

**A Framework for the Implementation of Online Learning in Distance Education: A Case
Study from the Global South**

by

Erin Marie Naude

submitted in accordance with the requirements for
the degree of

Doctor of Philosophy in Management Studies

in the subject

Business Management

at the

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SUPERVISOR: Prof. P. Prinsloo

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ACKNOWLEDGEMENTS

As I approach the closing stages of my doctoral studies this is a good moment to summarise my five-year journey. But first, I want to share some background information about myself. I completed my three-year national diploma in Computer Data Processing after matriculating in 1984. In 1994, whilst working at Technikon South Africa, I earned a higher national diploma in management practice. As I was then primarily responsible for supervising tutors, which required human resource operations, I became interested in the human resource profession, and finished a diploma in Personnel Management at the end of 1996. My life then consisted of marriage and working hard to build my career, so pursuing further education was not feasible until 2006, when I completed a two-year Magister Technologiae in Business Administration. This qualification was a coursework master's degree with five modules and a dissertation of about 120 pages. At this point our department was restructured, and reported directly to the Department of Facilitation of Learning. We worked closely with the academics, and the Executive Director at the time emphasised the significance of academic personal development. Several regional staff members enrolled for their masters and doctors degrees, and it was one of these, Dr Mangi Ntuli, who encouraged me to pursue further studies. Throughout my time at Unisa, I got to know Professor Paul Prinsloo quite well, and I have always admired his knowledge as well as his sensitive, caring approach to people. After contacting him for assistance with my personal development, we met at the Unisa cafeteria one morning. I shared my aspirations with him, as well as my lack of research experience and other weaknesses, and he decided to support me on my journey. I registered my proposal at the start of 2019 and struggled to decide on a suitable research topic. I initially worked on Sir John Daniel's theory: Higher Education Iron Triangle Access, Cost and Quality, and soon realised that I could not find pertinent information on the implementation of online learning. Finding this knowledge gap changed my focus.

After identifying the topic, conducting preliminary literature reviews, and reading numerous publications, the study began to take shape. It was an extremely challenging journey in several respects. I encountered difficulties with academic writing, research design, and methodology. I really struggled to comprehend how to write a proposal, to develop frameworks, and master software such as atlasti, among other things. Despite all the obstacles I maintained a close relationship with my supervisor. Many years ago the late Dr Willie Coetzee, a former employee of TSA, used to tell me about the wonderful experience and relationship he had with his supervisor and how they worked together, communicating with each other, regardless of the time

of day, to complete his doctorate. I desired a comparable experience that embodies mutual respect, camaraderie, mentoring, and support, and I can affirm that my supervisor exemplified these qualities as he accompanied me through five years of study. There were times when I felt I knew nothing and other times when I believed I was getting the hang of things, only to discover that I knew so little.

It was an arduous five years, but I learned a great deal not only about research but also about the field of open distance education. I feel that I am now able to participate in debates, recognise where there are gaps, comprehend topics that I had previously been unable to grasp, and use new abilities that I have acquired along this journey.

I must thank my family, especially my husband, who supported me, cooked countless meals, oversaw the household, and represented me at several family and other gatherings. I also thank my children, grandchildren, and other family members such as my parents, brother, and sisters, as well as all of my cherished in-laws, who supported and encouraged me to work hard and complete my education. To complete this education, I missed numerous celebrations, my husband's Trans Agulhas rubber duck race, several weekends when we were unable to go camping, outings with my antique car, and I had to postpone restorations on my historic cars. I need to thank my Lord and Saviour for not only supporting me but also for supporting my supervisor. Both of us lost our sisters during this journey as well as other very close family members. My supervisor and I experienced poor health challenges during this journey but swiftly recovered to continue our work.

I need to thank Unisa for the opportunity and benefits to further my studies. Lastly, my editor, mentor, and motivator, Pamela Ryan, for her hard work, and the patience and diligence she displayed in editing this script. It was an honour to work with her and to get to know her, and I sincerely hope our paths will not end here. My transcriber Magda Botha, my co-coder, the late Professor Bridgette Smit, Christa Prinsloo, and the graphical designer, I thank you all for your devoted support.

ABSTRACT

A FRAMEWORK FOR THE IMPLEMENTATION OF ONLINE LEARNING IN DISTANCE EDUCATION: A CASE STUDY FROM THE GLOBAL SOUTH

The evolution of Unisa through its different phases of pedagogical delivery, and its strategic intention to become a blended open-distance education provider, has to be understood against international and national trends in higher education and, specifically, open, distance, and distributed learning. To partially address these trends, the online Signature Course (SC) concept was introduced to the university, and the investigations, consultations, networking, and planning began in 2009 with a team in place by 2011. The SCs were the first fully online courses implemented at scale at Unisa in 2013, however, the implementation process was never fully mapped. This study will, therefore map the implementation process in different stages. The main purpose of the SC process evaluation is grounded in continuous institutional learning through development, knowledge generation, and a process of qualitative and quantitative improvements. The implementation process of the SCs will provide information on different implementation models, factors contributing to successful implementation, key design elements, variables that played a role in each of the implementation stages, interdependencies between the different functional areas, and decisions that were taken, showing their impact on the process. The research philosophy of pragmatism underpins this single-case study and its sequential, qualitative method and explorative research design. Data collection methods comprise document analysis, interviews, and a pluralistic walk-through to collect data from planners, implementers, and users. The academic value of this contribution to research will be a comprehensive framework for the implementation of online learning with a special emphasis on the global south.

