No	Total
Researcher sent survey	N	38	4	42
	%	90.5%	9.5%	100.0%
ICT sent survey	N	504	5	509
	%	99.0%	1.0%	100.0%
Overall	N	542	9	551
	%	91.5%	0.9%	100.0%

This represented 84.6% of the total students who had consented to participate in the survey and 97.8% of consenting students who had been registered during semester 1 of 2015. After the application of these filters, the two files were merged and cleaned as one dataset.

6.1.1 Data cleaning

Once the two datasets were merged, data cleaning was conducted by deleting cases that were deemed unsuitable for analysis. These are provided in Table 7. Overall, 235 cases were excluded from analysis. Of these, 219 had incomplete responses on key variables. Key variables are variables that would either be used to measure various self-efficacy constructs student numbers. Cases where student numbers were not provided were deleted because without student numbers, it would not have been possible to merge survey data with data from the student database.

A further 16 cases were deleted from the dataset, of which eight had been identified as duplicates and eight could not be matched by the analysts with the data from the student database, despite the eight cases having student numbers that had been provided by the respondents. The eight duplicates were saved as a separate dataset to be used later to determine instrument reliability.

All deleted data represented 47.4% of valid data, which meant a drastic reduction in the overall response rate.

Table 7: Data deleted during the cleaning process

Reason for deletion	No of cases	% valid data
Deleted/Incomplete	257	47.4%
Not matched	8	1.5%
Duplicates	8	1.5%
Total	273	

The remaining 269 responses were then merged with the data from the student database, using the student numbers that had been provided by the respondents. Once merged, students' FTEN status was checked using the FTEN variable from the student database. This was the last step in ensuring that only data from students who were eligible for inclusion in this study were included for analysis.

Students' FTEN status is explained as follows in Unisa's student database.

- F= First-time ever at any institution
- T=Current Registration at Unisa and Previous Registration at another institution
- E=Current Registration and Previous Registration for different qualification at Unisa
- N=Current Registration and Previous Registration for the same qualification at Unisa

Using the merged dataset containing 269 responses, a frequency distribution for the FTEN variable was ran. The results are indicated in Table 8.

As is evident from Table 8, 217 of the 269 responses came from first-time entering students at Unisa and in higher education, thus representing the F in FTEN. Forty-six (46) were of students who were currently registered at Unisa but had been previously registered elsewhere, thus making them new to Unisa. These 46 students represented the T in FTEN.

Given the study's interest in students who were either first-time entering to higher education or first-time entering at Unisa, the 217 first-time students (F) and the 46 transfers, totalling 263, were the only students of the 269 respondents that were considered eligible to participate in this study.

Table 8: Responses by FTEN status

		FTEN			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	F	217	80.7%	80.7%	80.7%
	T	46	17.1%	17.1%	97.8%
	E	5	1.9%	1.9%	99.6%
	N	1	0.4%	0.4%	100.0%
	Total	269	100.0%	100.0%	

6.2 Survey response rate

Overall, the survey was sent to 15 554 students whose emails had been provided by Unisa's Department of Information and Communication Technology (ICT) (see Table 9). Of these, only 670 responses were received, which translated into an overall response rate of 4,3%.

Table 9: Survey Response Rate

	N	Response rate	
		% of sent	% of all responses
Sent	15 554		
All responses	670	4.3%	
Consenting	641	4.1%	95.7%
Eligible	542	3.5%	80.8%
Valid data	263	1.7%	39.3%

The observed response rate of 4,3% fell in between the response rates that had been reported for similar surveys that had been conducted at Unisa, namely the online component of the ICT survey and the student profile survey. The online component of the ICT survey had received a response rate of 8,0% (22 216 out of 282 248) whereas the student profile survey had received a response rate of 3,8% (13 048 out of 352 277). Therefore, when taking responses from these two online surveys conducted at Unisa into consideration, the response rate of 4,3% received for the current survey is acceptable.

After filtering for consenting students, the response rate dropped to 4,1% and then again to 3,5% after filtering for students who had started studying at Unisa for the first time during semester 1 of 2015 and had subsequently re-registered during semester 2 of the same year. Following data cleaning and preparation, which was described in the preceding section, the response rate dropped drastically to less than 2,0%. This left only 263 valid responses for inclusion in data analysis. The observed low response rate affected the ability to generalise the results of this study.

6.3 Reliability and Validity

To ascertain the value and usability of research findings, reliability and validity measures were conducted. Reliability refers to the extent to which the study is repeatable (Drost, 2011). For example, if this research was to be conducted again and the same results were obtained, it would be considered reliable. However, if the inverse were true, it would be considered unreliable. Reliability in this survey was tested in two ways. Firstly, test-retest reliability was employed. Test-retest reliability was done to test the reliability of the survey instrument.

This was done by comparing the duplicate results from the survey sent out by the researcher and the one sent out by the ICT department. If, when comparing the duplicate responses, the responses are found to be similar, it would imply that the survey instrument is reliable. However, if there were differences in the duplicate responses, the survey instrument would be considered unreliable.

This method of determining instrument reliability is not without limitations, the main being related to the differences in the interval between the two surveys. The arguments are that if the interval between the first and second survey administration is too short, then the respondents might remember their responses from the first survey. As such, this could influence their responses to the survey. The counter argument is that if the interval between the first survey and the second survey is too long, then respondents might be exposed to other things that might change their opinions, feelings or attitudes about the measured item. This might then result in their changing their survey results.

Given that the two surveys were distributed only a week apart, the second critique of this method did not apply to this study. Secondly, reliability was tested statistically using IBM SPSS version 23 as explained in section 6.3.2.

Validity is a measure of how credible or believable the research findings are, that is, how well the research instrument measures what it is intended to measure (Field, 2013; Drost, 2011). For example, in the current research, the survey questionnaire was used to collect data that was used to measure different constructs, namely self-regulated learning self-efficacy, distance learning self-efficacy as well as computer and online technologies self-efficacy which were explained earlier. It is important therefore to ensure that the questions used to measure these two constructs did exactly as stated. This is known as construct validity and can be established statistically using factor analysis in IBM SPSS Statistics 23, as was done in this research.

6.3.1 Test-retest reliability

As mentioned earlier, the survey was initially sent by the researcher on 18 August 2015. Thereafter, Unisa's ICT department resent the survey on 21 August 2015. One can argue that the time lapse between the two surveys was too short, which is indeed true. The decision to not wait several weeks between the researcher-sent survey and the ICT-sent survey was due to two reasons. The first was that the delays in obtaining ethical clearance meant that there was limited time to conduct the survey. Secondly, the researcher wanted the timing of the survey to precede examinations during October/November. By so doing, the researcher hoped to avoid non-response due to students being focused on preparing for examinations.

After successfully cleaning up the data from the two surveys and merging the datasets, duplicates were identified. A total of eight duplicates were found and their responses compared across various variables. Firstly, the researcher looked at the survey participation dates to see the time lapse between the two.

Table 10: Time lapse between the pilot and rollout

	Survey Completion Dates		Time Lapse (months)
	1 st Date	2 nd Date	
Student 1	2015/08/18	2015/12/01	4
Student 2	2015/10/05	2015/12/01	2
Student 3	2015/08/24	2015/11/30	4
Student 4	2015/10/09	2015/11/30	2
Student 5	2015/08/26	2015/11/30	4
Student 6	2015/08/21	2015/10/05	2
Student 7	2015/08/21	2015/11/30	4
Student 8	2015/08/22	2015/11/30	4

As is evident from Table 10, despite the close distribution times for the two surveys (less than a week apart), most of the duplicates (5) had a four-month time lapse whereas three had a two-month time difference. That therefore defeats the purpose of trying to avoid the second critique of test-reliability validity as it appears students in online survey settings participate when they want to regardless of when the survey was activated. Moreover, since two SMS reminders to participate were sent following the activation of the surveys, it is also possible that some students only opened the survey after receiving these reminders instead of upon receiving the initial invitations to participate. This is highly possible considering how much further from the survey invitation dates the second participation dates were.

After establishing the time lapse between the two surveys, the eight duplicate responses were compared on key variables to see how similar their responses were. The results of these comparisons are provided in Table 11 to Table 19. The first and second columns of each of these tables provide the variable used for the comparisons. The third column provides the number of respondents who gave the same response for the two surveys. The last column provides the proportion of responses where respondents to both surveys gave the same response.

Table 11: Comparative analysis: required attributes

Item	What type of attributes do you think you require in order to succeed in an ODeL institution like Unisa?	No. with same response	% with the same response
Attributes_1	The ability to remain motivated despite challenges	4	50%
Attributes_2	The ability to study with little or no supervision and assistance	3	38%
Attributes_3	The ability to study on their own, with little or no contact with other students	2	25%
Attributes_4	The ability to manage his/her time well	5	63%
Attributes_5	Being highly committed to obtaining his/her qualification	4	50%
Attributes_6	Having prior experience of studying in a distance learning environment	4	50%
Attributes_7	Having computer experience, i.e. internet browsing, typing, using Microsoft Office applications such Word, Excel, sending emails, using chatrooms...	2	25%
Attributes_8	Being able to set and prioritise their goals with regard to their studies	4	50%
Attributes_9	Having the ability to balance work and family responsibilities with study commitments	4	50%
Attributes_10	Being able to set aside time to participate in online learning forums such as discussion classes	4	50%
Attributes_11	Being able to read and write well in English/Afrikaans	2	25%
Attributes_12	Being able to seek help from other students, the lecturer or institution when required	3	38%

For the variable required attributes, between 25% and 65% of the respondents gave the same responses for their duplicate participation. For the variable required resources, it was only for four of the six response options that more than 80% of the respondents gave the same responses for their duplicate participation.

Table 12: Comparative analysis: required resources

Item	What type of resources do you think you require in order to succeed in an ODeL institution like Unisa?	No. with same	% with the same
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		score	response
Resources_1	Own laptop or personal computer	7	88%
Resources_2	Other laptop or personal computer (e.g. work, internet cafe, computer lab, etc.)	7	88%
Resources_3	Own reliable internet connection	4	50%
Resources_4	Other reliable internet connection (e.g. work, internet cafe, computer lab, etc.)	4	50%
Resources_5	Tablet or smartphone	7	88%
Resources_6	Other, please specify	8	100%

For the variable required support, it was only for “other, please specify” that more than 80% of the respondents gave the same response for the duplicate participation.

Table 13: Comparative analysis: required support

Item	What type of support do you think you require to successfully study in an ODeL institution such as Unisa?	No. with same score	% with the same response
Support_1	Face-to-face lecturer support	3	38%
Support_2	Online lecturer support (e.g. email/telephone)	5	63%
Support_3	Face-to-face tutorial support	2	25%
Support_4	Online tutorial support (e.g. e-tutors)	4	50%
Support_5	General student support (e.g. counselling support by the University)	2	25%
Support_6	Support by family (financial and otherwise)	3	38%
Support_7	Support by employer (financial and otherwise)	2	25%
Support_8	Other, please specify	7	88%

Table 14 to Table 16 provide a comparative analysis of duplicate responses for the variable measuring the construct self-regulated learning self-efficacy (SRLE). For the first sub-construct, namely student persistence, the proportion of responses where respondents gave the same score for their duplicate responses ranged between 0% and 65%.

Table 14: Comparative analysis: SPSE

Item	I feel confident	No. with same score	% with the same response
SPSE_1	that I can continue studying until I complete my qualification even if I feel lazy or bored with my studies	2	25%
SPSE_2	in my ability to not give up even when the coursework is difficult	5	63%
SPSE_3	in my ability to do well in my studies even if I do not enjoy the coursework	0	0%
SPSE_4	in my ability to continue studying even when the study material is not interesting	4	50%

For the sub-construct time and study environment management self-efficacy (TSEMSE), the proportion of responses where respondents gave the same score for their duplicate responses was higher at 50% – 100%.

Table 15: Comparative analysis: TSEMSE

Item	I feel confident	No. with same score	% with the same response
TSEMSE_1	in my ability to find a place to study where I can concentrate without interruptions	4	50%
TSEMSE_2	in my ability to set aside time for studying	7	88%
TSEMSE_3	in my ability to make the most of the time I have set aside for studying (use it for studying)	7	88%
TSEMSE_4	in my ability to submit my assignments on time	8	100%
TSEMSE_5	in my ability to prepare well for examinations	8	100%
TSEMSE_6	in my ability to balance my work and family responsibilities with studies	6	75%

For the sub-construct seeking help self-efficacy (SHSE), only between 38% and 75% of the respondents gave the same score for their duplicate responses.

Table 16: Comparative analysis: SHSE

Item	I feel confident	No. with same score	% with the same response
SHSE_1	in my ability to seek help if/when I need it for my studies	5	63%
SHSE_2	in my ability to seek help if I struggled with understanding the study material	3	38%
SHSE_3	in my ability to seek help if I encounter difficulties whilst completing my assignment	6	75%
SHSE_4	in my ability to seek help if I encounter difficulties whilst preparing for the examination/s	4	50%

For responses to the various statements measuring DLSE, only between 38% and 63% of the respondents gave the same score for their duplicate responses (see Table 17).

Table 17: Comparative analysis: DLSE

DLSE	Please indicate your agreement with the following statements relating to your perceptions regarding learning through distance education	No. with same response	% with same response
DLSE_1	I believe that there is no way to learn successfully through distance education	5	63%
DLSE_2	Learning through distance education prevents me from learning effectively	3	38%
DLSE_3	I would encourage others to study via distance education	4	50%
DLSE_4	I regret my choice to study via distance education	5	63%
DLSE_5	I believe I can learn as much through distance education as I would in contact (face-to-face) education	5	63%
DLSE_6	I believe I would learn as well in distance education as I would in contact education	5	63%
DLSE_7	I love studying through distance learning	5	63%
DLSE_8	I believe I would do better in my studies in a contact institution compared to a distance education institution	3	38%
DLSE_9	In the future, I would study again through distance education	4	50%

Finally, Table 18 and Table 19 provide a comparative analysis of responses to the various statements for the sub-scales of the construct computer and online technologies self-efficacy. For the internet competencies self-efficacy (ICSE) sub-scale, 75% or more respondents had the same responses for four of the eight statements. For the myUnisa self-efficacy (MUSE) sub-scale, 75% or more of the respondents had the same responses for seven of the eleven statements.

Table 18: Comparative analysis: Intcom and myUnisa SE

Intcom	Please indicate how confident you would feel performing various activities in order to succeed in distance learning	No. with same response	% with same response
ICSE_1	Opening a web browser (e.g. Google chrome/internet explorer)	7	88%
ICSE_2	Reading text from a website	7	88%
ICSE_3	Clicking on a link to visit a specific website	4	50%
ICSE_4	Accessing a specific website by typing the address (URL)	6	75%
ICSE_5	Bookmarking a website	4	50%
ICSE_6	Performing an internet search using one or more keywords	6	75%
ICSE_7	Downloading/saving an image from a website to a disk	3	38%
ICSE_8	Copying text from a website and pasting to a Word document	4	50%
myUnisa Self-Efficacy			
MUSE_1	Claiming a UNISA Login	8	100%
MUSE_2	Signing on and off myUnisa	8	100%
MUSE_3	Entering a discussion forum on myUnisa	5	63%
MUSE_4	Reading messages posted by the lecturer, e-tutor or other students on the discussion forum on myUnisa	7	88%
MUSE_5	Posting messages in the discussion forums on myUnisa	7	88%
MUSE_6	Reading emails sent by lecturer to your myLife email address	6	75%
MUSE_7	Accessing lecturer notes on myUnisa	5	63%
MUSE_8	Submitting assignments via myUnisa	7	88%
MUSE_9	Checking prescribed textbooks using myUnisa	5	63%
MUSE_10	Obtaining examinations information	8	100%
MUSE_11	Obtaining information relating to learner support	4	50%

For the myLibrary self-efficacy (MLSE) subscale, only 50% of the responses were the same for all four statements whereas for the email communications self-efficacy (ECSE) subscale, between 75% and 100% of the responses were the same for the nine statements.