LIST OF ABBREVIATIONS

ACHRAM	Academic Human Resources Allocation Model
AIMS	Academic Information Management System
AIRN	Active Implementation Research Network
App	Mobile Application
ASC	Academic Support Coordinators
BPR	Business Process Reengineering
CAES	College of Agriculture and Environmental Sciences
CAS	College of Accounting Sciences
CCM	Corporate Communication and Marketing
CD-ROM	Compact disc read-only memory
CEDU	College of Education
CEMS	College of Economic and Management Sciences
CHS	College of Human Sciences
CIES	Council for the International Exchange of Scholars
CIPP	Context, Inputs, Processes and Products
CLAW	College of Law
Col	Community of Inquiry
COL	Commonwealth of Learning
CPD	Centre for Professional Development
CSET	College of Science Engineering and Technology
DAETE	Development of Accreditation in Engineering Training and Education
DCDT	Curriculum Development and Transformation
DCLD	Department of Curriculum and Learning Development
DE	Distance Education
DHET	Department for Higher Education and Training
DIA	Department of Institutional Development
DISS	Department Instructional Support and Services
DLA	Digital Learning advisors
DSAA	Student Assessment and Administration
DSAR	Department Student Admission and Registration
DFTL	Department of Tuition and Facilitation of Learning

DVD	Digital versatile disk
EBP	Evidenced-based practice
eMM	e-learning Maturity Model
ERC	Ethics Review Committee
ERP	Enterprise Resource Planning
ERT	Emergency Remote Teaching
ESC	Empire State College
EUC/EUP	Ethical Information and Communication Technologies for Development Solutions
FAQ	Frequently Asked Questions
FTA	Framework for the implementation of a team approach to curriculum and learning development
GDP	Gross Domestic Product
HCC	Herkimer Community College
HE	Higher Education
HEA's	Higher Education Academies
HEQC	Higher Education Quality Committee
HR	Human Resources
HRIS	Human Resource Information Systems
HRD	Human Resources Department
HU	Howard University
ICT	Information and Communication Technology
IHEP	Institute for Higher Education Policy
IIE	Institute of International Education
IMM	Interactive Multimedia
IT	Information Technology
JHU	Johns Hopkins University
LMS	Learning Management System
LTI	Learning Technology Interoperable Application
Mancom	Unisa's Executive Management Committee
MCQ	Multiple Choice Questions
MIT	Massachusetts Institute of Technology
MOA	Memorandum of Agreement

MOOC	Massive Open Online Courses
MS	Microsoft
NQF	National Qualification Framework
OBE	Outcomes-Based Education
ODDE	Open, Distance, and Digital Education
ODeL	Open Distance e-Learning
ODL	Open Distance Learning
OECD	Organisation for Economic Co-Operation and Development
OER	Open Electronical Resources
OTL	Office for Teaching and Learning
OU	Open University
OOUK	Open University of the United Kingdom
PDCA	Plan-Do-Check-Act
PDPP	Planning, Development, Process and Product
PE	Programme Evaluation
PD	Professional Development
PQM	Programme Quality Mix
PRC	Research and Permission Committee
PVC	Pro Vice-Chancellor
QA	Quality Assurance
QIF	Quality Implementation Framework
QMS	Quality Management System
ROI	Return on Investment
RPSC	Research Permission Sub-Committee
SAA	Student Assessment and Administration
SAIDE	South Africa Institute for Distance Education
SC	Signature Course
SCARLET	Center for Applied Research in Learning and Teaching
SER	Self-Evaluation Report
SIC	Stages of Implementation Completion
SIS	Student Information System
SMPD	Study Material Print Production and Distribution
SOAR	S=trategies, O=bjectives, A=ssesment and R=esources

SOC	Sense of Community
SRIPCC	Senate Research, Innovation, Postgraduate Degrees and Commercialisation Committee
STLC	Senate Tuition and Learner Support Committee
SRU	Student Retention Unit
SUNY	State University of New York
TA	Teaching Assistant
TAM	Technology Acceptance Model
TESC	Thomas Edison State College
UCB	University California at Berkeley
UFE	Utilization-Focused Evaluation model
UG	Undergraduate
ULCD	User-Student Centred Design
UMUC	University of Maryland University College
UNIPOOLE	Unisa portable offline-online learning environment
Unisa	University of South Africa
UoM	University of Mauritius
USA	United States of America
VLE	Virtual Learning Environment
WSRP	Web Services for Remote Portlets
WWW	World Wide Web

Letter from Editor

14 November 2023

To whom it may concern:

I, Pamela Dale Ryan, confirm that I have done a thorough edit of Ms Erin Naude's doctoral thesis in time for her submission.

I am Professor Emerita in English Studies at the University of South Africa and was Chair of the Department of English Studies from 2004 to 2008. Since my retirement from Unisa in 2013, I have taken on academic editing tasks.

For further information, you may contact me at:

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Sincerely

Pamela Ryan

Pamela Ryan (Prof).

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CHAPTER 1

RESEARCH ORIENTATION

DEFINITIONS

Distance Education	Distance education is often contrasted with on-campus or residential education and refers to a unique form of education where students and providing institution are separated by physical distance and time (asynchronous) making use of a range of technologies.
Africanisation:	<p>The concept of Africanisation (in the context of Unisa) is not defined in the Unisa Curriculum Policy but described as follows:</p> <p style="padding-left: 40px;">Africanisation is rooted within the African common identities, largely defined by their histories and a shared struggle against colonialism. These historical legacies have impacted on growth and development, as well as the social, economic and political contexts on the continent. The historical legacies have prompted the development of more democratic governance and sounder economic policies. In addition, a sense of supportive cohesion has been created in terms of which the majority of Africans feel comfortable with embracing mutual collectiveness and ubuntu. UNISA academic departments must interrogate and acknowledge these historical legacies in their approach to qualifications and course offerings and in their ambition to serve the needs of African society (University of South Africa, 2012d:12-13).</p>
Implementation	Implementation refers to the intentional realisation of a decision or plan to achieve intended objectives.
Program Evaluation	Refers to the systematic collection, analysis, and use of information in order to answer questions pertaining to the effectiveness and efficiency of projects, programs and policies.

Efficient	Means resources should be used in such a way that there is minimum wastage and be most cost effective (De Beer, 2012; Koi-Akrofi, 2018). The application of resources in such a way that there is no or minimum waste of and most cost effective. Getting it right the first time.
Effective	Means doing and implementing the appropriate/right tasks and ensure right decisions are implemented. (De Beer; Koi-Akrofi, 2018). Implementing the appropriate/right task and decisions
Enterprise resource planning (ERP)	ERP often refer to an integrated system and or applications that an organisation use mostly in real time to collect, store, manage and interpreted data from many business management process activities.
Blended learning	The Policy for the provision of distance education in South African universities in the context of an integrated post-school system defines blended as a combination of face to face and online courses (Department of Higher Education and Training, 2014a). Blended in the South African Policy context is different than how Unisa refers to blended. Unisa refers to blended as a blend between online and print, while in general, blended refers to a blend between face-to-face and online.
Web	The World Wide Web is commonly referred to as Web.
Web 1.0	Web 1.0 website is a passive website providing read only content on the internet.
Web 2.0	Web 2.0 website provide the opportunity to interact and collaborate on the website.
Web 3.0	Web 3.0 much more advanced than web 1.0 and 2.0 as it searches and analyse meaning of words and provide results based on the meaning of these words much faster as they are connected to multiple data sets, applications and devices.

Social media	“is responsive internet-based applications that shares information, content, ideas and thoughts through the building of virtual networks and communities. Users can retrieve and share fast online content. Content includes personal information, documents, audio, videos, and photos.
Implementation evaluation	It is the process through interaction with the participants to document the purpose, design and implementation process of programmes and to determine the strengths and weaknesses, continually improving the current practice and programmes (Tonini, Kirby and Ruud, no date).
Signature courses	In the context of Unisa fully online courses also referred to as modules are defined as : Students are required to apply online, register online, pay fees online, receive their study materials online, do their assessment online and get their results online.
College(s)	A group of the University departments which core function of knowledge/academic facilitation sometimes referred to as faculties in other universities. Within UNISA the following seven Colleges exists: College of Agriculture and Environmental Sciences (CAES) College of Economic and Management Sciences (CEMS) College of Education (CEDU) College of Human Sciences (CHS) College of Law (CLAW) College of Science Engineering and Technology (CSET) College of Accounting Sciences (CAS)
Mega open distance education University	An open distance tertiary education university enrolling 100 000 and more students.
Design process	Breaking down a large project into meaningful units or functions.

CHAPTER 1

RESEARCH ORIENTATION

1.1 INTRODUCTION

From its origins in 1873, the University of South Africa (Unisa) has evolved from an institution which provided examination opportunities as the University of the Cape of Good Hope, to an institution offering correspondence education from 1947 onwards (Boucher, 1973). In 2004 Unisa merged with Technikon RSA and the distance education section of Vudec and became the largest dedicated comprehensive distance education provider in South Africa, the largest provider of distance education on the African continent, and one of the mega-distance education providers in the world. Since its inception, Unisa's pedagogical delivery model has evolved from providing print-based study packages, to supplementing printed materials with audio-visual materials, discussion classes and video conferencing, to digitally supported learning. In 2012 Unisa launched its first, fully online undergraduate courses, known as the Signature Courses (SCs).

The Signature Courses heralded a significant change from a pedagogical strategy relying on printed and digitally supported materials, to a pedagogical delivery that did not include any printed materials but where the whole learning experience was fully online. While, previously, students were supported with resources and options for engagement with peers and instructors, the Signature Courses implied a move from internet-supported means of delivery to fully online teaching and learning. Since the initial implementation of the Signature Courses in 2013, their implementation process has never been formally mapped and evaluated. Though there is some published research on different elements of the SCs' initiative e.g., the relationship between academics' workload and online interaction (Hülsmann & Shabalala, 2016), there is none that critically maps the implementation process of the Signature Courses at Unisa.

As Unisa aims to be fully online by 2030, and is increasingly moving to online learning delivery model:

Unisa has, over time, carved for itself a niche as a provider of quality distance education. In the post-2020 context, UNISA will become an exemplar of online teaching

and e-assessments and a critical disrupter in enabling wider access to Higher Education.

(University of South Africa, 2021: 4)

The university's aim is to discontinue printed materials and increase online delivery and support (University of South Africa, 2021). It is therefore crucial to evaluate the implementation process of the Signature Courses, as the various challenges, processes, and changes in their delivery may hold significant lessons as Unisa becomes a fully blended learning institution. To understand the importance of evaluating the implementation process of these courses as a seminal moment in the evolution of Unisa, we have to locate the evolution of Unisa in the broader context of international trends in (distance) education delivery [see 1.2 Higher Education: Trends and their implications for ODL].

When the Covid-19 outbreak began in 2019, individuals were barred from visiting higher education institutions because of lock-down restrictions relating to a ban on travel. Online learning was put to the test as educational institutions implemented online strategies to ensure access to effective teaching and learning. On the one hand, the Covid-19 pandemic rapidly accelerated the digital transformation globally as HE institutions were forced to rethink how they teach, to re-examine their study material, adjust their mode of instruction, and train the academics and administrative staff to provide effective learning and support to students (Chan, Bista & Allen, 2021; Neuwirth, Jović & Mukherji, 2021). On the other hand, according to Chan et al. (2021), the digital divide worsened during the pandemic as historically disadvantaged populations lacked the ICT infrastructure for computer and internet access in order to study online. Some students had only mobile devices while others had to study at home under difficult conditions owing to the restrictions where families had to share physical spaces for extended periods, and online participation with other students was difficult (Neuwirth, Jović & Mukherji, 2021).

In light of the fact that online learning has become more universally accepted since Covid-19 (Chan, Bista & Allen, 2021), and in the knowledge that Unisa aims to implement online learning at-scale, it is crucial to understand the implementation process of online learning [See section 1.4.4 Emergency Remote Teaching].

How does one evaluate an implementation process?