Table 19: Comparative analysis: MLSE and ECSE

MLSE	Please indicate how confident you would feel using myLibrary in order to succeed in distance learning	No. with same response	% with same response
MLSE_1	Logging on and off myLibrary	4	50%
MLSE_2	Searching for books/articles using keywords/author names, etc.	4	50%
MLSE_3	Reserving/requesting a book(s) or article(s) using myLibrary	4	50%
MLSE_4	Establishing the physical location of a searched item (book/article)	4	50%
Email Communication Self-Efficacy			
ECSE_1	Logging on and off an email system (e.g. myLife, Gmail, Yahoo mail, etc.)	6	75%
ECSE_2	Sending an email to a specific person	8	100%
ECSE_3	Sending an email to a several people at the same time	7	88%
ECSE_4	Replying to an email message	8	100%
ECSE_5	Forwarding an email message	8	100%
ECSE_6	Deleting email messages	7	88%
ECSE_7	Creating an address book within an email system	6	75%
ECSE_8	Attaching a file to an email message then sending it	8	100%
ECSE_9	Saving a file sent to me through an email message then viewing the contents of the file	6	75%

It is evident from the preceding comparisons that the variable category that had very little variation in the responses was email communication self-efficacy (ECSE) whereby between six to eight respondents gave similar responses for the two times they participated for all the nine statements. This was followed by time and study environment management (5/6 statements) and myUnisa self-efficacy (8/11 statements). The variation in the responses

to the remaining variable categories that were compared was too high. If taken at face value, this would then suggest that the instrument failed test-retest reliability and is therefore not reliable. However, looking at the statements that had to be rated and considering the second critique of this type of reliability testing, it is then argued that given the long time between initial and subsequent survey participation, the respondents might have been exposed to other things that may have contributed to the observed changes in their opinions, feelings or attitudes about the measured items. As such, instead of concluding that the instrument was unreliable, a different measure of reliability was used to ascertain reliability, namely statistical reliability.

6.3.2 Statistical reliability

To test statistical reliability, IBM SPSS Statistics 23 was used. Reliability tests were only conducted for the variable groups that would be used to develop the various self-efficacy scales, namely:

- **Self-Regulated Learning Self-Efficacy (SRLE)**, which is a composite variable of three sub-scales, namely student persistence self-efficacy (SPSE), time and study environment management self-efficacy (TISEMSE) and seeking help self-efficacy (SHSE);
- **Distance Learning Self-Efficacy (DLSE)**, which has no subscales; and
- **Computer and Online Technologies Self-Efficacy (COTSE)**, which had four subscales, namely internet competencies self-efficacy (ICSE), myUnisa self-efficacy (MUSE), myLibrary self-efficacy (MLSE) and email communications self-efficacy (ECSE).

Reliability tests were conducted for each of the subscales separately instead of grouping them together since they each measured different constructs individually. The procedure for running the reliability tests is Analyse⇒Scale⇒Reliability Analysis.

The results of these reliability tests revealed the following. The subscales for self-regulated learning self-efficacy all had high reliabilities. Student persistence self-efficacy had a Cronbach's $\alpha = .834$ (see Table 20).

Table 20: Reliability statistics: SPSE

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.834	.832	4

However, when looking at the inter-item correlation matrix, the item SPSE_2 had relatively lower correlations with the three other items in this scale. This meant that SPSE_2 did not fit as well as the other items and could be deleted. Looking at the item-total statistics supported this as deleting SPSE_2 would raise the Cronbach's $\alpha = .845$ whereas deleting either of the remaining three items would reduce Cronbach's α to between .756 and .787. Despite this, SPSE_2 was left in the scale at this point to be considered for deletion during factor analysis if required.

Time and study management self-efficacy also had a very high inter-item reliability coefficient, with Cronbach's $\alpha = .867$ (see Table 21).

Table 21: Reliability statistics: TSEMSE

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.867	.868	6

However, looking at the inter-item correlation matrix, items TISEMSE_1 and TISEMSE_4 had relatively low correlations with the other items. Despite this, deleting them would not improve the reliability of the scale as evidenced by the slight declines in the Cronbach's α values should they be deleted (.856 and .855 respectively). As such, both were retained in the scale.

Seeking Help had the highest Cronbach's α of the three subscales (Cronbach's α =.936), see Table 22, and consequently high inter-item correlations. This implied that all the items included in this Seeking Help sub-scale were good measures of this sub-construct.

Table 22: Reliability statistics: SHSE

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.936	.937	4

Having established the reliability of each of the subscales measuring SRLE, construct validity, also known as factorial validity, was determined. As with reliability analysis, IBM SPSS Statistics 23 was employed to conduct factor analysis. The procedure for conducting factor analysis is Analyse⇒Dimension Reduction⇒Factor. When conducting factor analysis for SRLE, all the statements for the three sub-scales measuring SRLE were included in the model to see how well they measured the specific construct. Principal axis factoring was applied on the 14 items in the SRLE scale using Promax with Kaiser Normalisation. Three factors were extracted. In displaying coefficients, small coefficients with a factor loading below .3 were suppressed.

According to Field (2013, p. 645), "the significance of a factor loading will depend on the sample size". Citing Stevens (2002), Field advised that for a sample size of 200, the factor loading should be greater than .364 and for a sample of 300 it should be greater than

.298. As such, given that in this research, the sample size of 263 lies between 200 and 300, the median factor load between .364 and .298, which is .331 was used. Hence coefficients with a factor loading below .3 were suppressed. These results are provided in Table 23 and Table 24.

The results indicated a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .876 (see Table 23), which is considered great according to Hutcheson and Sofroniou (1999) in Field (2013).

Table 23: KMO and Bartlett's Test: SRLE

Kaiser-Meyer-Oskin Measure of Sampling Adequacy		.876
Bartlett's Test of Sphericity	Approx. Chi-Square	2296.507
	Df	91
	Sig.	.000

The KMOs for all the individual items were between .804-.936, which is well above the acceptable limit of .5. This meant that we could be confident that the sample size of 263 was adequate for Factor Analysis (Field, 2013). Bartlett's Test of Sphericity χ^2 (91) =2296.507, $p < 0.001$, indicated that the correlations between the items were sufficiently large for principal axis factoring. None of the 14 items had communalities below .3, as such all 14 items were retrained. The results of the factor analysis, particularly the factor loadings, eigenvalues and the percent of variance explained by each of the sub-scales are presented in Table 24. An analysis of the eigenvalues revealed that three items had eigenvalues above Kaiser's criterion of 1 and in combination explained a 62.3% of the variance.

Looking at the Pattern Matrix, SPSE 1-4 were clustered on Factor 3, thus suggesting that this factor represented Student persistence, TSEMSE 1-6 clustered on Factor 2 (Time and Study Environment Management) and SHSE 1-4 clustered on Factor 1 (Seeking Help).

Table 24: Validity Test Results, SRLE

	Factor 1	Factor 2	Factor 3
Item	Seeking Help	Time and Study Environment Management	Student Persistence
SPSE_1			.796
SPSE_2			.502
SPSE_3			.840
SPSE_4			.833
TSEMSE_1		.686	
TSEMSE_2		.923	
TSEMSE_3		.749	
TSEMSE_4		.549	
TSEMSE_5		.624	
TSEMSE_6		.700	
SHSE_1	.923		
SHSE_2	.910		
SHSE_3	.885		
SHSE_4	.843		
Eigenvalues	5.99	2.10	1.68
% of variance	42.77	14.97	11.98
Cronbach's α	.936	.867	.834

The DLSE subscale initially failed the reliability test as it had a low Cronbach's $\alpha=.475$ (see Table 25). Looking at the inter-item correlations, negative correlations were observed for items DLSE_1, DLSE_2, DLSE_4 and DLSE_8.

Table 25: Initial Reliability Statistics: DLSE

Cronbach's Alpha	Cronbach's Alpha based on	N of Items
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	Standardised Items	
.475	.493	9

Looking at the instrument, it was evident that each of these statements had been negatively worded whereas the rest of the statements were positively worded. This could explain the observed correlations. As such, reverse coding was applied to each of the ratings for DLSE_1, DLSE_2, DLSE_4 and DLSE_8 as indicated in Table 26. As indicated in Table 26, items that were initially coded as 1 were recoded as 6, those initially coded as 2 were recoded as 5, etc.

Table 26: Recoding of DLSE

	Initial coding	Reverse coding
Strongly Disagree	1	6
Disagree	2	5
Somewhat Disagree	3	4
Somewhat Agree	4	3
Agree	5	2
Strongly Agree	6	1

Having both positively and negatively worded items within the same scale is common practice in social science research and a means of averting what is known as agreement bias (DeVellis, 2003). That is, the tendency for respondents to agree with items irrespective of their content. The pitfall of this practice is that respondents may find this confusing, with regard to the difference between expressing their strength of agreement with a statement versus expressing their strength of the attribute being measured (DeVellis, 2003, p. 69). As such, negative correlations between the negatively and positively worded items can be observed. DeVellis advises that in such cases, reverse coding those items should be considered. Hence, the abovementioned items were reverse coded.

Thereafter, the reliability test was re-run for DLSE and a very high Cronbach's $\alpha=.832$ was observed, with no negative inter-item correlations. However, low inter-item correlations were observed for items that had been recoded. This suggested that they are not a good fit for this scale and should perhaps be deleted. Despite this, these were not deleted and the decision left until factor analysis had been done.

Table 27: Post-recoding reliability statistics: DLSE

Cronbach's Alpha	Cronbach's Alpha based on Standardised Items	N of Items
.832	.836	9

Lastly, reliability tests were conducted for COTSE. As with SRLE, reliability tests were conducted separately for each of the COTSE subscales. Thereafter, factor analysis conducted for the entire scale, with all four subscales included in the analysis. The results of the reliability analysis were as follows.

Each of the COTSE subscales had very high reliabilities. The Internet Competencies Self-Efficacy subscale had a Cronbach's $\alpha=.871$, as indicated in Table 28.

Table 28: Reliability statistics: ICSE

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.871	.882	8

However, items ICSE_1 and ICSE_2 had relatively low inter-item correlations, yet deleting them would not increase the measurement's reliability. The myUnisa subscale had a Cronbach's $\alpha=.844$ (see Table 29).

Table 29: Reliability statistics: MUSE

Cronbach's Alpha	Cronbach's Alpha based on Standardised Items	N of Items
.844	.846	11

Furthermore, most of the items in the myUnisa self-efficacy sub-scale had low inter-item correlations. This meant that they did not fit well into this scale and could be deleted at a later stage. The myLibrary self-efficacy subscale had the highest Cronbach's $\alpha=.924$ and consequently high inter-item correlations (see Table 30).

Table 30: Reliability statistics: myLibrary SE

Cronbach's Alpha	Cronbach's Alpha based on Standardised Items	N of Items
.924	.925	4

Lastly, the email communications self-efficacy subscale had a Cronbach's $\alpha=.893$ (Table 31).

Table 31: Reliability statistics: ECSE

Cronbach's Alpha	Cronbach's Alpha based on Standardised Items	N of Items
.893	.908	9

However, the first item 1, namely ECSE_1, had relatively lower inter-item correlation. Deleting it would not result in an increase in the measurement's reliability and thus it was retained.

Factorial validity was conducted similarly to how it was done for SRLE. Principal axis factoring was applied to the 32 items using the Promax with Kaiser Normalisation rotation method. Coefficients with loadings below .3 were suppressed and four factors were extracted.

Table 32: Initial KMO and Bartlett's Test: COTSE

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.891
Bartlett's Test of Sphericity	Approx. Chi-Square	5495.462
	Df	496
	Sig.	.000

Initial results indicated a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy of .891, which is considered great according to Hutcheson and Sofroniou (1999) in Field (2003). The KMOs for all the individual items were between .781-.935, which is well above the acceptable limit of .5 (see Table 32). This meant that we could be confident that the sample size was adequate for Factor Analysis (2003). Bartlett's Test of Sphericity χ^2 (496) = 5568.881, $p < 0.001$, indicated that the correlations between the items were sufficiently large for principal axis factoring. Looking at the communalities, MUSE_10 had a low communality of .185. As such it was removed from analysis and the analysis was re-run.

A KMO of .891 with individual item KMOs between .783-.934 was observed. The item MUSE_1 had a low communality of 0.281 and was therefore removed and the analysis re-run. The third attempt resulted in an overall KMO of .895 and a Bartlett's Test of Sphericity χ^2 (435) = 5297.673, $p < 0.001$. However, MUSE_2 had a low communality (.277)

and had to be deleted from analysis. Once again, factor analysis was redone. An overall KMO of .898 with a Bartlett's Test of Sphericity $\chi^2(406) = 5200.837$, $p < 0.001$ were observed. The item ICSE_1 had a low communality (.295) and was also removed from analysis and the analysis re-run. A KMO of .896 with a Bartlett's Test of Sphericity $\chi^2(378) = 5090.564$, $p < 0.001$ were observed. None of the remaining 28 items had communalities below .3.

Four items had eigenvalues above 1, together explaining 55,5% of the variance. However, looking at the pattern matrix, MUSE_11, ECSE_1 and ECSE_7 had low cross loadings and were removed from analysis. The results indicated a reduced KMO of .889 with a Bartlett's Test of Sphericity $\chi^2(300) = 4514.487$, $p < 0.001$. Individual KMOs improved to between .802-.930. The variance explained by the four items with eigenvalues above 1 increased slightly to 57, 3%. However, myUnisa_8 had low cross loadings and was removed from analysis. Several iterations were run and each time, items were removed because of either having low communalities or low/high cross loadings.

After the final iteration, an overall KMO of .834 with a Bartlett's Test of Sphericity $\chi^2(136) = 3060.307$, $p < 0.001$ was obtained (see Table 33).

Table 33: KMO and Bartlett's Test: COTSE

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.834
Bartlett's Test of Sphericity	Approx. Chi-Square	3060.307
	df	136
	Sig.	.000

Individual item KMOs were all above the acceptable limit of .5 at between .715-.906. The variance explained by the four items with eigenvalues above 1 increased to 68,8%. Items ICSE_2, 3 and 4 were clustered in Factor 3 suggesting that this factor represented the

internet competencies self-efficacy subscale. Items MUSE_3, 4 and 5 were clustered in Factor 4 (myUnisa self-efficacy), items MLSE_1-4 were clustered in Factor 2 (myLibrary self-efficacy) and items ECSE_2, 3, 4, 5, 6, 8 and 9 were clustered in Factor 1, thus suggesting that this factor represented the email communications self-efficacy subscale.

6.4 Variables created

Once the reliability and validity of the three constructs had been determined, three variables were created to represent the best measures for each of the constructs, as follows. For SRLE, all items from the three sub-scales were included in the variable construction. The averages of the individual sub-scales were obtained before computing an overall average by dividing by the number of sub-scales (3). The formula is provided below.

$$\text{SRLE} = \frac{\left(\frac{\text{SPSE1} + \text{SPSE2} + \text{SPSE3} + \text{SPSE4}}{4} + \frac{\text{TSEMSE1} + \text{TSEMSE2} + \text{TSEMSE3} + \text{TSEMSE4} + \text{TSEMSE5} + \text{TSEMSE6}}{6} + \frac{\text{SHSE1} + \text{SHSE2} + \text{SHSE3} + \text{SHSE4}}{4} \right)}{3}$$

For DLSE, the scores received for all nine items/statements were added and then an average score was obtained by dividing the sum of scores by the number of items (9).

$$\text{DLSE} = \left(\frac{\text{DLSE}_1 + \text{DLSE}_2 + \text{DLSE}_3 + \text{DLSE}_4 + \text{DLSE}_5 + \text{DLSE}_6 + \text{DLSE}_7 + \text{DLSE}_8 + \text{DLSE}_9}{9} \right)$$

For COTSE, only the items that were retained following reliability and validity testing were added and averaged, to obtain a measure for COTSE. Since COTSE four had sub-scales, the averages of the individual sub-scales were computed before obtaining an overall average, which was used as a measure of COTSE. The formula is provided below.

COTSE=

$$\left(\frac{\text{ICSE2} + \text{ICSE3} + \text{ICSE4}}{3} \right) + \left(\frac{\text{MUSE3} + \text{MUSE4} + \text{MUSE5}}{3} \right) + \left(\frac{\text{MLSE1} + \text{MLSE2} + \text{MLSE3} + \text{MLSE4}}{4} \right) + \left(\frac{\text{ECSE2} + \text{ECSE3} + \text{ECSE4} + \text{ECSE5} + \text{ECSE6} + \text{ECSE8} + \text{ECSE9}}{7} \right)$$

To compute the variable student success, the variable pass NQF credits that was obtained from the student database was used. This variable was initially a continuous variable which was then recoded into a dichotomous variable with one category labelled unsuccessful and coded 0 and the other category labelled successful and coded 1. In the unsuccessful category were all students who had scores of 35 or less for the variable pass NQF credit. The successful category had all students with scores of 36 or more for the variable pass NQF credit.

6.4.1 Other variables

Other variables that were included in the analysis were age (dichotomous), gender, prior distance learning experience, number of modules enrolled for, dependents (Yes/No) and FTEN status. All these variables were used to further test for significant differences in the various self-efficacy measures and academic performance. Furthermore, almost all variables were dichotomous variables, except for number of modules enrolled for. The variables were categorised as follows:

- **Age group:** One category represented respondents under the age of 30, whereas the other category represented those aged 30 years and above.
- **Gender:** male/female
- **Prior distance learning experience:** One category was for those with no prior distance learning experience and the other was for those who had prior distance learning experience.
- **FTEN status:** one category was for students who were new to higher education and to Unisa (F) and the other category was for students who had transferred to Unisa from other institutions (T).

- **Number of modules enrolled for** was a categorical variable with three response options, namely 5 or less modules, 6-9 modules, 10 or more modules.