The evaluation of an online learning implementation process can be viewed through several lenses, for example, through the lenses of quality, auditing, costing, and student/stakeholder satisfaction. However, business management as a multidisciplinary phenomenon (Brevis, 2008) and disciplinary domain provides a very useful lens through which to evaluate the implementation of strategy as an integral and established practice with its core management tasks of planning, organising, leading, motivation, and control (Blok, 2020; Eby, 2017; Mihaescu & Frăticiu, 2016). Parallel to the implementation of a strategy is continuous monitoring, control, reporting and evaluation (Mihăescu & Frăticiu, 2016). According to Brevis (2008), the interrelationship between internal functional areas, for instance, finances, marketing, and human resources creates interdependencies, and each functional area should recognise how its specific area of responsibility impacts on the capacity and responsibilities of the other functional areas (also see Verweire, 2018). In addition to the importance of recognising the interrelationships and interdependencies, there is also the need for visionary leadership, organisational support, institution-wide buy-in, required systems, continuous training, and capable people in functional units to ensure that strategic decisions can be implemented successfully (Kordnaeij, 2016; Tawse & Tabesh, 2020).

To evaluate the implementation process of the Signature Courses at Unisa, it is also important to understand the broader challenges and trends pertaining to national and international higher education, and the ways in which Open Distance Learning (ODL) has evolved through different generations.

The researcher will introduce each Chapter with a diagram illustrating the mains sections of the chapter.

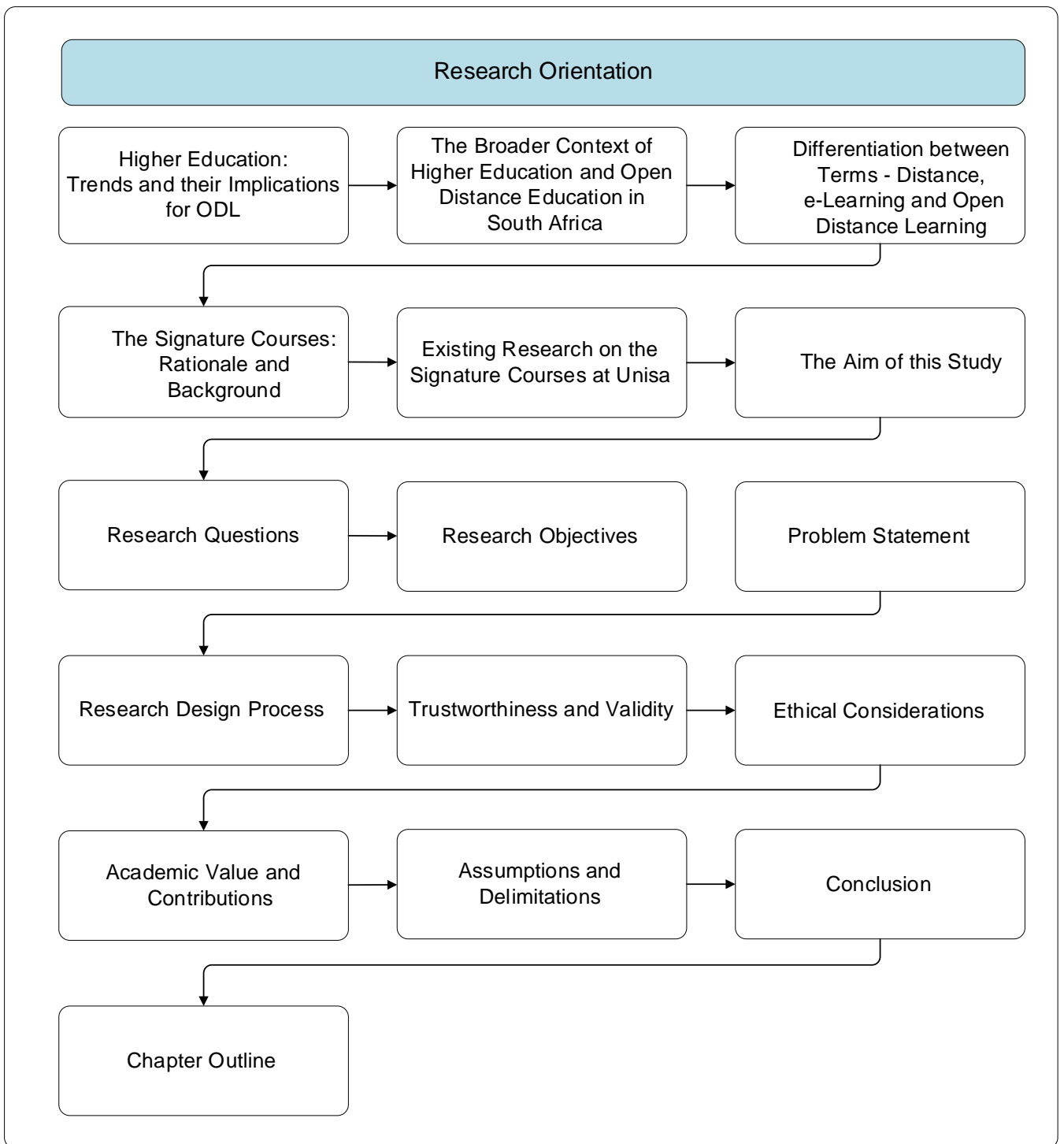


Diagram 1.1: Research Orientation

1.2 HIGHER EDUCATION(HE): TRENDS AND THEIR IMPLICATIONS FOR ODL

Broader trends impacting on Higher Education (HE), and specifically, Open Distance Learning (ODL) include, but are not limited to the continued massification of teaching and learning, the increasing use of technology, partnerships and/or collaborations, changing student mobility, change in funding regimes, concerns regarding student needs, success and retention, private higher education, and the centrality of academics and research (e.g., Altbach, Reisberg & Rumbley, 2009; de Wit & Altbach, 2021; Haigh, 2014; Sneyers & De Witte, 2017). In the context of this study, the next section will briefly discuss a selection of trends that specifically impacted on the development of the SCs at Unisa namely, massification, the use of technology, international accreditation and standardisation, decreasing state funding, and concerns about student success and retention.