6.5 Conclusion

In this chapter, the data cleaning and preparation processes were explained. As was seen in the discussions, although the survey had an initial response rate 4.3%, only 1.7% of the data was deemed suitable for analysis. The observed attrition was a result of ineligibility for inclusion in data analysis due to the respondents either not providing consent to participate, not providing student numbers or having missing responses on self-efficacy variables. Regarding the reliability and validity of the self-efficacy constructs, all constructs had high Cronbach's alphas indicating high reliability. The chapter also discussed the variables that were used during data analysis. These were age group, gender, prior distance learning experience, number of modules enrolled for, having dependents and FTEN status.

7 DATA ANALYSIS

Chapter 7 follows from the data preparation and cleansing chapter by discussing the different procedures that were used to analyse the data.

7.1 Data Analysis Procedures

As was previously indicated, different techniques were used when analysing the data, as highlighted in the fifth step of the research design diagram. Regarding the software that was used for data analysis, the researcher relied on IBM SPSS Statistics version 23 and Microsoft Excel 2010.

IBM SPSS was used for analysing the quantitative data from the survey as well as for analysis of secondary data on student credits and for providing frequencies for the open-ended questions. The first part of analysis, which provided the demographic results from the survey and responses on access to and ownership of technological devices as well as respondents' credit scores, employed Descriptive Statistics (Analyse $\Rightarrow$ Descriptives $\Rightarrow$ Frequencies) and Multiple Response Analysis (Analyse $\Rightarrow$ Multiple Response $\Rightarrow$ Frequencies). Multiple response analysis was used for questions where respondents could select more than one response and descriptive statistics, namely Frequencies and Descriptives were used to provide frequencies and/or mean, median responses and standard deviations, where applicable, for questions where students could select only one response as well as for ranking questions.

The second part of the analysis, which provided the results on the requirements of successfully studying in an ODeL institution, also made use of multiple response analysis. The third part of the analysis which reported on students' knowledge of an ODeL institution, employed descriptive statistics to provide frequencies for the responses to the open-ended questions. Thereafter, the frequencies were copied to Microsoft Excel where thematic

analysis was conducted. When conducting thematic analysis, each response was read and then emerging themes were identified. The responses were then categorised according to the identified themes and the results were summarised in a table. Some quotes were also provided to support the findings.

For the fourth part of the analysis, which focused on students' perceived readiness for successful study in an ODeL institution, the researcher employed descriptive statistics (Descriptives) and Nonparametric testing using Mann-Whitney as a test statistic. Descriptive statistics were used here to show the average and median ratings for the various self-efficacy scores, namely SRLE, DLSE and COTSE. Looking at the descriptive statistics, one could see the distribution of the various self-efficacy scores and therefore determine the relevant test to be performed (e.g. parametric or non-parametric depending on whether the scores were normally distributed or not). After running descriptive statistics and the scores were found to not be normally distributed, nonparametric tests were chosen for data analysis. Further justifications for using non-parametric tests were as follows.

Firstly, the variable student success was computed using the variable 'NQF credits passed' as explained in the preceding chapter in the sub-section 'variable creation'. All those students with credits below 36 were categorised as unsuccessful and those with credits of 36 and above were classified as successful. This was followed by the establishment of normality and linearity. Running descriptive statistics on the variable "NQF credits passed" revealed skewness of -.378 and kurtosis at -.973. Negative skewness indicates a pile-up of scores to the right of the distribution whereas negative kurtosis indicates a flat and light tailed distribution. For a normal distribution, these values need to be close to 0, thus indicating that this variable is not normally distributed. Linearity was assessed by plotting credits passed by the various self-efficacy measures. None of the combinations exhibited a linear relationship. Given this, non-parametric correlation tests were selected as the method of analysis. Field

(2013) advised that when using non-parametric tests, normality and linearity issues can be bypassed by opting to bootstrap the confidence intervals and then using a non-parametric measure such as the Mann-Whitney test. As such, Mann-Whitney tests were applied when conducting non-parametric two independent samples tests. In performing the independent samples tests, the variable 'student success' created using NQF credits passed as explained above was used as the grouping variable whereas the three self-efficacy measures, SRLE, DLSE and COTSE, were used as test variables. Whilst others might have argued against using student success as a grouping variable, seeing it as a dependent variable, I argue to the contrary. Firstly, research has not indicated a causal relationship between self-efficacy and success. Instead, it has been inconclusive regarding the role of self-efficacy and success. Furthermore, the relationship between self-efficacy and success can be bi-directional instead of uni-directional whereby being successful might increase self-efficacy levels and vice versa. And given that this research did not hypothesise a directional relationship between the two variables but set out to determine if there were any associations between self-efficacy and success, the researcher deemed it fit to use student success as a grouping variable.

Finally, using any of the self-efficacy measures as grouping variables whilst performing non-parametric independent sample tests would have meant reclassifying the variables from scale to dichotomous variables, possibly reducing the predictive power of the variables.

The procedure for performing non-parametric tests is as follows:

Analyse⇒Nonparametric Tests⇒Independent Samples. As previously stated, Mann-Whitney was used as the test statistic. Non-parametric testing was first used to determine if there were any significant differences in the various self-efficacy scores by gender, age group, prior distance learning experience, FTEN status and having dependents. Significant differences would imply that there were notable differences in how students in various

categories of gender, age group, prior distance learning experience, FTEN status and having dependents perceived their ability to successfully study in an ODeL institution, as measured by the SRLE, DLSE, and COTSE scores. Insignificant differences would imply that the observed differences in self-efficacy scores were negligible.

Non-parametric tests, with Mann-Whitney as the test statistic, were also used for the analysis of secondary data, which served to link students' perceptions of the ability to succeed in ODeL to their actual credit scores to determine if there was any relationship between the two. This is the part of the analysis which sought to respond to the main research question. As such, non-parametric testing was used to determine if there were any significant differences in the various self-efficacy scores between successful and unsuccessful students. If any significant differences were observed for any of the self-efficacy measures between successful and unsuccessful students, it would imply that that self-efficacy measure had a role to play in student success for the respondents in this study. If no significant differences were found for any of the self-efficacy measures, it would imply that that measure had no significant role to play in the academic attainment of the respondents. For example, if no significant difference is found by SRLE between successful and unsuccessful students, it would imply that when it comes to succeeding in their studies, it does not matter whether students have a lower or higher level of confidence in their perceived ability to self-regulate (persist with their studies, effectively manage their time and studies and seek help in relation to their studies). For DLSE, an insignificant difference would imply that whether students had lower or higher confidence in distance learning as a mode of learning and in their perceived abilities to successfully study through distance learning, makes no difference in their actual academic performance. Whereas for COTSE, an insignificant difference would mean that whether or not students had lower or higher confidence in their ability to use various online technologies (such as internet, email, myUnisa, myLibrary, etc. which are

deemed important when studying through distance learning) did not matter to their actual performance. All this would therefore imply that students with low SRLE, DLSE and COTSE are as likely to succeed in a distance learning institution as those with higher SRLE, DLSE and COTSE.

7.2 Conclusion

Chapter 7 explained the procedures that were used to analyse the qualitative and quantitative data used in this research. In short, the research used Descriptive analysis, Multiple Response analysis and non-parametric tests using Mann-Whitney for the analysis of quantitative data. Descriptive analysis was also used for the first part of quantitative analysis. Thereafter, Microsoft Excel was used for thematic analysis of the open-ended responses. The results of the data analysis are discussed in Chapter 8.

8 RESEARCH FINDINGS

Chapter 8 presents the findings of this research by first presenting the respondents' demographics, including responses on access to and ownership of technological devices. Thereafter, responses to questions on students' perceptions regarding the attributes, resources and support required for successfully studying through ODeL are provided. This is then followed by a presentation of the results of the qualitative aspect of the research. Then, the students' ratings of their beliefs to perform various actions in order to successfully study through ODeL are presented. Lastly, perceptions are linked to student performance data to test for any significant relationships before concluding.

8.1 Demographics

8.1.1 Gender and race of the respondents

Table 34 and Table 35 provide the gender and racial breakdowns of the respondents. In Table 34, the proportions are given as percentages of the total respondents whereas in Table 35 the proportions are percentages of racial totals. Evidently, not only were there more female than male respondents overall (67.3% vs. 32.7%), but this trend was also observed across the various racial groups. Looking at Table 35, proportions of female respondents ranged from 63.6% to 88.2% relative to 11.8% to 36.4% for males.

Table 34: Gender by Race, %Total

Gender		African	Coloured	Indian	White	Total
Male	N	64	6	2	14	86
	%	24.3%	2.3%	0.8%	5.3%	32.7%
Female	N	112	15	15	35	177
	%	42.6%	5.7%	5.7%	13.3%	67.3%
Total	N	176	21	17	49	263
	%	66.9%	8.0%	6.5%	18.6%	100.0%

Furthermore, Africans constituted the majority of the respondents (66.9%) overall, followed by Whites at 18.6%, then Coloureds and Indians at 8,0% and 6,5% respectively.

Looking at the gender by race breakdown of the respondents, it is evident that most of the respondents to the survey were African females (42.6%), followed by African males (24.3%). The least response was from Indian males (0.8%) and Coloured males (2.3%).

Table 35: Gender by Race, Col%

Gender		African	Coloured	Indian	White	Total
Male	N	64	6	2	14	86
	%	36.4%	28.6%	11.8%	28.6%	32.7%
Female	N	112	15	15	35	177
	%	63.6%	71.4%	88.2%	71.4%	67.3%
Total	N	176	21	17	49	263
	%	100.0%	100.0%	100.0%	100.0%	100.0%

8.1.2 Marital status

Over 65.0% (180) of the respondents were single, approximately 23.0% (60) were married, 7.6% (20) were living with a partner and only one indicated that being separated whereas 2 (0.8%) stated 'other', without explanation.

8.1.3 Employment status

With regard to their employment status, 165 (62.7%) respondents indicated that they were employed relative to 98 (37.3%) who were not. Among those employed, 46.4% were in full-time employment, 11,0% were employed part-time and 5,3% were self-employed.

8.1.4 Residential area

Almost 40% (104) of the respondents indicated that they resided in a suburb, followed by 31,9% (84) who were from townships, 14,4% (38) from a city, 8,4% (22) from a village, 3,4% (9) from an informal settlement and 2,3% (6) who stated 'other' and indicated that they resided on a farm/smallholding.

8.1.5 Dependents

Here respondents were asked to indicate the number of dependents they had, that is, children under the age of five years who were living with them. The results are presented in Table 36 according to the respondents' marital status. Overall, only 81 of the 263 respondents (30.8%) stated that they had dependents relative to 182 (69.2%) who did not. Regarding the number of dependents they had, 75.3% of those who had indicated that they had dependents had one to two children under the age of five, followed by 18.5% who had three to four children and only 6.2% (5) who had five or more children.

Table 36: Dependents by Marital Status

No. of dependents		Single, never married	Married	Living with a partner	Separated	Other	Total
1-2	N	33	20	6	1	1	61
	%	89.2%	60.6%	66.7%	100%	100%	75.3%
3-4	N	3	9	3			15
	%	8.1%	27.3%	33.3%			18.5%
5+	N	1	4				5
	%	2.7%	12.1%				6.2%
Total		37	33	9	1	1	81
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Most of those with one to two children under the age of five were not married whereas those with three or more children under five were married.

8.1.6 Prior distance learning experience

Most of the respondents indicated that they did not have prior distance learning experience before joining Unisa (84.0%) relative to 16.0% who had indicated that they had studied via correspondence with colleges such as Damelin, Lyceum, INTEC, etc.

8.1.7 Credit scores

Table 37 presents the respondents' credit scores as obtained from the student database. Looking at these gives an indication of the proportion of respondents considered to have succeeded in their studies for the period under observation (successful) or not (unsuccessful).

Overall, the 263 respondents had an average credit score of 78.3 and a standard deviation of 32.0. This meant that there was considerable variation in the respondents' credit scores, as evidenced by the second and third columns of Table 37. Less than 30 students (26) students had credits below the 36 required to be considered successful. As such, they were categorised as unsuccessful. The remaining 237 respondents had 36 or more credit scores, and were thus categorised as successful.

Table 37: Respondents' credit scores

	Credits	N	%	Valid %	Cum %
Unsuccessful	12	9	3.4%	3,4%	3,4%
	24	16	6.1%	6.1%	9.5%
	33	1	0.4%	0.4%	9.9%
Successful	36	17	6.5%	6.5%	16.3%
	48	25	9.5%	9.5%	25.9%
	60	24	9.1%	9.1%	35.0%
	72	29	11.0%	11.0%	46.0%
	84	29	11.0%	11.0%	57.0%
	96	34	12.9%	12.9%	70.0%
	108	37	14.1%	141%	84.0%
	120	42	16.0%	16.0%	100.0%
Total		263	100.0%	100,0.%	
Mean		78.33			
Std Dev		32.02			

The fact that there were far more respondents classified as successful (90.1%) than not meant that the data was severely skewed and therefore not normally distributed. This had implications for data analysis and meant that the researcher had to use non-parametric tests for data analysis later in the study (Field, 2013).

8.2 Access to Technology

Table 38 presents the responses to the question that requested respondents to indicate which technological tools they had access to, from a list. Although the respondents were not asked to rank the devices they had access to, the responses are ranked to indicate the device with highest access.

Table 38: Access to Technological Devices

Rank	Access to Technology n=263	Responses		Percent of Cases
		N	Percent	
1	Own laptop or PC	188	19.5%	71.5%
2	Mobile device (smartphone or tablet) with internet functionality	170	17.7%	64.6%
3	Mobile device (smartphone or tablet) with internet searching/browsing functionality (e.g. Google, Firefox)	162	16.8%	61.6%
4	Mobile device (smartphone or tablet) with email functionality	141	14.7%	53.6%
5	Own reliable internet connection (e.g. modem/3G card)	118	12.3%	44.9%
6	Other reliable internet connection (e.g. work/campus/internet cafe)	104	10.8%	39.5%
7	Other laptop or PC (e.g. work/spouse/computer lab...)	79	8.2%	30.0%
Total		962	100.0%	365.8%

It should be noted that this was a multiple response question hence the presentation of the frequency distribution is different from a normal SPSS frequency table. The percentages of responses provided here are calculated as proportions of the number of responses to the

question, which was 263. For example, for own laptop or PC, the percentage is calculated by dividing 188 by 263. The 962 reported in the table refers to the total number of responses given by the 263 respondents. The column labeled ‘percent of cases’ provides the percentage of respondents who chose a specific response.

Evidently, access to own laptop was slightly higher and ranked number one, followed by access to mobile device with internet functionality, then mobile device with internet searching and browsing functionality and mobile device with email functionality. Despite having access to devices with internet functionality, very few respondents indicated that they had access to their own or other reliable internet connection. These items ranked fifth and sixth place respectively. Similar observations were noted even when looking at the ownership of technological devices, as indicated in Table 39 below.

Table 39: Ownership of Technological Devices

Rank	Owned Technological Device N=263	Responses		Percent of Cases
		N	Percent	
1	Own laptop or PC	187	21,7%	71,1%
2	Mobile device (smartphone or tablet) with internet functionality	165	19,2%	62,7%
3	Mobile device (smartphone or tablet) with internet searching/browsing functionality (e.g. Google, Firefox)	158	18.4%	60.1%
4	Mobile device (smartphone or tablet) with email functionality	144	16.7%	54.8%
5	Own reliable internet connection (e.g. modem/3G card)	107	12.4%	40.7%
6	Other reliable internet connection (e.g. work/campus/internet cafe)	61	7.1%	23.2%
7	Other laptop or PC (e.g. work/spouse/computer lab...)	39	4.5%	14.8%
Total		861	100.0%	327.4%

8.3 Determining Students' Perceptions of the Requirements of Success in an ODeL Institution

This section reports on the results to the question “what are students’ perceptions of the requirements of success in an ODeL institution?” In responding to this question, three main areas were looked at, namely, (1) required attributes required; (2) the required resources; and (3) required support. The results were as follows:

8.3.1 Required attributes

Table 40 presents the results to the question which asked respondents to indicate the attributes they believed were required for successful study in an ODeL institution. In responding to this question, students were asked to rate the attributes from 1 to 12, with 1 being Highly Important and 12 being Least Important. The mean provided in the last column is the average rating of all the ratings that were provided by the respondents (n) for each attribute. Since a lower rating indicates an attribute that is considered to be highly important, a low mean score means a higher-ranking attribute. The results are ranked by order of importance as indicated by the mean scores.

From Table 40, it is evident that the respondents considered (1) the ability to remain motivated despite challenges, (2) being highly committed to obtaining his/her qualification, and (3) the ability to manage his/her time well, as very important for successful study. These three attributes all had mean scores below five. Other attributes that were considered important were the ability to balance between work and family responsibilities and studies, the ability to set and prioritise study goals and the ability to study on one’s own, with little or no supervision and assistance.