The massification in Higher Education resulted from an increase in world population that led to a mass demand for educational opportunities, and also as a way to address inequalities in the workforce owing to gender and political discrepancies (Altbach, Reisberg & Rumbley, 2009). A working definition of massification can be the following: Higher education that is available to everyone resulting in overwhelming numbers of students entering universities and a proliferation of higher education institutions to cater for these numbers of students.

Education massification provides an opportunity to grow a more skilled and knowledgeable population so that the economy can grow and provide more opportunities and competition for an efficient and effective workforce (Redcliffe, 2022). In recent studies, the Organisation for Economic Co-operation and Development (OECD) found that higher qualified people are more readily employed than lower qualified people (OECD, 2022). Higher education levels also increase human capital as the development of knowledge, skills and competencies is crucial to participate and expand socially and economically (OECD, 2022). The massification of higher education also has a snowball effect on innovation, development of goods, and services (Altbach, Reisberg & Rumbley, 2009).

With the increasing demand for access to opportunities, distance education and, specifically, open distance learning, play a significant role. There is, however, evidence that increasing access impacts on the quality of provision as well as the cost (Daniel, Kanwar & Uvalić-Trumbić, 2009; Hülsmann & Shabalala, 2016). The principle behind the notion of 'economies of scale' is that once courses have been designed and developed, the cost per unit becomes less as more students enroll for a particular course whose design and development is already achieved. Distance education has therefore always been regarded as more affordable than traditional face-to-face education (Daniel, Kanwar & Uvalić-Trumbić, 2009; Hülsmann & Shabalala, 2016).

Further, the evolution of distance education is entangled with the evolution of technology as distance education unfolded in different phases or generations (Heydenrych & Prinsloo, 2010; Moore & Kearsley, 2012; Prinsloo, 2016), and as advances in technology expand and enrich opportunities to provide teaching and learning at scale (Moore & Kearsley, 2012; Prinsloo, 2016). According to Khan (2005), the internet provides an open, dynamic, and flexible learning environment for a range of students who were either previously excluded from access to traditional higher education, or who prefer the flexibility and openness that have not been possible before. Online learning therefore provides opportunities to access HE institutions with a wide variety of qualifications where students can choose what and where they want to study (Haigh, 2014; Mihăescu & Frăticiu, 2016). Advances in technology, furthermore, impact on the catchment areas of traditional distance education institutions, and result in increasing competition but also internationalisation (Prinsloo, 2016). The affordances of the internet also resulted in increased competition between higher education institutions, as students may choose to study a wide range of internationally accredited qualifications from the comfort of their homes (Altbach, Reisberg & Rumbley, 2009; de Wit & Altbach, 2021; Haigh, 2014; Mihăescu & Frăticiu, 2016, Vaughan, 2010). There is, however, ample evidence that the benefits of the internet are not equally shared (World Bank, 2016), and that although not everyone is equally connected, everyone is affected (Castells, 2008).

The third trend in international higher education is the need to consider curriculum and qualification accreditation and standardisation, both in national and international contexts such as the Bologna Process. The Bologna Process (a ministerial consultation and agreements on educational quality standards in Europe) produced quality assurance mechanisms to assist with external programme accreditation (Van der Wende & Campbell, 2000; Haigh, 2014; Seyfried &

Pohlenz, 2018). This resulted in various universities adopting these curricula to make their qualifications more competitive (Haigh, 2014; Tight, 2019).

A fourth trend is the general decrease in subsidy from governments (Altbach, Reisberg & Rumbley, 2009; de Wit & Altbach, 2021). According to Bates (2019) high subsidy cuts, particularly in the USA, Australia, England, and Wales, resulted in a massive increase in tuition funds to institutions' budgets. Some governments changed their subsidy formulas from enrolled students to throughput, meaning that only students who successfully receive their qualification get subsidy from the government. The change in funding regimes increases the tension between providing high quality access as opposed to providing affordable education at scale (Cleveland-Innes & Garrison, 2010; Daniel, Kanwar & Uvalić-Trumbić, 2009). There is also evidence that class sizes have increased, with academics carrying bigger teaching and administrative workloads than ever before (Bates, 2019). Under these working conditions, lecturer to student engagement has become constrained. As a consequence, universities have had to seriously consider decreasing their costs without compromising quality by implementing more effective systems to ensure that information and academic content is accessible to students through online systems. As early as 2001, Peters (2001) stated that in the USA academics should digitise their course content and workshop material, and present discussions through the internet to reach more students and generate more revenue for the university. Indeed, more and more residential universities make use of e-learning to cut costs (Tight, 2019).

The fifth trend refers to continued concerns about student success and retention. In order to address high attrition rates, especially in distance education and open distance learning, institutions integrated a range of support activities into their curricula to improve student retention. Unfortunately, distance education institutions have become synonymous with high dropout rates (Kanuka and Brooks, 2010; Lane, 2014; Subotzky & Prinsloo, 2011), and students drop out for a variety of reasons such as financial constraints, procrastination, workload, and time management challenges (Department: Higher Education and Training, 2014b; Netanda, Mamabolo and Themane, 2019; Prinsloo, 2009). Student support in distance education contexts has therefore always been and continues to be crucial as institutions attempt to address student attrition through three primary functions: 1) *cognitive* support, which involves the facilitation of learning through course material and resources, academic guidance and intervention; 2) *affective* support in facilitating an environment that supports students emotionally, enhances their locus of

control, and increases their self-esteem and self-efficacy; and 3) *administrative* support achieved by providing access to user-friendly information management systems (Department: Higher Education and Training, 2014b; Tait, 2000). In the socio-critical model for understanding student success at Unisa and open distance learning in general, Subotzky & Prinsloo (2011) propose that in large-scale distance education systems, effective administrative support and systems are crucial, and play an integral part in the success of a student (University of South Africa, 2013b).

The last general trend of interest to this study mentioned by Altbach, Reisberg and Rumbley (2009) and Haigh (2014) is student mobility stemming from the increased demand for higher education and the intense competition where institutions are competing internationally for students. In 2020, five million students studied outside of their countries of birth, which is double the number from the previous decade (de Wit & Altbach, 2021). Thus, students have become more mobile, optimising the ubiquitous nature of online learning resources, and seeking qualifications with high credentials (Daniel, Kanwar & Uvalić-Trumbić, 2009). Because of internationalisation, students are also becoming increasingly diverse as students from different continents are studying together (Altbach, Reisberg & Rumbley, 2009; de Wit & Altbach, 2021; Haigh, 2014). This has resulted in an increase in support for those diverse students' needs, such as language support (Altbach, Reisberg & Rumbley, 2009; de Wit & Altbach, 2021; Haig 2014).

1.3 THE BROADER CONTEXT OF HE AND OPEN DISTANCE EDUCATION IN SOUTH AFRICA

Higher Education, as well as distance education provision in South Africa, are guided by mainly two strategic documents: the *White Paper for Post-School Education and Training* (Department: Higher Education and Training, 2014b) and the *Policy for the Provision of Distance Education in South African Universities*, (Department: Higher Education and Training, 2014a). These documents were developed by the Department for Higher Education and Training (DHET), and approved during 2014 when the Signature Courses were about to be implemented. While Unisa did not have access to these important documents during the planning, design, and development phases of the SCs which took place before 2013, these two documents provide an essential context in which to consider not only the provision of online learning, but also pointers for the online implementation processes. The *White Paper for Post-School Education and Training* will be discussed first because its purpose is to provide a framework to assist the Department in

planning and prioritising specific strategies to transform DHET for the years up to 2030 (Department: Higher Education and Training, 2014b).

The vision of the DHET is to implement one coordinated post-school education and training system addressing the needs of the public and private sector. This post-school system should promote equity and access, augment partnerships to assist with resources, enhance technology and provide quality education to be competitive in global markets, ensure learner support to support and assist learners to be successful in their studies and increase diversity to create a non-discriminatory educational environment (Department: Higher Education and Training, 2014b).

It is generally accepted that education provides previously disadvantaged students with a means of escaping poverty (University of South Africa, 2021). Therefore, the DHET's 2030 objective to achieve equity, social justice, and fairness includes increasing access to students who fall into this category. Equitable access requires HE institutions to increase the range of their courses and qualifications and to expand geographically to where students are situated. The goal is to have a total of 1.6 million head-count enrolments in public HE universities by 2030.

It was therefore necessary according to the DHET to encourage cooperative and responsive partnerships with the public and or private organisations. In response to this, Unisa developed collaborative partnerships with, for example, learning centres, public libraries, and multi-purpose community centres. These collaborative partnerships provide students with access to resources such as computers, internet, books, and administrative help (Department: Higher Education and Training, 2014b).

The Department of Higher Education (DHET) took into account that evolving technologies and improved infrastructures such as mobile phones and connectivity, might shift services to online support modes (Department: Higher Education and Training, 2014b). The DHET therefore is obliged to further support 'all universities to expand online and blended learning as a way to offer niche programmes'. (Department: Higher Education and Training, 2014a: 17)

The effective use of technology plays a central role in not only increasing access but also contributing to equity and social justice. The government therefore negotiated with

international, private, and public sectors to assist the DHET with an expanded footprint for students to access effective internet and bandwidth. This expansion of infrastructure was particularly beneficial to distance education institutions Department: Higher Education and Training (2012), however, HE institutions need to manage increased access as these impact on funding as well as institutional resources (Department: Higher Education and Training, 2014b). In light of this, HE institutions were encouraged to decrease their programme ranges in order to ensure that economies of scale would enable them to be delivered at significantly lower costs than face-to-face alternatives, but without compromising quality. Quality assurance as a policy driver aimed, among other things, at enhancing the quality of instruction at the undergraduate level, narrowing performance gaps across institutions, and bolstering the factors that contribute to student success. An example of student support would be the appointment of well-trained tutors to assist students with teaching and learning (Department: Higher Education and Training, 2014b).

Owing to the implementation of these national goals, academic staff experienced high student/staff ratios and a concomitantly increased workload. The DHE was aware of such difficulties and proposed to reward teaching initiatives through the development of effective and appropriate systems as a means to decrease workload. HE institutions, and, in particular Distance Education institutions, were encouraged to improve their internal capacity to provide quality education (Department: Higher Education and Training, 2014b).

We now focus on the *Policy for the Provision of Distance Education in South African Universities* (Department: Higher Education and Training, 2014a) in the context of an integrated post-school system. This policy was developed after taking into consideration the increased demand for affordable educational access to HE institutions, and the increased use of technology (Department: Higher Education and Training, 2014a). The DHET directed distance education institutions to implement its mandate to open access to students who could not attend traditional face-to-face universities, for whatever reason, and also to ensure affordability (Department: Higher Education and Training, 2014a). This latter instruction can be achieved through economies of scale, effective curriculum design, and careful material development by not investing in major physical infrastructure such as buildings, for example. Access, however, must be accompanied by success. This remains a critical concern for the DHET: emphasis should be

placed on quality assurance and its impact on pass and throughput rates and retention (Department: Higher Education and Training, 2014a).