Table 40: Required Attributes for Successful ODeL Study

Rank	Ranked Attributes	n	Mean
1	The ability to remain motivated despite challenges	249	3.47
2	Being highly committed to obtaining his/her qualification	246	3.72
3	The ability to manage his/her time well	244	3.73
4	Having the ability to balance work and family responsibilities with study commitments	248	4.08
5	Being able to set and prioritise their goals with regard to their studies	247	4.09
6	The ability to study with little or no supervision and assistance	249	4.33
7	Being able to read and write well in English/Afrikaans	249	4.87
8	Being able to seek help from other students, the lecturer or institution when required	248	5.00
9	Having computer experience, i.e. internet browsing, typing, using Microsoft Office applications such as Word, Excel, sending emails, using chatrooms...	245	5.16
10	Being able to set aside time to participate in online learning forums such as discussion classes	246	5.32
11	The ability to study on their own, with little or no contact with other students	246	5.36
12	Having prior experience of studying in a distance learning environment	244	7.85

Among the attributes which ranked low were the ability to seek help when needed (8th), having computer experience (9th), making time for online discussion forums (10th) and the ability to study on one's own, with limited access to other students. Students considered having prior distance learning experience as the least important attribute, as it ranked last of the twelve attributes.

8.3.2 Required resources

Results on which resources students believe are required for successfully study in an ODeL institution are presented in Table 41. Unlike in the previous section, where means were provided, here proportions are given instead. This is because this question was a multiple response question and as such, different analysis was used.

Table 41: Required Resources for Successful ODeL Study

Rank	Required Resources	Responses		% of cases
		n	%	
1	Own laptop or personal computer	222	31,6%	84,4%
2	Own reliable internet connection	181	25,7%	68,8%
3	Own tablet or smartphone	131	18,6%	49,8%
4	Other reliable internet connection (e.g. work, internet cafe, computer lab, etc.)	86	12,2%	32,7%
5	Other laptop or personal computer (e.g. work, internet cafe, computer lab, etc.)	71	10.1%	27.0%
6	Other, please specify	12	1.7%	4.6%
	Total	703	100,0%	267.3%

Evidently, having own laptop or personal computer ranked highly (1st), followed by having own reliable internet connection (2nd) and own tablet or smartphone (3rd). With regard to those who stated ‘other’, only a few responded, specifying the following: having funds [1], having the means to attend discussion classes and/or to submit assignments [2], having study material [3], and having a printer/scanner/copier [2].

8.3.3 Required support

With regard to the support required for successful study at an open distance and eLearning institution, familial support ranked first, followed by online lecturer support then online tutorial support (see Table 42).

Table 42: Required Support for Successful ODeL Study

Rank	Required Support	n	Mean
1	Support by family (financial and otherwise)	240	2.84
2	Online lecturer support (e.g. email/telephone)	242	2.91
3	Online tutorial support (e.g. e-tutors)	242	2.95
4	General student support (e.g. counselling support by the University)	243	3.42
5	Support by employer (financial and otherwise)	240	3.51
6	Face-to-face tutorial support	240	3.79
7	Face-to-face lecturer support	238	4.05
8	Other, please specify	43	5.21

Expectedly, given that Unisa is a distance learning institution, with most of its students being enrolled part-time, face-to-face support (lecturer and tutorial) were last, ranking sixth and seventh places respectively.

With regard to some of the suggestions stated by those who had chosen ‘other, please specify’, at least five students indicated that they required interactions with other students, four students stated that they require financial support, three students required facilities such as engineering labs, study space or a library. Other support requirements that were mentioned by at least one respondent were having active tutors, getting feedback on time, getting study material on time

8.4 Understanding of Institutional Context

This section reports on the findings to the qualitative aspects of the research. The section thus focuses on the respondents’ knowledge and understanding of their institutional context.

8.4.1 Knowledge of an ODeL institution

Table 43 presents the results on whether the respondents knew what the acronym ODeL stands for. The results are provided by prior distance learning experience.

Table 43: Knowledge of Acronym ODeL by Prior DL experience

			Do you know what ODeL stands for?		Total
			Yes	No	
Prior DL exp.	Yes	N	15	27	42
		%	19.2%	14.6%	16.0%
	No	N	63	158	221
		%	80.8%	85.4%	84.0%
Total		N	78	185	263
		% Total	29.7%	70.3%	100.0%

Overall, only 29.7% of the 263 respondents stated that they knew what the acronym ODeL stands for, relative to 70.3% who stated that they did not know.

With regard to differences in knowledge of the acronym ODeL by prior distance learning experience, surprisingly there were proportionally more students without prior distance learning experience who indicated that they knew what the acronym stood for (64.3%) relative to 35.7% (15/42) who had no prior distance learning experience.

Furthermore, when looking at knowledge of the acronym ODeL by FTEN status as presented in Table 44, it was surprising to see that the proportion of first-time entering students who stated that they knew what ODeL stands for, was higher (84.6%) relative to that of students who were transfers (15.4%).

Table 44: Knowledge of Acronym ODeL by FTEN Status

	Do you know what	Total
--	------------------	-------

			ODeL stands for?		
			Yes	No	
FTEN Status	F	N	66	151	217
		%	84.6%	81.6%	82.5%
	T	N	12	34	46
		%	15.4%	18.4%	17.5%
Total		N	78	185	263
		% Total	29.7%	70.3%	100.0%

However, when looking at Figure 6, which presents the results of the definitions of ODeL that were given by the respondents, only 57.7% of the 78 students who had stated that they knew what the acronym ODeL stands for, got it right.

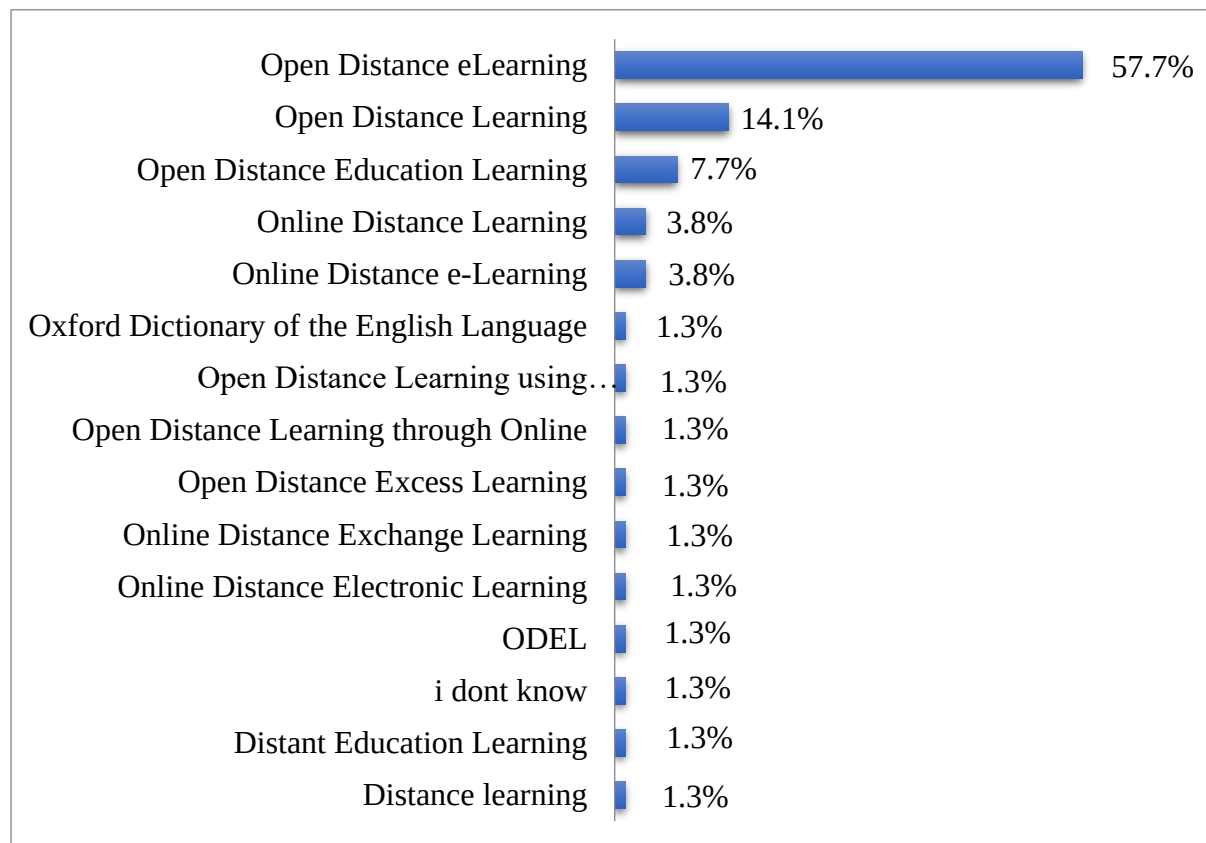


Figure 6: Defining the acronym ODeL

8.4.2 Difference between ODeL and contact institutions

In addition to being asked to define the acronym ODeL, students were asked to indicate what they thought differentiated a contact institution from an ODeL institution, using an open-ended question. Frequency distributions of the responses was done using SPSS. Thereafter, thematic analysis was done using Microsoft Excel. The results of the thematic analysis are provided in Table 45 below. These are arranged in alphabetical order instead of according to the theme that occurs most.

Table 45: Emerging themes, contact vs. ODeL

Themes	n	%
Don't know	32	12.7%
Miscellaneous	22	8.7%
No difference	4	1.6%
Study from anywhere in the world	5	2.0%
Study on your own/No assistance from lecturers	68	27,0%
Study online, no classes	93	36.9%
Studying at own pace and time/Manage own studies	28	11.1%
Total	252	100.0%

Seven themes were identified during thematic analysis of the responses. The theme 'Don't know' included mostly respondents who had given 'Don't know' as a response and those whose responses suggested that they had no idea what differentiated ODeL institutions from contact institutions. Thirty-two (32) responses were included in this theme, representing 12.7% of the responses. The theme 'miscellaneous' captured responses which could not be classified into any of the other identified themes because it was not clear in some cases what the respondents meant. Twenty-two (22) responses were included in this category. No difference is self-explanatory, and had four respondents.

Five students indicated that the difference between ODeL and contact institutions is that in ODeL institutions one can study from anywhere in the world and were thus included in the theme “study from anywhere in the world”. Sixty-eight (68) students indicated that in ODeL institutions, one studies on one’s own with little or no assistance from lecturers. Most of the students (36.9%) indicated that with ODeL, studying occurs online, without class-attendance and were categorised as such. The last identified theme was the ability to study at one’s own pace and time or manage one’s own studies. This attribute of ODeL was identified by 28 of the 252 respondents to this question.

In order for the reader to have a better understanding of the responses that were included in the various themes, a few quotes from the students’ responses are provided below, according to the specific themes.

Don’t know

“ODeL is learning online, contact institution am not sure of that ...”

“Open distance is a part time distance that a learner is studying, eLearning institution is an important part of our education programmer, contact institution is the contact details of the institution where one is attending.”

“Open distance is an institution that provides day to day classes, eLearning (ODeL) is an institution that only provides classes once in a while it’s suitable for people who are working and a contact institution is based on a phone call teaching.”

Miscellaneous

“In my opinion, the difference is in the set up.”

“Amount of support and contact between students and tutors or instructors”

“The difference is that, with contact institution you interact directly with you tutors in a daily basis, you do not wait for days for your reply in anything that you need clarity with.”

No difference

“I see no difference – it’s almost the same.”

“None”

Study from anywhere in the world

“Open distance learning institution is the one that lets everyone in any part of the world study through them by any means, physically or electronically...”

“Open Distance is studying through an institution which can be found all over the country. eLearning is an institution where you can study by using electronics and the internet to complete your specific course. Contact institution is where you study where you have to meet eye to eye with your lecture and fellow students.”

“Is when you study far from where you are living, and study through post”

Study on your own/Little or no assistance from lecturers

“You learn by yourself, there is no one to help you.”

“To learn at a distance, you do assignments alone and then you go for exam. A contact institution you will be in class having a lecturer.”

“The difference is that on ODeL institution you study at your own place without day to day assistance from your lecturers in person. All tasks take place online and a contact institution is a traditional learning style whereby a student meets with a lecturer in daily places to address or give lectures on a particular matter.”

“Most of the learning process in ODeL is done on your own whereas a contact institution has constant lectures and the learner has a more interactive approach to learning.”

“In contact institutions concepts are explained fully and you get one to one tutoring. Feedback is instant unlike ODeL [where] feedback takes a long time. Understanding

concepts is very difficult if there is no tutor and time for study is limited as most students work until late.”

Study online, no classes

“The first one lets you learn over the internet because not many people are close or have access to a university in their areas and a contact institution is one that you can attend for your classes on a regular basis.”

“I think that ODeL is where a learner study alone at home or with friends and she/he study online with different people that do the same course [sic]. A contact institution is where there is connection between teacher and learner and full-time attendance.”

Studying at own pace and time/Manage own studies

“With ODeL, you get to manage your own time, in terms of your studies unlike contact where you have to be there in person hence not allowing an opportunity to task in between.”

“ODEL is where you can adjust your study roster with your busy schedule. You do not have to attend classes on a fixed programme. In a contact institution, you have to attend class on a fixed programme, but you get the one on one attention should you need it.”

“An Open Distance and eLearning institution is an institution where a student has to study at his own risk at home or at work. The student is responsible for studying and understanding the work on his/her own terms. A contact institution is where a lecturer helps the students to understand the study material and students have to attend classes and write tests in order to pass. It is therefore not only up to the students.”

“Distance learning relies more on the student’s self-discipline, in terms of setting aside the time to study, as there are no classes to attend.”

“In ODeL your performance is based on the amount of discipline and work you put in.”

Evidently, the quotes above do not only seem to suggest that the respondents understood their institutional context, but also an understanding of the related benefits (“...saves time and money...”), challenges (“...concepts difficult to understand...”) and requirements to succeed (“discipline...”).

8.5 Students’ Perceived Readiness to Study Successfully in an ODeL Institution

In this section, respondents’ perceptions of their readiness to study successfully through ODeL are considered. These are provided in terms of overall ratings to the three self-efficacy measures, namely SRLE, DLSE and COTSE, which were explained previously.

To recap, both SRLE and DLSE were measured on 6-point scales (1-Strongly Disagree, 2-Disagree, 3-Somewhat Disagree, 4-Somewhat Agree, 5-Agree, 6-Strongly Agree) whereas COTSE was measured on a 4-point scale (1-Not Confident at all, 2-Not Very Confident, 3-Somewhat Confident, 4-Very Confident). As such, the higher the ratings, the higher their perceived readiness to succeed.

8.5.1 Overall ratings on various self-efficacy measures

Table 46 provides the mean and median scores received for each of the three self-efficacy measures, namely SRLE, DLSE and COTSE. The results are also presented graphically in Figure 7, 8 and Figure 9.

Table 46: Descriptive statistics for the SE measures

Statistics				
		SRLE	DLSE	COTSE
N	Valid	263	263	263
	Missing	0	0	0
Mean		4.93	4.61	3.48
Median		5.00	4.67	3.56
Std. Deviation		.753	.882	.474
Variance		.567	.777	.224
Skewness		-1.123	-.719	-1.123
Std. Error of Skewness		.150	.150	.150
Kurtosis		2.849	.692	1.497
Std. Error of Kurtosis		.299	.299	.299
Minimum		1	2	1
Maximum		6	6	4

Looking at Table 46, it is evident that students gave positive ratings for all three measures. For SRLE, the mean score was 4.93, with a skewness of -1.123 and kurtosis of 2.849.

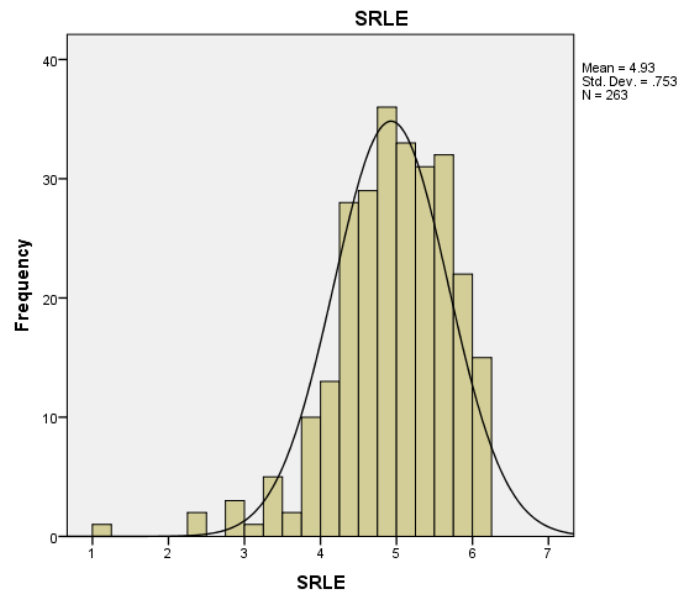


Figure 7: Overall ratings for SRLE

DLSE had a mean score of 4.61, with a skewness of -.719 and kurtosis of .692 and COTSE had a mean score of 3.48, with a skewness of -1.123 and kurtosis of 1.497. Looking at the various mean scores as well as the three figures, respondents rated themselves more

highly for COTSE, followed by SRLE than with DLSE. Hence, the distributions for COTSE and DLSE are more skewed to the right than that for DLSE.