Of particular interest in evaluating the design decisions informing the implementation process of the Signature Courses, the DHET developed a provision grid diagram to illustrate the different nuances and combinations offered by technology:

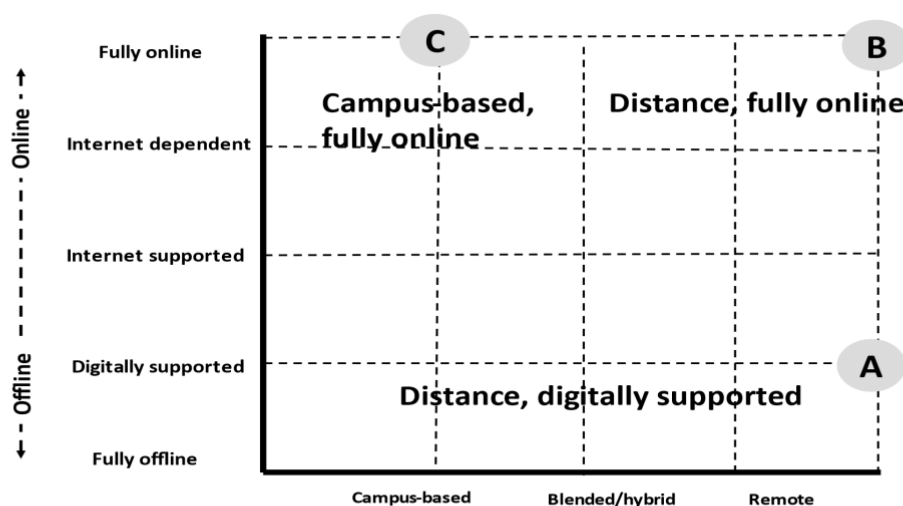


Diagram 1.2: Higher Education Provision Grid Source credit: South African Government (2014)
Adopted from the Department: Higher Education and Training (2014a: 9)

The vertical axis in Diagram 1.2 presents the range of forms of educational delivery in using technology, ranging from fully offline, to digitally supported (e.g., the provision of PDFs and course materials on portable hard drives), to internet supported (where pedagogical support is available on the learning management system (LMS)), to internet dependent where students need (regular) access to the internet, to fully online delivery. The horizontal axis illustrates the range from campus-based to fully remote educational delivery.

As can be seen in the above diagram, option A illustrates a distance education institution that adopted digitally supported educational delivery while option B illustrates a distance education institution that is fully online. Option C illustrates a campus-based, fully online mode of delivery.

Where a traditional distance education learning programme makes use of a variety of media such as text, audio, video, etc. but does not make use of the internet, the DHET encourages moving towards digital support. If a learning programme includes the internet it becomes internet dependent. When the institution uses the internet for all its services (for example, learning programmes and administrative services) the learning programmes are deemed to be fully online (Department: Higher Education and Training, 2014a).

Strategic decisions need to be taken on the most appropriate delivery mode and the degree of ICT integration when a Distance Education (DE) institution such as Unisa shifts towards fully online learning. The DE institution should take student needs and demographics into consideration when planning to implement online learning. Fully online implementation has specific implications for a DE institution in terms of staff, infrastructure, funding, and quality. For example: staff development needs to take place to ensure that staff members are competent and skilled in producing quality programmes; investment in technology is expensive, and technology is not always available especially in SA; and it is challenging to provide quality educational offerings that are cost effective, so access and quality should be attended to carefully. Student throughput needs attention when it is lower than anticipated so DE institutions need to implement and intensify student support, especially for those first-time entrants such as unprepared school leavers (Department: Higher Education and Training, 2014a).

It is necessary at this point to provide a brief background on how distance education evolved through different generations, as well as the various technologies that were and are used. The following account of the five distance education generations should not imply that the application of the generations has occurred in a linear or sequential way. It is possible that higher education institutions may still use technologies from the first generation but also apply technologies from the fourth and fifth generations as this depends on the student-needs profile and the developmental levels of the specific environment or country. The history and evolution from the first to the fifth generations of Distance Education will provide some context on how technology and pedagogy evolve and how students became self-directed learners. As will be seen later, this information is necessary in order to gain a perspective on Unisa's Signature Courses which had, as their underlying tenet, the principle of self-directed learning.

1.3.1 Tracking the Evolution of Distance Education

Distance education (DE), as a specific form of educational delivery, has a long history, evolving from an oral, correspondence, multimedia, flexible learning model to fully online delivery through several phases or generations. Kaufman (1989) discusses three generations and Taylor (2001) discusses five generations of distance education. This study uses Kaufman (1989), Peters, (2001) and Taylor's (2001) generations as main authors but the discussion will lean towards the evolution of technology development, providing access to students, with brief references to the pedagogy and cost as these impact the implementation/evaluation of the Signature Courses.

1.3.1.1 First Generation of Distance Education

The first generation of distance education was identified as the correspondence model (Aoki, 2012; Bozkurt, 2019; Holmberg, 2005; Taylor, 2001; Vaghjee & Panchoo, 2013) as it used print technology as a popular, single, one-way technology to communicate to students. Students received their printed material via the postal system which was either fast or slow depending on the supporting infrastructure. Printed material consisted of study material, letters, books, manuals, guides, and even newspapers and magazines (Garrison, 1985), and there was no or little direct face-to-face interaction between the student and the lecturers or institution. Tutors were hired to mark assignments and on rare occasions to assist students directly. Accredited institutions were used for examination oversight and their standards were very high (Kaufmann, 1989; Bates, 2005). For example, Unisa was established in 1873 as an examinations body, offering correspondence courses only in 1947.

The pedagogy that was applied during the first generation was behaviourism (Heydenrych & Prinsloo, 2010) which is based on a psychological and philosophical paradigm whereby humans are exposed to a reward and punishment scenario to encourage learning. It works on the basis of the presence of stimulus and response, and works well in a ruled-based learning environment. Behaviourism theory is predictable and controllable and is used where learners need to have timeous feedback with right or wrong answers to be able to learn and to rectify where needed (Anderson & Dron, 2011). The first generation was very cost effective, and the system was uncomplicated (Bates, 2005).