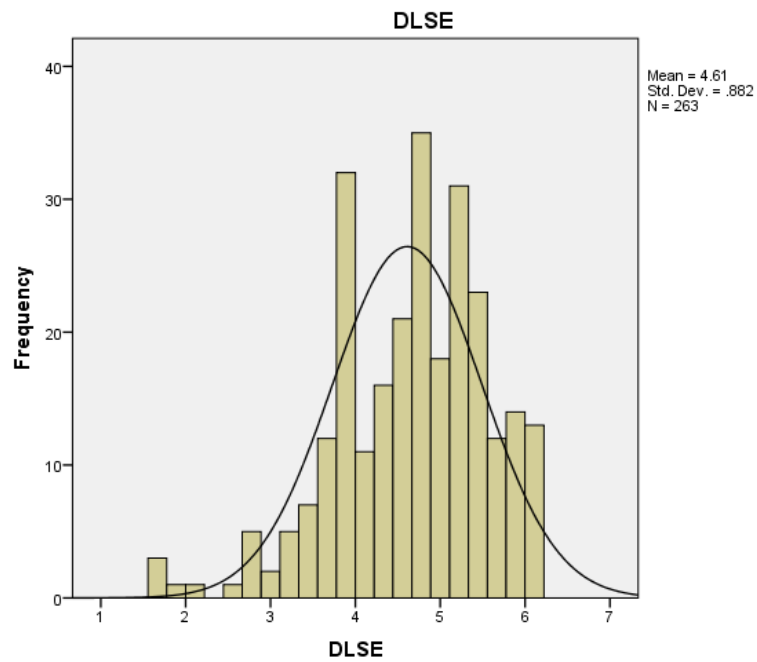


Figure 8: Overall ratings, DLSE

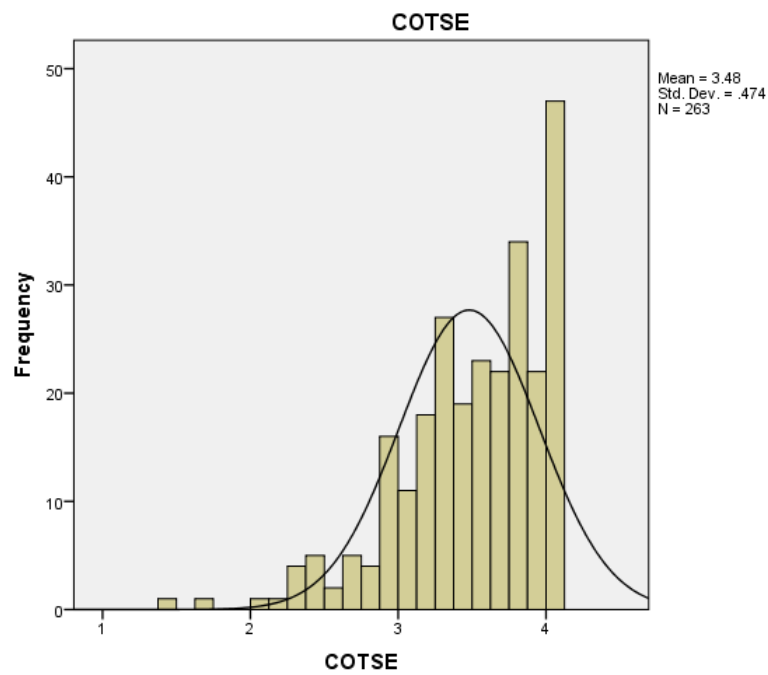


Figure 9: Overall ratings, COTSE

Having looked at overall ratings on the various self-efficacy measures, the results now focus on the demographic aggregations of these ratings.

8.5.2 Gender

Table 47 presents the ratings by gender. Looking at the exact significance (2-tailed), it is evident that no significant differences in SRLE and DLSE were observed by gender. This is because both their p-values are above .05. For SRLE, males had a median score, $Mdn=4.99$, whereas females had a score, $Mdn=5.00$, $U=7337.5$, $z=-.473$, $p=.636$, $r=-.03$. For DLSE, males had a median score ($Mdn=4.78$) and females ($Mdn=4.67$), $U=7139.5$, $z=-.816$, $p=.415$, $r=-.05$. the fact that no significant differences were observed for SRLE and DLSE by gender meant the following. Firstly, regarding SRLE, the insignificant differences meant that the differences between male and female students' self-rated levels of confidence to self-regulate (persist with their studies, effectively manage their time and studies and seek help in relation to their studies) were negligible. For DLSE, this meant that the observed differences between male and female students' ratings regarding their beliefs relating to studying through distance education were negligible.

Table 47: Self-efficacy ratings by gender

Test Statistics ^a			
	SRLE	DLSE	COTSE
Mann-Whitney U	7337.500	7139.500	6332.500
	23090.50	22892.50	22085.50
Wilcoxon W	0	0	0
Z	-.473	-.816	-2.216
Asymp. Sig. (2-tailed)	.636	.415	.027
Exact Sig. (2-tailed)	.637	.416	.027
Exact Sig. (1-tailed)	.319	.208	.013
Point Probability	.000	.000	.000
a. Grouping Variable: Please indicate your gender			

However, there were significant differences by COTSE whereby males had relatively higher scores ($Mdn=3.67$) than females ($Mdn=3.52$), $U=6332.50$, $Z=-2.216$, $p<.05$, $r=-.14$. This meant that males were relatively more confident than females in their ability to use various online technologies such as internet, email, myUnisa and myLibrary in order to successfully study through distance learning.

8.5.3 Age group

With regard to age, there were significant differences in DLSE and COTSE scores between those aged below the age of 30 years and those aged 30 years and above (see Table 48).

Table 48: Self-efficacy ratings by age-group

Test Statistics ^a			
	SRLE	DLSE	COTSE
Mann-Whitney U	6534.000	6354.000	6447.000
Wilcoxon W	22110.000	21930.000	10275.000
Z	-1.934	-2.246	-2.090
Asymp. Sig. (2-tailed)	.053	.025	.037
Exact Sig. (2-tailed)	.053	.025	.037
Exact Sig. (1-tailed)	.027	.012	.018
Point Probability	.000	.000	.000
a. Grouping Variable: AGE_dichot			

However, the differences in SRLE scores between the age groups were insignificant. For DLSE, those aged 30 years and above had significantly higher scores ($Mdn=4.78$) than those aged under 30 ($Mdn=4.67$), $U=6354.0$, $z=-2.246$, $p<.05$, $r=-.14$. For COTSE, the inverse was true whereby those aged below 30 years had higher scores ($Mdn=3.63$) than those aged 30 years and above ($Mdn=3.50$), $U=6447.0$, $z=-2.090$, $p<.05$, $r=-.13$. The observed significant differences in DLSE by age group meant that those aged 30 years and above not only had positive attitudes towards distance learning but also had higher levels of

confidence in their beliefs to study successfully through distance learning as opposed to those aged below the age of 30. For COTSE, the observed significant differences meant that those under the age of 30 years had significantly more confidence in their ability to use various online technologies such as internet, email, myUnisa and myLibrary in order to successfully study through distance learning as opposed to those aged above 30 years.

For SRLE, the scores were somewhat similar, with those aged below 30 having a slightly lower score (Mdn=4.92) than those aged 30 years and above (Mdn=5.00), $U=6534.0$, $z=-1.934$, $p=.053$, $r=-.12$.

8.5.4 Prior distance learning experience

Looking at the results of the significant tests on differences in self-efficacy ratings by prior distance learning experience, it is evident that there were no significant differences for by SRLE, DLSE and COTSE (see Table 49). For SRLE, those with prior distance learning experience had a median score (Mdn=4.94), whereas those with no prior distance learning experience had a score of (Mdn=5.00), $U=4396.0$, $z=-.542$, $p=.588$, $r=-.03$. For DLSE, those with prior distance learning experience had a median score (Mdn=4.78), whereas those with no prior distance learning experience had a score of (Mdn=4.67), $U=4534.5$, $z=-.236$, $p=.813$, $r=-.01$.

Table 49: Self-efficacy scores by prior DL experience

Test Statistics ^a			
	SRLE	DLSE	COTSE
Mann-Whitney U	4396.000	4534.500	4263.000
Wilcoxon W	28927.000	29065.500	5166.000
Z	-.542	-.236	-.839
Asymp. Sig. (2-tailed)	.588	.813	.401
Exact Sig. (2-tailed)	.589	.815	.403
Exact Sig. (1-tailed)	.295	.407	.201
Point Probability	.000	.000	.000
a. Grouping Variable: Did you have prior distance learning experience before enrolling for studies with Unisa?			

For COTSE, those with prior distance learning experience had a median score ($Mdn=3.46$), whereas those with no prior distance learning experience had a score of ($Mdn=3.58$), $U=4236.0$, $z=-.839$, $p=.401$, $r=-.05$. Looking at the median scores for the various measures and how minimal the difference between them is, it makes sense that none of the differences were significant. This meant that students' scores on the various self-efficacy measures were somewhat similar for all three self-efficacy measures, regardless of whether they had previously learnt through ODeL or not.

8.5.5 FTEN Status

No significant differences were found in terms of SRLE and DLSE by FTEN status. This meant that there were negligible or no differences in students' ratings of their beliefs to self-regulate for successful study through ODeL and their confidence in their ability to successfully study through distance learning, regardless of whether they were completely new to higher education and Unisa or whether they had transferred to Unisa. For SRLE, first-timers had a median score ($Mdn=5.00$), whereas transfers had a score ($Mdn=5.00$), $U=7337.5$, $z=-.473$, $p=.636$, $r=-.03$. For DLSE, first-timers had a median score ($Mdn=4.67$) and transfers ($Mdn=4.78$), $U=7139.5$, $z=-.816$, $p=.415$, $r=-.05$. However, there were significant differences by COTSE whereby first-timers had relatively higher scores ($Mdn=3.56$) than transfers ($Mdn=3.60$), $U=6332.50$, $Z=-2.216$, $p<.05$, $r=-.14$. That means that students who were new to higher education and to Unisa had higher levels of confidence in their beliefs to use various online technologies such as internet, email, etc. which are considered important when studying through distance learning than students who had transferred to Unisa from other higher education institutions.

8.5.6 Having dependents

Regarding the differences in the various self-efficacy measures by whether the students had dependents, no significant differences were found in DLSE scores. However, significant differences were observed in SRLE and COTSE (see Table 50).

For DLSE, those with dependents had a median score (Mdn=4.78), whereas those without dependents had a score (Mdn=4.67), $U=6282.5$, $z=-1.193$, $p=.056$, $r=-.07$. This means that students' beliefs in distance learning and in their abilities to successful study through this mode of learning were somewhat similar and both high, regardless of whether they had dependents or not.

Table 50:
ratings by

Self-efficacy
dependents

Test Statistics ^a			
	SRLE	DLSE	COTSE
Mann-Whitney U	6241.500	6282.500	6181.500
Wilcoxon W	22894.500	22935.500	9502.500
Z	-1.984	-1.913	-2.095
Asymp. Sig. (2-tailed)	.047	.056	.036
Exact Sig. (2-tailed)	.047	.056	.036
Exact Sig. (1-tailed)	.024	.028	.018
Point Probability	.000	.000	.000
a. Grouping Variable: Do you have any dependents (children under 5 years of age living with you)?			

For SRLE, those with dependents had median score (Mdn=5.07), whereas those without dependents had a score (Mdn=4.92), $U=6241.5$, $z=-1.984$, $p<.05$, $r=-.12$. This meant that those with dependents rated significantly higher in terms of their perceived abilities to self-regulate for successful study in ODeL as opposed to those without dependents.

Although one might have expected the inverse to be true, perhaps the fact that they have

dependents means that these students have in fact learnt to manage their time and studies more effectively and are more driven to persist because of their responsibilities than those without dependents.

As with SRLE, those with dependents had significantly lower COTSE scores than those without dependents. Their median score was $Mdn=3.46$, whereas those without dependents had a score $Mdn=3.63$, $U=6181.5$, $z=-2.095$, $p<.05$, $r=-.13$. This meant that those with dependents had low levels of confidence in their ability to use online technologies required for successful study in an ODeL institution relative to those without dependents. This finding is consistent with the findings by age group whereby younger respondents (under age 30 years) had higher levels of confidence in their ability to use online technologies for successful ODeL study than older respondents.

8.6 Linking Students' Perceptions with Performance

This section of the research findings will answer the main research question by linking data on student perceptions with their credit scores. The process that was used to analyse the data was explained earlier and will not be discussed here. Firstly, overall results are presented before looking at differentials by gender, age group, number of modules enrolled for, FTEN status and having dependents, between successful and unsuccessful students. The results were as follows.

As was mentioned, Mann-Whitney tests were performed to test the relationship between various self-efficacy measures and success. Tests were first conducted to determine the overall relationship between student success and various self-efficacy measures, namely SRLE, DLSE and COTSE. The effects of any significant relationships were then determined. Thereafter, the relationships between student success and the SRLE scale sub-constructs were assessed. This was then followed by determining if there were any differentials by age, gender, number of modules enrolled for, FTEN status and prior distance learning experience.

8.6.1 Overall results

Table 51 provides the results of the significance testing for differences in the various self-efficacy measures between successful and unsuccessful students.

The results indicate no significant differences in SRLE and COTSE between successful and unsuccessful students. For SRLE, successful students had $Mdn=5.00$ and unsuccessful students $Mdn=4.88$, $U=2914.5$, $z=-.452$, $p=.651$, $r=-.03$. For COTSE, unsuccessful students had slightly higher scores, $Mdn=.3.75$ than successful students, $Mdn=3.56$), $U= 2639.5$, $z=-1.203$, $p=.229$, $r=.07$.

Table 51: Self-efficacy ratings by student success

Test Statistics ^a			
	SRLE	DLSE	COTSE
Mann-Whitney U	2914.500	2314.500	2639.500
Wilcoxon W	3265.500	2665.500	30842.500
Z	-.452	-2.084	-1.203
Asymp. Sig. (2-tailed)	.651	.037	.229
Exact Sig. (2-tailed)	.653	.037	.231
Exact Sig. (1-tailed)	.327	.018	.115
Point Probability	.000	.000	.000
a. Grouping Variable: Stu_Success			

This meant that in this study, the differences in students SRLE and COTSE scores made no significant differences in terms of their actual performance.

However, there were significant differences in DLSE levels between unsuccessful ($Mdn=4.56$) and successful ($Mdn=4.78$) students, $U=2314.5$, $z=-2.084$, $p<.05$, $r=-.13$. This meant that successful students had notably higher or more positive levels of confidence in

distance learning and their belief in their abilities to successfully study through distance learning as opposed to unsuccessful students. The observed relationship, although significant, represents a small to medium effect as it is slightly above the small effect threshold ($r=.10$), yet below the medium effect threshold ($r=.30$) explaining approximately 1,7% of the variation between successful and unsuccessful students (Field, 2013).

8.6.2 SRLE sub-scales

Table 52 presents the results of the significance tests of the differences between successful and successful students with regard to the three SRLE sub-scales. These sub-scales were student persistence self-efficacy (SPSE), time and study management self-efficacy (TSEMSE) and seeking help self-efficacy (SHSE).

Table 52: SRLE subscales by student success

Test Statistics ^a			
	SPSE	TSEMSE	SHSE
Mann-Whitney U	2797.000	3059.000	2822.500
Wilcoxon W	3148.000	31262.000	31025.500
Z	-.777	-.060	-.711
Asymp. Sig. (2-tailed)	.437	.952	.477
Exact Sig. (2-tailed)	.440	.953	.480
Exact Sig. (1-tailed)	.220	.477	.240
Point Probability	.000	.001	.000
a. Grouping Variable: Stu_Success			

Evidently, no significant differences were found for any of the SRLE subscales between successful and unsuccessful students. This meant that there were negligible or no differences between successful and unsuccessful students regarding their ratings of their beliefs in their abilities to persist with their studies, management their time and studies effectively and seek help in relation to their studies.

8.6.3 Age group

This section provides comparisons in self-efficacy ratings between successful and successful students by age group. The results are first presented for those aged below 30 years and then for those aged above 30 years.

For those aged under the age of 30 years, no statistically significant differences were found in either SRLE or DLSE levels between successful and unsuccessful students. For SRLE, successful students had median SRLE scores, $Mdn=4.92$, relative to unsuccessful students ($Mdn=5.19$), $U=1195$, $z=.064$, $p=.949$, $r=-.01$. For DLSE successful students had median ($Mdn=4.67$) and unsuccessful students ($Mdn=3.89$), $U=839$, $z=1.95$, $p=.051$, $r=-.15$.

Statistically significant differences were however observed in COTSE levels between successful ($Mdn=3.61$) and unsuccessful ($Mdn=3.92$), $U=797.0$, $z=-2.185$, $p<.05$, $r=-.16$ (a small to medium effect as it is above the .1 threshold for a small effect size and below the .3 threshold for a medium sized effect). This meant that for those under the age of 30, having high perceptions in their abilities to perform various computer technologies resulted in 2,56% variation between successful and unsuccessful students.

For those aged 30 years and above, no significant differences were found in levels of self-efficacy for all three self-efficacy measures between successful and unsuccessful students. For SRLE, successful students had a median ($Mdn=5.03$) whereas unsuccessful students had a median ($Mdn=4.75$), $U=490$, $z=.920$, $p=.385$, $r=-.10$. For DLSE successful students had a median ($Mdn=4.89$) and unsuccessful students ($Mdn=4.67$), $U=513$, $z=1.22$, $p=.224$, $r=-.13$ and for COTSE successful students had ($Mdn=3.50$) and unsuccessful ($Mdn=3.27$), $U=464$, $z=.59$, $p=.556$, $r=.04$.

8.6.4 Overall gender

Looking at the results of the significant tests in the differences in self-efficacy scores between successful students by gender, none of the measures were significant for either

males or females regarding the differences in median scores between successful and unsuccessful students for either males or females. This meant that the differences in the various self-efficacy scores were negligible between males and females, thus having no effect on the differences in their performance.

8.6.4.1 Within gender comparisons

Even when looking at the within gender comparisons between successful and unsuccessful students, no significant differences were observed in self-efficacy scores either among males or females. For males, successful students had median SRLE scores (Mdn=4.99) whereas unsuccessful students had a median (Mdn=4.97), $U=518.5$, $z=.645$, $p=.385$, $r=-.05$. For DLSE successful students had a median (Mdn=4.78) and unsuccessful students (Mdn=4.39), $U=393.5$, $z=-1.851$, $p=.064$, $r=-.13$ and for COTSE successful students had (Mdn=3.57) and unsuccessful (Mdn=3.92), $U=418.0$, $z=-1.590$, $p=.112$, $r=-.11$.

For females, successful students had a median SRLE scores of Mdn=5.00 whereas unsuccessful students had a median (Mdn=4.88), $U=789.5$, $z=-.289$, $p=-.772$, $r=-.02$. For DLSE successful students had a median (Mdn=4.67) and unsuccessful students (Mdn=4.56), $U=628.5$, $z=-1.313$, $p=.189$, $r=-.10$ and for COTSE successful students had (Mdn=3.54) and unsuccessful (Mdn=3.41), $U=747.0$, $z=-.560$, $p=-.575$, $r=-.04$.

8.6.5 Prior distance learning experience

When looking at the effect of having prior distance learning experience on the differences in self-efficacy levels between successful and unsuccessful students, no significant differences were found for any of the self-efficacy measures for those who had had previous distance learning experience. For SRLE, successful students had a median (Mdn=4.92) whereas unsuccessful students had a median (Mdn=5.70), $U=37.5$, $z=-1.651$, $p=.099$, $r=-.25$. Although not significant, this represents a medium effect as it is within the

medium effect threshold of $r=.3$. For DLSE successful students had a median ($Mdn=4.72$) and unsuccessful students ($Mdn=4.78$), $U=59.0$, $z=-.730$, $p=.466$, $r=-.11$ and for COTSE successful students had ($Mdn=3.44$) and unsuccessful ($Mdn=3.56$), $U=58.5$, $z=-.751$, $p=.453$, $r=-.12$.

However, for those with no prior distance learning experience, significant differences were found in levels of DLSE between successful ($M=4.64$) and unsuccessful students (4.39), $U=1475.0$, $z=-2.511$, $p<.05$, $r=-.17$ (medium effect explaining 3% variation). For the other self-efficacy measures, namely SRLE and COTSE, the observed differences in median scores for successful and unsuccessful students were insignificant. Regarding SRLE, $U=1844.0$, $z=-1.213$, $p=.225$, $r=-.08$ were observed whereas for COTSE, $U=1900.5$, $z=-1.018$, $p=.309$, $r=.07$.

This meant that for students who were new to distance learning, successful students had significantly higher and more positive beliefs in distance learning and in the ability to study successfully through distance learning as opposed to unsuccessful students.

8.6.6 Number of modules enrolled for

With regard to the effect of the number of modules enrolled on differences in levels of the various self-efficacy measures between successful and unsuccessful students, the results were as follows.

8.6.6.1 SRLE

No significant differences were found in levels of SRLE between successful and unsuccessful students across all three module load categories. This meant that there were negligible or no differences between successful and unsuccessful students about their levels of perceived confidence in their abilities to self-regulate for successful ODeL study, regardless of the number of modules they were enrolled for. For students with five or less

modules, successful students had a median ($Mdn=4.92$) and unsuccessful students ($Mdn=5.19$), $U=188.5$, $z=-.989$, $p=.323$, $r=-.15$. For students with six to nine modules, successful students had ($Mdn=4.97$) and unsuccessful ($Mdn=4.14$), $U=308.0$, $z=-.917$, $p=.359$, $r=-.08$. For students with ten or more modules, successful students had a median ($Mdn=5.06$) and unsuccessful students ($Mdn=4.60$), $U=43.5$, $z=-1.353$, $p=.176$, $r=-.14$.

8.6.6.2 DLSE

No significant differences were found in levels of DLSE between successful and unsuccessful students for those who had enrolled for five or fewer modules as well as those with ten or more modules. This meant that there were negligible or no differences between successful and unsuccessful students regarding their levels of perceived confidence in their abilities to successfully study through distance learning among students enrolled for either five modules and less or those enrolled for ten or more modules. For students with five or less modules, successful students had a median ($Mdn=4.78$) and unsuccessful students ($Mdn=4.67$), $U=179.5$, $z=-1.209$, $p=.227$, $r=-.18$. For students with ten or more modules, successful students had a median ($Mdn=4.67$) and unsuccessful students ($Mdn=4.44$), $U=92.0$, $z=-.171$, $p=.864$, $r=-.02$.

However, statistically significant differences were found in DLSE levels for students with six to nine modules whereby successful students had ($Mdn=4.78$) and unsuccessful students ($Mdn=3.89$), $U=202.0$, $z=-2.127$, $p<.05$, $r=-.20$. This meant that among students with six to nine modules, successful students displayed notably higher levels of perceived confidence in their abilities to study through distance learning than unsuccessful students. The observed value of absolute r suggests that for students with six to nine modules, having high levels of DLSE explained about 3,8% in the variation of scores between successful and unsuccessful students. This is considered a medium effect as it falls within the threshold of medium effect sizes of .3.

8.6.6.3 COTSE

For COTSE, the results were similar to those obtained for SRLE whereby no significant differences were found between successful and unsuccessful students across all three module load categories. This meant that there were negligible or no differences in the observed levels of students' confidence in their perceived abilities to use online technologies to study successfully through an ODeL institution across all module load categories. For students with five or less modules, successful students had a median (Mdn=3.40) and unsuccessful students (Mdn=3.75), $U=183.5$, $z=-1.115$, $p=.265$, $r=.17$. For students with six to nine modules, successful students had (Mdn=3.63) and unsuccessful (Mdn=3.48), $U=371.0$, $z=-.200$, $p=.842$, $r=-.02$. For students with ten or more modules, successful students had a median (Mdn=5.06) and unsuccessful students (Mdn=4.60), $U=48.0$, $z=-1.248$, $p=.212$, $r=-.12$.

8.6.7 FTEN status

Lastly, comparisons were made in the self-efficacy scores between successful and unsuccessful students by FTEN status. The results are presented by first-time entry into higher education and those that transferred to Unisa.

Interestingly, no significant differences were observed in SRLE scores between successful and unsuccessful students among students who were entering higher education for the first time. Successful students had slightly lower, albeit statistically insignificant scores (Mdn=5.00) than unsuccessful students who had a median (Mdn=5.10), $U=1935.5$, $z=-.129$, $p=.897$, $r=-.01$. For DLSE, successful students had a median (Mdn=4.67) and unsuccessful students (Mdn=4.61), $U=1685.5$, $z=-1.065$, $p=.287$, $r=-.07$ and for COTSE, successful students had (Mdn=3.56) and unsuccessful (Mdn=3.53), $U=1695.5$, $z=-1.029$, $p=.303$, $r=-.07$.

Conversely, when looking at students who were not new to higher education but were new to Unisa, also known as Transfers, significant differences were observed with regard to

DLSE scores between successful and unsuccessful students. Successful students had a significantly higher median DLSE score ($Mdn=4.83$) than unsuccessful students ($Mdn=3.83$), $U=54.5$, $z=-2.140$, $p<.05$, $r=-.31$. The observed absolute r represented a medium to large sized effect, explaining 10% of the variation in self efficacy scores between successful and unsuccessful students among transfers. This meant that for students who had transferred to Unisa, having positive views of distance learning and in their beliefs to study successfully through distance learning was related to positive student outcomes relative to having negative views of distance learning.

However, no significant differences were observed for SRLE and COTSE. For SRLE, successful students had a median ($Mdn=4.75$) whereas unsuccessful students had a median ($Mdn=4.01$), $U=1935.5$, $z=-.129$, $p=.897$, $r=-.01$. For COTSE, successful students had ($Mdn=3.52$) and unsuccessful ($Mdn=3.72$), $U=1695.5$, $z=-1.029$, $p=.303$, $r=-.07$.

8.7 Conclusion

Most of the respondents were African females, mostly single and employed, residing in suburbs (40%) and townships (32%). Furthermore, most had no dependents or prior distance learning experience and could mostly be considered as successful based on their credit scores.

Regarding access and ownership of technological devices, most had access and ownership to laptops and/or personal computers, mobile devices with internet functionality and mobile devices with internet searching/browsing functionality. The respondents identified familial support, online lecturer support and online tutorial support as the top three support requirements for successful study in ODeL. The top three identified attributes for successful study were the ability to remain motivated despite challenges, being highly committed to obtaining one's qualification and good time management.

It appeared from the results that most of the respondents understood their institutional context. Regarding the self-efficacy ratings, respondents had high ratings overall for all three self-efficacy measures, namely SRLE, DLSE and COTSE. However, with regard to significant differences, only DLSE was found to be significantly different overall between successful and unsuccessful students. DLSE was also found to have significance in student performance among those with no prior distance learning experience, those with six to nine modules and students who had transferred to Unisa. COTSE was significant among those aged under 30 years whereas SRLE had no significance at all in this study.

Chapter 9 will discuss the findings in relation to the research questions and literature as well as their implications for Unisa.

9 DISCUSSION OF FINDINGS

Chapter 9 is the final chapter for this study and discusses the findings as they relate not only to the research questions but also the literature. Also discussed are the implications the findings might have for Unisa and similar distance learning institutions. The limitations of the current study are also discussed before ending with recommendations for future research.

9.1 Discussion and Implication of Findings

Firstly, looking at access and ownership of technological devices, specifically as it relates to laptops or personal computers and reliable internet connections, one would have hoped for much higher proportions than those observed, especially in terms of ownership. The responses were less than 25,0% both in terms of access and ownership of laptops or personal computers and less than 20.0% for own and other reliable internet access. The observed results are a cause for concern because, in ODL institutions, technological devices facilitate student engagement. Activities such as contacting lecturers, participating in e-tutorials, discussion forums and even accessing learning material from the library or student portals are reliant on these resources. Their importance, particularly ownership rather than access, becomes even more emphasised when one considers Unisa's proposed change in business model to an ODeL institution and its heavy reliance on technology.

In this instance, whilst having access to other technological devices as well as third-party internet connections might be useful, finding the time to engage using either a device or internet connection that belongs to one's employer, spouse or a computer lab, especially with over 60.0% of the respondents employed (60.1% of formally registered students in 2015 were

employed), may not always be possible. This might, in turn pose a threat to student retention and success at Unisa.

The importance of having one's own laptop or personal computer and own reliable internet connection was also emphasised by the respondents themselves, who ranked these items first and second in terms of the required resources for successful study in an ODeL institution.

Regarding the required attributes for successful study in an ODeL institution, students' ranking of the attributes were somewhat consistent with literature on student success. In this study, goal commitment, defined as being highly committed to obtaining one's qualification, ranked second after the ability to remain motivated despite challenges. This finding is consistent with Tinto's model of student dropout, which ranked goal commitment second in terms of importance to student retention. Further support was provided by Sweet (1986) and Morgan and Tam (1999) who found it to have the biggest effect on student persistence.

Other factors that were ranked highly by the respondents were proper time management, the ability to strike a balance between work, family and study commitments and the ability to set and prioritise study goals. The importance of familial support to student success was also reported by Morgan and Tam (1999) and Park and Choi (2009), amongst others.

Factors that were ranked low included the ability to study with little or no supervision and assistance (6th), the ability to seek help from peers, lecturers or the institution (8th), being able to set time aside for participating in online learning forums such as discussion classes (10th) and the ability to study on one's own, with little or no contact with other students (11th). The ranking of these attributes is contrary to what one might have expected considering (1) research evidence on the importance of feelings of isolation amongst students in their

decision to persist or drop out (Brown, 1996, Braxton & Hirschy, 2004, amongst others); (2) the importance of student engagement with their peers and the institution in curbing feelings of isolation experienced in distance learning contexts; and (3) the nature of distance education which is characterised by studying on one's own with minimal or no supervision or interaction with other students. These findings differed from findings by Menchaca and Bekele (2008), Puri (2012) and Gaytan (2015) in which the importance of both asynchronous and synchronous communication with staff and other students, participation in group work or collaboration with others, were emphasised.

To explain these findings, one can perhaps look to the concept of learner autonomy as defined by Moore (1993). Using this concept, it can be argued that perhaps the students who responded to the survey were more autonomous and as such quite comfortable with academic programmes requiring less interaction with lecturers and with other students. Hence, their rating of these attributes as having less importance.

Other surprising results were the low ranking of having computer experience and having prior distance learning experience, which was inconsistent with findings by Dupin-Bryant (2004) and Menchaca and Bekele (2008). Dupin-Bryant had found measures of computer competency such as internet browsing and training in internet applications to be significant predictors of student success. Having previously completed an online course was also found to be amongst the seven significant predictors of online course completion. Menchaca and Bekele, on the other hand, found ICT competency to be one of the prerequisites for successful e-learning.

With regard to the support requirements for successful ODeL study, the respondents emphasised the importance of familial, online lecturer and online tutorial support by ranking them first, second and third respectively. General student support and support from one's employer ranked fourth and fifth respectively. That the students viewed online lecturer and

tutorial support as important yet ranked the ability to seek help from peers, lecturers or the institution (8th) and being able to set time aside for participating in online learning forums such as discussion classes low, is contradictory. How can one see the availability of online lecturer and tutorial support as important yet not see importance in setting aside time for participation in online discussions? Unless of course, the argument of high autonomy made earlier holds, especially since goal commitment, the ability to remain motivated despite challenges, proper time management, the ability to strike a balance between work, family and study commitments and the ability to set and prioritise study goals, ranked highly. Perhaps, although more autonomous students can do well on their own, simply knowing that the support is available, even if they do not use it, is sufficient. Therefore, they recognise that, whilst support might come in handy if or when needed, it is more their characteristics, such as goal commitment and resilience, that is important for the success. This argument holds for this study, considering that most of the respondents were classified as successful.

These results were however consistent with the literature in that Morgan and Tam (1999) and Park and Choi (2009) had found the lack of familial support to have a significant contribution to dropping out in online courses. Brown (1996), on the other hand, had found difficulty in contacting tutors and insufficient support from tutors as some of the top-ranking reasons for dropping out at Deacon University. Park and Choi also found lack of support from one's employer to be an important contributor to dropping out. Later studies by Parkes and Stein (2013) and Gaytan (2015) also confirmed the importance of faculty interactions and meaningful interactions to student success. Unfortunately, the current study did not ask respondents whether they were satisfied with the support they had received from their lecturers and tutors. If this question had been asked, one could have determined if there were any significant differences between successful and unsuccessful students based on their

satisfaction with received lecturer and tutorial support. This would have then shed more light on the importance of this variable to student success.

Regarding the students' understanding of their institutional context, that their understanding was high despite low knowledge of what the acronym ODeL stood for, was no cause for concern. This is because, when it comes to student performance, it is mainly their understanding of the institutional context and not the knowledge of what an acronym stands for, that matters. As was observed, less than 30.0% of the respondents, that is, 78 out of 263, had stated that they knew what the acronym ODeL stood for. However, of these, only 57.7% got it right. Yet when asked to differentiate between an ODeL and a contact institution, their responses not only suggested an understanding of their institutional context but also understanding of the related benefits and challenges. Students not only mentioned the flexibility to study at own time from anywhere in the world but also recognised the discipline required in such a learning environment. For some, the flexibility to study at own pace and time without the need to present on campus was seen as positive as it allowed them the flexibility to attend to other important things. For others, there were some drawbacks due to not having real time assistance from lecturers or tutors and having to be self-sufficient. Either way, students recognised that succeeding in an ODeL institution requires more effort and discipline than succeeding at a contact institution.

Looking at the students' beliefs in their abilities to perform various activities in order to successfully study through distance learning, overall positive ratings were obtained for each self-efficacy measure. SRLE had a mean score of 4.93 (min 1, max 6), DLSE had a mean score of 4.61 (min 2, max 6) and COTSE had a mean score of 3.48 (min 1, max 4). The observed high score for DLSE is higher than that obtained by Zhang, Duan and Wu (2001) whose instrument was used in this research.

With regard to the effects of students' perceived readiness for successful study in an ODeL institution on their performance, the results confirmed the inconclusive nature of the self-efficacy and academic achievement relationship highlighted in many other studies. In the present study, whilst there were no significant differences overall for two of the three self-efficacy measures, namely SRLE and COTSE, between successful and unsuccessful students, significant differences were observed in DLSE. The observed insignificant relationship between COTSE and success was consistent with findings by Duvall and Schwartz (2000), Wang and Newlin (2000), De Ture (2004), Kerr, Ryneearson and Kerr (2006). This is despite the current study using a modified version of the COTSE measures used by DeTure and Puzziferro. Duvall and Schwartz and Kerr et al. used completely different measures of computer self-efficacy.

For Wang and Newlin, although there was a positive correlation between COTSE and the final exam grade attained by students, there was no correlation between COTSE and the total points earned at the end of the semester. The results were however inconsistent with findings by Rex and Roth (1998), Jadric, Bubas and Hutinski, (2010) and Wang, Shannon and Ross (2013) whose studies found a significant relationship between COTSE and academic performance.

The observed incongruence in the COTSE and academic performance relationship could be attributed to the argument made by earlier that perhaps the significance of COTSE is more important where the courses are more computer dependent than not. This was the case in both Rex and Roth and Jadric et al.'s studies but not in the current study where assessment was for overall courses taken during two consecutive semesters. The argument falls through when one considers Wang, Shannon and Ross's (2013) study whereby a variety of courses were included, most of which were not computer dependent.

The significance of DLSE in this study, on the other hand, was consistent with findings by Zhang, Duan and Wu (2001), and inconsistent with findings by Wang, Peng, Huang, Hou and Wang (2008), who found no significant relationship. It should be noted that Zhang et al.'s instrument was used for this study whereas Wang et al. developed their own instrument. This could explain the differences in observed results.

In this study DLSE had an overall effect size of $r = -.13$, thus representing approximately 2,0% of the variation between successful and unsuccessful students. Furthermore, DLSE seemed to have more significance in this study than any of the other measures. And interestingly, whilst SRLE would have been expected to be significant given the importance of self-regulation in distance learning, it held no significance in this study. This means that, whether respondents believed in their abilities to persist with their studies despite challenges, to make most of their study time or seek help if they encountered difficulties with their studies made no significant difference to their academic performance.

This is despite the respondents' recognition of the importance of discipline, goal commitment and proper time management as important requirements for success. The observed insignificance could perhaps be attributed, as was argued earlier, to the respondents being more autonomous, especially given their low rankings of the ability to make time for online discussion forums and the ability to study by oneself. As such, their autonomy cancelled out the effects that SRLE might have had, had they been less autonomous. The observed insignificant relationship between SRLE and student performance was contrary to findings by Joo, Lim and Kim (2013).

With regard to age, only COTSE was found to be significant for those aged below 30 years, with a small to medium effect size of $r = .16$ (2,56% variation). For those aged 30 years and above, none of the measures were significant. This implies that, for students below the age of 30 years, having high perceptions in their abilities to perform various computer

technologies resulted in 2,56% variation between successful and unsuccessful students.

However, for those over the age of 30, this made no difference.

Borrowing from Tarhini, Hone and Liu (2014), who argued that that less educated people would find technology daunting, and as such, which would then affect their adoption of it, it can be argued that being under 30 years old, the respondents could be considered as being less educated. Hence, their beliefs in their abilities to perform various technology functions in order to successfully study through ODeL had significant effects between successful and unsuccessful students. Those aged above 30 could be considered more educated and possibly with similar abilities to perform various activities using ICTs. This would then negate the effect that COTSE might have had among these age group.

There were no statistically significant differences by gender regarding any of the measures between successful and unsuccessful students, which is contrary to findings by Zhang et al. (2001), who found significant differences between males and females.

Similar results were also observed regarding those who had had prior distance learning experience, which is somewhat inconsistent with findings by Holcomb et al. (2004) who found statistically significant differences for DLSE and SRLE but no differences by COTSE. Zhang et al. also found significant differences in DLSE between first-time students and those with prior distance learning experience.

DLSE was however significant among those with no prior distance learning experience, having a medium effect, -.17, explaining approximately 3% of the variation between successful and unsuccessful students. This implies that for students who are new to distance learning, having a positive view of distance learning can have a positive, albeit medium effect, on their success as opposed to having a negative view. DLSE also had a significant difference for those students who had enrolled for 6-9 modules, explaining 3,8% of the variation in academic achievement between successful and successful students but had

no significance for those with five or fewer modules or those with ten or more modules. This meant that for students with six to nine modules, believing that they could learn successfully in DL and as well as in contact institutions made a significant difference (3,8% variation) between successful and unsuccessful students.

Lastly, whilst no significant differences were observed in self-efficacy scores for all three measures for students who were new to higher education, significant differences were observed regarding DLSE between successful and unsuccessful students, among transfers. The observed effect, though only representing a medium to large effect, was the largest obtained in this study, $r = -.31$, explaining 10% of the variation in academic achievement between successful and unsuccessful students. This means that for students who had transferred from other institutions to Unisa, having positive perceptions about being able to do well in distance learning explained 10% of the variation in academic achievement between successful and unsuccessful students.

The observed importance of DLSE in academic achievement in this study also supports the argument made earlier that the significance of self-efficacy measures is, in some instances, context dependent. It can be argued here that given their prior higher education experience, transfers could have had similar skills and knowledge in terms of the other self-efficacy measures, e.g. internet competencies, using online library systems, online discussions forums, and email communication. Furthermore, they might have had similar motivations to succeed, thus making distance learning efficacy the only differentiating factor among them. Hence it not only had a significant effect but also a medium to large sized one instead of the small to medium effect observed elsewhere in the study. This argument is further supported by the observed significance DLSE had among those with no prior DL experience but no significance for those with prior DL experience. Given these results, it can then be assumed that transfers had been in contact institutions prior to joining Unisa. This

would then explain the significance of DLSE among transfers but not among those with prior DL experience.

9.2 Conclusion

Notwithstanding the limitations of this study, particularly the inability to generalise the findings, the following deductions can be made.

Firstly, based on the low access to and ownership of technological devices indicated in this study, Unisa cannot effectively move into a fully-fledged ODeL institution until this is addressed. To enable this, the university would first have to find new ways address the issue of low access and ownership to technological devices. As was proven earlier, in Chapter 4, previous and current interventions to try and improve access and ownership to technological devices such as telecentres and securing deals with network providers to enable student access to affordable devices and 3G internet access, have not been successful. This was partly attributed to their possibly not being matched to Unisa's student characteristics. To rectify this, and find what might work for the students, research needs to precede implementation. This should be done, ideally, following the review of the status quo of failed ICT projects, which have resulted in the postponement of the move to ODeL to 2030. When conducting this review, a holistic approach should be adopted, focusing not only on the failed system upgrades but also failed interventions for expanding access to ICTs and low use of e-tutorial and other support services.

In establishing the reasons for the failure of the adoption of technological interventions, Unisa can perhaps look to the technology acceptance model for possible explanations. Using the model, the university can then probe whether it was low perceived ease of use (PEOU) and/or perceived usefulness (PU) that were responsible for the low uptake of interventions. Using results of Holden and Rada's (2011) study, where technology self-efficacy was found to have a significantly stronger relationship with PEOU and

perceived ease of use and usability (PEUU), it can be argued that it was perhaps PU and not PEOU that was a factor regarding the low uptake of interventions. Given the high levels of COTSE that were observed in the current study, it can, therefore, be assumed that the students believed that adopting the various interventions would not be useful in providing better learning outcomes. As such, their interest in the adoption of these interventions was low, hence the low uptake.

Regarding the low use of e-tutorial services, perhaps the answer was partly provided by the results of the current study. Going back to the results of SRLE, particularly its insignificance to student success, perhaps the majority of Unisa students consider themselves to be more autonomous. This implies that they consider themselves to require minimal or no interactions with e-tutors hence they saw low importance in being able to set aside time for discussions. However, the validity of this argument needs to be tested with more balanced research since the current study had mostly successful students.

Furthermore, this research has emphasised the importance of understanding of institutional context to student success, and that ensuring this understanding is two-way. Not only do institutions have to be transparent regarding their characteristics but students need to also familiarise themselves with institutional contexts prior to enrolling into them. This is especially important in distance learning given the demonstrated importance of DLSE to distance learning success.

At Unisa, efforts to familiarise prospective students with the institutional context are currently integrated into the application process by means of links and a student readiness tool that assesses students' readiness to study through ODeL. However, the results of this study suggest that not all students, particularly those with low DLSE are aware of or have utilised this tool. Alternatively, the results could suggest that despite being aware, students took a passive stance instead of taking the necessary time to understand their institutional

context properly. As such, it is highly important for distance learning institutions to explore new ways of engaging with students, to help them better understand their institutional context.

To this end, the following recommendations are made. To improve the use of the student readiness tool and consequently the student-institution fit, Unisa needs to market the tool on social media and other online platforms by providing pop-up advertisements with a link to the tool. Given that most prospective and even current students are more active on such platforms than on the Unisa website, this has the potential to not only increase its visibility but might also increase its use.

Moreover, instead of only creating television advertisements on how distance education enables students who are in full-time employment to obtain post-school qualifications, Unisa can have television advertisements focusing specifically on what it takes to succeed in ODeL. After all, it is already common knowledge that distance education affords most students, particularly non-traditional students, the opportunity to study further. What seems to be lacking is not only what it takes to succeed in open distance learning but how self-perceptions of readiness to succeed can impact actual performance.

Therefore, as a top-up to these advertisements, Unisa can also develop a mobile application of the student readiness tool that can be downloaded for free on Android or Windows phones. This application can then be used by the students to assess their readiness for distance learning and perceived readiness to succeed, particularly, DLSE.

Further to that, Unisa needs to also take their campaigns to high schools. This is especially important considering its current and continued role in the expansion of access to further education opportunities. By taking the campaigns to schools, high schoolers will have the opportunity to understand Unisa as an institution of higher learning, particularly at a time when they are exploring options of where to study after matriculating. As such, this might

result in learners not simply viewing Unisa and distance learning in general, as last option institutions, to be enrolled at if their applications are not accepted elsewhere, but to actively choosing such institutions for their further studies. By so doing, it is assumed that the learners would then choose Unisa as an institution with which they consider themselves to have a good fit. However, for those students for whom it might still be the last option, at least their knowledge of what it takes to study through distance learning might be increased. This could in turn positively affect their distance learning self-efficacy and consequently their performance once enrolled. For others, understanding of institutional context might mean that instead of distance learning, they choose institutions with which they have a better fit and consequently better chances of success. A spinoff to this could be that when government eventually fulfills their mandate to expand the number of distance learning institutions, there will already be a viable market for those institutions. Therefore, Unisa can approach government to partner with them in these initiatives.

9.3 Study Limitations

There were several limitations inherent in this study. These included the low response rate, discussed earlier, which affected the ability to generalise the findings. Other limitations that were observed were as follows. Not only did most of the respondents to this study have high self-efficacy scores but the majority also had high NQF credit scores. Having high NQF scores meant that most of the respondents were classified as having been successful. This not only meant that the data was not normally distributed but could have possibly also influenced the observed relationships between the various self-efficacy measures used and student achievement.

Furthermore, the fact that the data was not normally distributed necessitated the use of non-parametric tests, particularly independent samples tests, with no corrections to the data (such as Bonferroni) made. Also, worth noting is the timing of the research itself, which

could have positively affected the students' self-efficacy ratings. The research was conducted during the second semester/term. At this point, students had not only experienced learning at a distance but had already gone through various assessments, namely handed in course assignments and written semester 1 examinations and even semester 2 examinations, for some. All these experiences, particularly if students had positive assessments on their assignments and examinations, could have resulted in the observed positive self-efficacy ratings.

9.4 Recommendations for Future Research

Regarding possible future research which can help ensure student success in ODeL institutions such as Unisa, the following suggestions are made:

Future research can be conducted on how to improve autonomy amongst students enrolling at distance learning institutions. As was seen when the results of SRLE were reported, no significant effect was found on student success, leading to the assumption that the surveyed population had been more autonomous and thus nullifying any possible effects of SRLE on student success. Therefore, by identifying ways to improve student autonomy, Unisa and other distance learning institutions can then assist in improving student success.

However, since this cannot be done for all students, less autonomous students, particularly at Unisa, can be supported by investigating ways of improving the uptake of current institutional support initiatives such as e-tutorials to help with their studies. This can be done by obtaining suggestions from students on how to best provide tutorial and lecture support to ensure high uptake and to assist in bridging the transactional distance.

Furthermore, it was indicated earlier that this study had not asked respondents whether they were satisfied with the support they had received from their lecturers and tutors. Future research can also incorporate questions on students' use of and satisfaction with available support services, including lecturer and tutorial support. This extra information can then be used to test for significant differences in student performance based on their use and satisfaction with student support services.

10 APPENDICES

10.1 Appendix A: Ethical Approval Letter, Wits University



Wits School of Education

27 St Andrews Road, Parktown, Johannesburg, 2193 Private Bag 3, Wits 2050, South Africa. Tel: +27 11 717-3064 Fax: +27 11 717-3100 E-mail: enquiries@educ.wits.ac.za Website: www.wits.ac.za

01 June 2015

Student Number: 912625

Protocol Number: 2015ECE008D

Dear Sonia Tladi

Application for Ethics Clearance: Doctor of Philosophy

Thank you very much for your ethics application. The Ethics Committee in Education of the Faculty of Humanities, acting on behalf of the Senate, has considered your application for ethics clearance for your proposal entitled:

Students' Perceptions of the Requirements of Success in an ODeL Institution: The Case of Unisa

The committee recently met and I am pleased to inform you that **clearance was granted**.

Please use the above protocol number in all correspondence to the relevant research parties (schools, parents, learners etc.) and include it in your research report or project on the title page.

The Protocol Number above should be submitted to the Graduate Studies in Education Committee upon submission of your final research report.

All the best with your research project.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'M Mabele'.

Wits School of Education

011 717-3416

cc Supervisor- Dr Reuben Dlamini

10.2 Appendix B: Ethical Approval Letter, Unisa Research Ethics Review Committee



UNISA RESEARCH ETHICS REVIEW COMMITTEE

29 June 2015

Ref #: 2015_URERC_010_ER
Ms Lerato Sonia Tladi
Student #: 912625
Staff #: 90167996

Dear Ms Lerato S. Tladi

Decision: Ethics Approval

Name: Ms Lerato S. Tladi, Research Department, Directorate: Institutional Research
(012) 429-2034/071 176 1936
tladils@unisa.ac.za

Supervisor: Dr Reuben Dlamini, Department of Educational Information Technology
University of Witwatersrand, Reuben.dlamini@wits.ac.za
(011) 717-3359/083 928 9663

**Proposal: Students' Perceptions of the Requirements of Success in an ODeL
institution: The Case of Unisa.**

Qualification: Doctor of Philosophy

Thank you for the application for research ethics clearance by the Unisa Research Ethics Review Committee for the above mentioned research. Final approval is granted for the study for the period 1 July 2015 till 31 July 2016.

*The **low risk application** was reviewed through an expedited ethics review procedures in compliance with the Unisa Policy on Research Ethics by the University of South Africa Research Ethics Review Committee (URERC).*

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 UNISA Research Ethics Review Committee. An amended application could be requested if there are substantial changes from the*



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
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existing proposal, especially if those changes affect any of the study-related risks for the research participants.

- 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 2015_URERC_010_ER should be clearly indicated on all forms of communication with the intended research participants, as well as with the URERC.

Kind regards,



Dr Retha Visagie (pp. Prof Les Labuschagne – Chair Person: URERC)

E-mail: visagrg@unisa.ac.za

Tel: (012) 429-2478



10.3 Appendix C: Ethical Approval Letter, Unisa Research Permission Sub-Committee of SRHDC



RESEARCH PERMISSION SUB-COMMITTEE OF SRIHDC

14 July 2015

Ref #: 2015_RPSC_058

Ms. Lerato Tladi

Student #:

Staff #: 90167996

Dear Ms. Lerato Tladi,

Decision: Research Permission
Approval for the period July 2015 to
31 July 2016

Principal Investigator:

Ms. Lerato Tladi

Department of Research Management

Directorate: Institutional Research

UNISA

tladils@unisa.ac.za

(012) 429-2034/071 176 1936

Supervisor: Dr. Reuben Dlamini

Reuben.dlamini@wits.ac.za

(011) 717-3359/ 083 928 9663

A study titled: "Students' Perceptions of the Requirements of Success in an ODeL
Institution: The Case of Unisa.

Your application regarding permission to conduct research involving UNISA staff 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 and Innovation and Higher Degrees Committee (SRIHDC) on 07 July 2015.

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

1. Distribute the link to a web-based survey through the MyLife email addresses of students who registered for the first time at Unisa in the first and second semesters of 2015.
2. Gain access to de-identified secondary data of the students mentioned in point 1 above and get information on the number of module credits the students have accumulated.



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3. In line with the Protection of Personal Information Act (POPI Act), NO. 4 of 2013, which prohibits the dissemination of personal information without prior consent of the owner, the RPSC cannot grant you access to the students' cellphone numbers.

You are requested to submit a report of the study to the Research Permission Subcommittee (RPSC@unisa.ac.za) within 12 months of completion of the study.

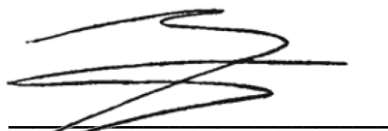
The personal information made available to the researcher(s)/gatekeeper(s) will only be used for the advancement of this research project as indicated and for the purpose as described in this permission letter. The researcher(s)/gatekeeper(s) must take all appropriate precautionary measures to protect the personal information given to him/her/them in good faith and it must not be passed on to third parties.

Note:

The reference number 2015_RPSC_058 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,



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10.4 Appendix D: Survey instrument

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2015 Students Perceptions of Success in an ODeL Institution Survey



2015 Students Perceptions of Success in an ODeL Institution Survey

Dear Student

As you might be aware, Unisa has had a change in its business model from an ODL institution to an ODeL institution. This change in business model will have implications on how teaching and learning occurs at Unisa. The purpose of this survey is to not only determine students' understanding of what an ODeL institution is but to also assess their perceived readiness for studying in such an environment. This is of utmost importance as student success is a priority at Unisa and as we know, student support is an integral thereof. By responding to this survey, you enable Unisa to determine how ready students are for this change in business plan and most importantly, what support measures to put in place to ensure that students are able to succeed in their studies despite the change. As such, your participation in this survey is of utmost importance.

Please note the following with regard to participating in the survey

1. It is anticipated that the survey will take no more than 20 minutes of your time. You are therefore encouraged to complete it in one sitting.
2. Participation is entirely voluntary. However, given the importance of your response to ensure tailored student support, you are encouraged to participate.
3. You may opt to leave the survey at any point during participation, with no consequences. However, given the importance of each section in determining students' readiness and consequently the necessary support initiatives, you are encouraged to complete the entire survey.
4. Because this survey is aimed at gathering your understanding and views, there are no right or wrong answers. Instead the responses you provide should be the most accurate/honest reflection of your understanding of the various issues addressed.
5. The results of the survey will not only be shared with Unisa management but will also be presented at local and international conferences.
6. Furthermore, the results will also be used as part of a Doctor of Philosophy degree by the researcher and will also be used for publication purposes in suitable local or international journals.
7. Should you be interested in the results of the survey, feel free to contact the researcher directly. The details are provided below. A concise report will also be made available to the Dean of Students for circulation to the wider student body.
8. Although your student number is required in order to enable the researcher to match the responses to the survey to actual student performance data stored in the student database (in order to determine if students' perceptions have any influence on their actual performance), student numbers will not be reported when reporting the results.
9. Instead, results will be disaggregated by demographic variables such as race, gender, age-group, etc, thus making it impossible to identify individual respondents.
10. This study complies with research practice as ethical clearance was sought at Unisa as well as the University of Witwatersrand (Wits) before commencing with the survey.

Should you have any questions regarding this survey, you are welcome to contact the researcher using the details below:

<https://login.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview>

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Name: Ms Lerato Sonia Tladi
Email: tladils@unisa.ac.za
Tel: 012 429 2034

Before commencing with the study, it is important that you indicate your consent to participate by clicking on the appropriate response below

- ☐ I am interested in participating in this survey
☐ I have no interest in participating in this survey

Did you start studying with Unisa for the first time during Semester I of 2015?

- ☐ Yes
☐ No

Are you registered again during Semester II of 2015?

- ☐ Yes
☐ No

DEMOGRAPHICS

DEMOGRAPHICS

Please provide your student number. Remember it's only required to obtain performance data (module credits attained) from the student database in order to determine if perceptions have any effect on actual student performance

Please indicate your gender

- ☐ Male
☐ Female

Please indicate your race group

- ☐ African
☐ Coloured
☐ Indian
☐ White
☐ Other

How old are you?

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What is your marital status?

- ☐ Single, never married
- ☐ Married
- ☐ Living with a partner
- ☐ Divorced
- ☐ Separated
- ☐ Widowed
- ☐ Other

What is your employment status?

- ☐ Self-employed
- ☐ Part-time employed
- ☐ Full-time employed
- ☐ Unemployed

What type of residential area do you reside in?

- ☐ Suburb
- ☐ Township
- ☐ City (e.g. Pretoria CBD and Johannesburg)
- ☐ Informal settlement
- ☐ Village
- ☐ Other

Do you have any dependents (children under 5 years of age living with you)?

- ☐ Yes
- ☐ No

How many dependents are your responsible for?

- ☐ 1-2
- ☐ 3-4
- ☐ 5+

Did you have prior distance learning experience before enrolling for studies with Unisa?

- ☐ Yes, I have studied through correspondence with colleges such as Damelin, Lyceum, INTEC, CollegeSA, etc
- ☐ No, I had no prior distance learning experience before joining Unisa

ACCESS TO TECHNOLOGY

Which of the following technological tools do you **HAVE ACCESS** to? You may select more than one

☐

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- ☐ Own laptop or PC
- ☐ Other laptop or PC (e.g. work/spouse/computer lab...)
- ☐ Own reliable internet connection (e.g. modem/3G card)
- ☐ Other reliable internet connection (e.g. work/campus/internet cafe)
- ☐ Mobile device (smartphone or tablet) with internet functionality
- ☐ Mobile device (smartphone or tablet) with email functionality
- ☐ Mobile device (smartphone or tablet) with internet searching/browsing functionality (e.g. Google, Firefox)

Which of the following technological tools do you **OWN**? You may select more than one

- ☐ Own laptop or PC
- ☐ Other laptop or PC (e.g. work/spouse/computer lab...)
- ☐ Own reliable internet connection (e.g. modem/3G card)
- ☐ Other reliable internet connection (e.g. work/campus/internet cafe)
- ☐ Mobile device (smartphone or tablet) with internet functionality
- ☐ Mobile device (smartphone or tablet) with email functionality
- ☐ Mobile device (smartphone or tablet) with internet searching/browsing functionality (e.g. Google, Firefox)

UNDERSTANDING OF AN ODeL ENVIRONMENT

UNDERSTANDING OF AN ODeL ENVIRONMENT

In this section, you will be asked several questions related to your understanding of what an ODeL institution is. Please answer as best as you can- there are no wrong or right answers

Do you know what the acronym ODeL stands for?

- ☐ Yes
- ☐ No

Please indicate what you think the acronym ODeL stands for

In your opinion, what is the difference between an Open Distance and eLearning (ODeL) institution and a contact institution?

PERCEPTIONS OF THE REQUIREMENTS OF SUCCESS IN AN ODeL INSTITUTION

PERCEPTIONS OF THE REQUIREMENTS OF SUCCESS IN AN ODeL INSTITUTION

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This section is concerned with understanding **what you as a student think is required (student characteristics, resources and student support) to successfully study through a distance learning institution** such as Unisa. As such, there is no right or wrong answer, just your honest response.

Which of the following **attributes do you think you need to have in order to successfully study in a distance learning institution** like Unisa?

Please rate the following according to how you perceive them as important, from most important (1) to least important (12). To rate items, please enter number (from 1 to 12) into the box next to the relevant statement- remember 1 is Highly Important and 12 is Least Important

- The ability to remain motivated despite challenges
- The ability to study with little or no supervision and assistance
- The ability to study on their own, with little or no contact with other students
- The ability to manage his/her time well
- Being highly committed to obtaining his/her qualification
- Having prior experience of studying in a distance learning environment
- Having computer experience, i.e. internet browsing, typing, using Microsoft Office applications such Word, Excel, sending emails, using chatrooms...
- Being able to set and prioritize their goals with regard to their studies
- Having the ability to balance work and family responsibilities with study commitments
- Being able to set aside time to participate in online learning forums such as discussion classes
- Being able to read and write well in English/Afrikaans
- Being able to seek help from other students, the lecturer or institution when required

What **type of resources do you think you require in order to succeed in an ODeL institution** like Unisa?

- ☐ Own laptop or personal computer
- ☐ Other laptop or personal computer (e.g. work, internet cafe, computer lab, etc.)
- ☐ Own reliable internet connection
- ☐ Other reliable internet connection (e.g. work, internet cafe, computer lab, etc.)
- ☐ Tablet or smartphone
- ☐ Other, please specify

What **type of support do you think you require to successfully study in an ODeL institution** such as Unisa.

Please rate the support required by order of importance with 1 being Highly Important and 8 being Least Important. To rate items, please enter number (from 1 to 8) into the box next to the relevant statement- remember 1 is Highly Important

- Face-to-face lecturer support
- Online lecturer support (e.g. email/telephone)
- Face-to-face tutorial support
- Online tutorial support (e.g. e-tutors)
- General student support (e.g. counselling support by the University)
- Support by family (financial and otherwise)

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☐ Support by employer (financial and otherwise)

☐ Other, please specify

PERCEIVED READINESS FOR SUCCESSFUL ODeL STUDY

PERCEIVED READINESS FOR SUCCESSFUL ODeL STUDY

This section is concerned with **your perceived readiness to successfully study through a distance learning institution** such as Unisa. Various aspects will be covered such as persistence, time management and seeking help with regard to studies. As such, there is no right or wrong answer, just your honest response.

STUDENT PERSISTENCE

Please indicate your agreement with the following **statements relating to your perceived readiness to successfully complete your studies at Unisa**

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I feel confident that I can continue studying until I complete my qualification even if I feel lazy or bored with my studies	☐	☐	☐	☐	☐	☐
I feel confident in my ability to not give up even when the coursework is difficult	☐	☐	☐	☐	☐	☐
I feel confident in my ability to do well in my studies even if I do not enjoy the coursework	☐	☐	☐	☐	☐	☐
I feel confident in my ability to continue studying even when the study material is not interesting	☐	☐	☐	☐	☐	☐

TIME AND STUDY ENVIRONMENT MANAGEMENT

Please indicate your agreement with the following **statements relating to your perceived readiness to successfully complete your studies at Unisa**

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I am able to find a place to study where I can concentrate without interruptions	☐	☐	☐	☐	☐	☐
I am able to set time aside for studying	☐	☐	☐	☐	☐	☐
I am able to make the most of the time I have set aside for studying	☐	☐	☐	☐	☐	☐
I am confident in my ability to submit assignments on time	☐	☐	☐	☐	☐	☐
I am confident in my ability to prepare well for examinations	☐	☐	☐	☐	☐	☐
I am confident in my ability to balance between my studies and other responsibilities, e.g. work or family	☐	☐	☐	☐	☐	☐

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SEEKING HELP

Please indicate your agreement with the following **statements relating to seeking help in relation to your studies**

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I am confident in my ability to seek help if/when I need it for my studies	☐	☐	☐	☐	☐	☐
I am confident in my ability to seek help if I struggled with understanding the study material	☐	☐	☐	☐	☐	☐
I am confident in my ability to seek help if I encounter difficulties whilst completing my assignment	☐	☐	☐	☐	☐	☐
I am confident in my ability to seek help if I encounter difficulties whilst preparing for the examination/s	☐	☐	☐	☐	☐	☐

DISTANCE LEARNING SELF-EFFICACY

Please indicate your agreement with the following **statements relating to learning through distance education**

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I believe that there is no way to learn successfully through distance learning	☐	☐	☐	☐	☐	☐
Learning through distance education prevents me from learning effectively	☐	☐	☐	☐	☐	☐
I would encourage others to study via distance learning	☐	☐	☐	☐	☐	☐
I regret my choice to study via distance learning	☐	☐	☐	☐	☐	☐
I believe I can learn as much through distance education as I would in contact (face-to-face) education	☐	☐	☐	☐	☐	☐
I believe I would learn as well in distance education as I would in contact education	☐	☐	☐	☐	☐	☐
I love studying through distance learning	☐	☐	☐	☐	☐	☐
I believe I would do better in my studies in a contact institution compared to a distance learning institution	☐	☐	☐	☐	☐	☐
In the future, I would study again through distance learning	☐	☐	☐	☐	☐	☐

ONLINE TECHNOLOGIES SELF-EFFICACY**ONLINE TECHNOLOGIES SELF-EFFICACY**

This section is concerned with understanding how confident you feel or would feel using various online technologies such as internet, email, etc. which are important when studying via distance

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learning. If you do not have any experience performing any of the functions, you still need to complete the questions as this is about your perceptions about your confidence to perform those activities. ***NB! If you are not familiar with the process that the statement is describing, please select "Not Confident At All"***

INTERNET COMPETENCIES

Please indicate how confident you would feel using online technologies in order to succeed in distance learning by selecting the appropriate response for each of the statements below. ***NB! If you are not familiar with the process that the statement is describing, please select "Not Confident At All"***

	Not Confident At All	Not Very Confident	Somewhat Confident	Very Confident
Opening a web browser (e.g. Google Chrome/Internet Explorer)	☐	☐	☐	☐
Reading text from a website	☐	☐	☐	☐
Clicking on a link to visit a specific website	☐	☐	☐	☐
Accessing a specific website by typing the address(URL)	☐	☐	☐	☐
Bookmarking a website	☐	☐	☐	☐
Performing an internet search using one or more keywords	☐	☐	☐	☐
Downloading/saving an image from a website to a disk	☐	☐	☐	☐
Copying text from a website and pasting it to a Word document	☐	☐	☐	☐

Using myUnisa

Please indicate how confident you would feel using myUnisa in order to succeed in distance learning by selecting the appropriate response for each of the statements below. ***NB! If you are not familiar with the process that the statement is describing, please select "Not Confident At All"***

	Not Confident At All	Not Very Confident	Somewhat Confident	Very Confident
Claiming a UNISA Login	☐	☐	☐	☐
Signing on and off myUnisa	☐	☐	☐	☐
Entering into a discussion forum on myUnisa	☐	☐	☐	☐
Reading messages posted by the lecturer, e-tutor or other students on the discussion forum on myUnisa	☐	☐	☐	☐
Posting messages in the discussion forums on myUnisa	☐	☐	☐	☐
Reading emails sent by the lecturer to your myLife email address	☐	☐	☐	☐
Accessing lecturer notes on myUnisa	☐	☐	☐	☐
Submitting assignments via myUnisa	☐	☐	☐	☐
Checking prescribed textbooks using myUnisa	☐	☐	☐	☐
Obtaining examinations information	☐	☐	☐	☐
Obtaining information relating to learner support	☐	☐	☐	☐

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myLibrary (Unisa's online library)

Please indicate how confident you would feel using myLibrary to search for and/or request books or other learning material from the Unisa library in order to succeed in distance learning by selecting the appropriate response for each of the statements below. ***NB! If you are not familiar with the process that the statement is describing, please select "Not Confident At All"***

	Not Confident At All	Not Very Confident	Somewhat Confident	Very Confident
Logging on and off myLibrary	☐	☐	☐	☐
Searching for books/articles using keywords/author names, etc	☐	☐	☐	☐
Requesting a book(s) or article(s) using myLibrary	☐	☐	☐	☐
Establishing the physical location of a searched item (book/article)	☐	☐	☐	☐

Email Communication

Please indicate how confident you would feel performing various email functions in order to succeed in distance learning by selecting the appropriate response for each of the statements below. ***NB! If you are not familiar with the process that the statement is describing, please select "Not Confident At All"***

	Not Confident At All	Not Very Confident	Somewhat Confident	Very Confident
Logging on and off an e-mail system (e.g. myLife, GMail, Yahoo mail, etc)	☐	☐	☐	☐
Sending an e-mail to a specific person	☐	☐	☐	☐
Sending an e-mail to several people at the same time	☐	☐	☐	☐
Replying to an e-mail message	☐	☐	☐	☐
Forwarding an e-mail message	☐	☐	☐	☐
Deleting e-mail messages	☐	☐	☐	☐
Creating an address book within an email system	☐	☐	☐	☐
Attaching a file to an e-mail message then sending it	☐	☐	☐	☐
Saving a file sent to me through an email message then viewing the contents of the file	☐	☐	☐	☐

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