1.3.1.2 Second Generation of Distance Education

The second generation is also known as the multimedia generation where institutions used postal services, as in the first generation, but complemented postal delivery with radio, television and/or video and audio tapes. This generation is also a single one-way medium (Aoki, 2012; Bates, 2005; Bozkurt, 2019; Taylor, 2001; Vaghjee & Panchoo, 2013). Media were used to convey information to students to guide and assist them with their studies. Computer-based learning and interactive video (disk and tape) emerged as the first multimedia applications to have advanced interaction characteristics (Taylor, 2001). This generation was industrial in nature owing to its utilisation of mass manufacturing techniques and the supply of standardised products to a large number of students. Moore and Anderson (2003) explain that distance education was industrialised when technology was used to reach large group of people. Industrialisation has been a feature of distance education for many years in America, Germany, China, Japan, and Mauritius. These countries developed a multitude of televised programmes, and broadcast these education support programmes to students through closed circuit television and radio (Aoki, 2012; Vaghjee & Panchoo, 2013). Quality design of materials was accomplished through highly centralised production and delivery methods (Peters, 2001; Aoki, 2012). The second generation was, like the first generation, very cost-effective (Peters, 2001). This generation uses cognitive pedagogy which evolved from behaviourist pedagogy (Anderson & Dron, 2011). Cognitivism theory focuses on the thinking domain and uses Bloom's taxonomy (remember, understand, apply, analyse and evaluate) to create knowledge as a final layer in the taxonomy (Anderson & Krathwohl, 2001; Bates, 2019).

1.3.1.3 Third Generation of Distance Education

The third generation is known as the tele-learning model (Taylor, 2001) and it differs from previous generations in being based on more advanced two-way communications media such as audio-teleconferencing and video-conferencing through internet and satellite delivery (Bozkurt, 2019; Garrison, 1985; Vaghjee & Panchoo, 2013) This generation includes the technologies used in the previous generation but enables interaction between the instructor and the student regardless of their location but at the same time and pace (Aoki, 2012; Taylor 2001). These technologies provide a more equitable distribution of student-instructor and student-student contact. Communication amongst students occurs individually or in groups, but virtually.

The third generation introduced a more constructivist approach to teaching and learning involving student dialogue and discussions. Bates (2019) explains how social constructivism assimilates information, relates it to existing knowledge, and forms new knowledge through thinking and reflection (cognitive process). Constructivist ideas are normally practised in schools and universities where new knowledge is constructed in layers from very basic knowledge to more advanced knowledge.

The World Wide Web provides flexibility and support for instructors and students both for academic and administrative services (Anderson & Dron, 2011). Discussion classes, online collaborative learning, and communities of practice can be used as vehicles to create a platform containing new knowledge. Relatively small autonomous teams designed, developed, and customised the courses. High volume print production of these courses was quick, and while the initial investment cost might be low, the operating costs may be expensive (Kaufman, 1989; Peters, 2001).

1.3.1.4 Fourth Generation of Distance Education

The fourth generation is known as the flexible learning model with interactive multimedia (IMM) online, including internet-based access to the World Wide Web and computer-mediated communication (Bozkurt, 2019; Taylor, 2001). The fourth and fifth generations can be described as the online generations. A revolution started with the genesis of Web 2.0 when it was first introduced in 2004, followed by social networking and applications in 2006 which enhanced online collaboration and media sharing. The web is basically an internet system linking multiple computers. Web 2.0, also called social software, refers loosely to websites and website applications that enable users to subscribe, access, produce, share, and customise content across platforms (Fry, Ketteridge & Marshall, 2021). Computer-based learning evolved along with the genesis of the internet in the late 1990s (Vaghjee & Panchoo, 2013). However, in order to enable and implement web-based instruction a learning management system was needed. Different learner management systems (LMS) were developed on Web 2.0 and used by different Higher Education institutions. Learning management systems (LMS) facilitate online learning by providing administrative, academic, and communication support to students and academics (Klobas & McGill, 2010). Examples of international learning management systems are Blackboard, Moodle, eCollege, and DesireToLearn (Moore & Kearsley, 2012). Some of the

advantages of a learning management system are that it enables students to communicate/interact with the content, with their peers, and with their instructors in an asynchronous or synchronous mode. One of the most useful features is the threaded discussion. In a threaded discussion, students pose questions or make inquiries, and other students respond to their questions. It is also possible to view the textual responses of all students who respond. Another feature is the discussion forums where students and instructors can post comments. Besides the synchronous and asynchronous features of an LMS system it also provides formative and summative assessment features, and access to a wide range of on-line web sources (Moore & Kearsley, 2012). Web 2.0 applications with a specific focus on social media have had a profound impact on formal and informal learning as many universities use the YouTube platform to send videos to their learners. These videos are available online, with usually no charge, and can be viewed asynchronously. Podcasts (downloaded to computers, mobile phones and mp3 players) use audio and/or video files to teach learners, and are used by many Higher Education institutions (Moore & Kearsley, 2012). The wireless internet communication and mobile smartphone industry with camera phones, I-pod, Blue Ray DVD, Amazon Kindle, I-pad and flip-board software were also developed during this generation.

The learning theory related to this generation is known as connectivism which is explained by Bates (2019) as a pedagogy associated with online learning in which learning takes place when the internet creates opportunities for people to link with information and learn from it. Connectivism enables learners to construct new knowledge through peer networks ((Bates, 2019)). An essential aspect of connectivism is that online peer networks facilitate significant learning using internet technologies. The internet through the WWW creates new opportunities for people to learn and share information with one another (Garrison, Anderson & Archer, 2000).

A second learning theory pertinent to this generation is social constructivist theory. Online learning, according to Dr Karen Swan, is grounded in social constructivist learning theory with the most commonly accepted model being Community of Inquiry (CoI) (Cleveland-Innes & Garrison, 2010). CoI emphasises, the relationships between social presence, teaching presence and cognitive presence, and learning takes place where the three intersect (Garrison, Anderson & Archer, 2000), as the following brief explanation suggests:

- 1) Social presence can be described as: the ability of participants to identify with the community (e.g., course of study), communicate purposefully in a trusting environment, and develop inter-personal relationships by way of projecting their individual personalities (Bates, 2019). In other words, learners feel connected with each other through social interaction in an online environment.
- 2) Bates (2019) described teaching presence as the art to design, facilitate, direct cognitive and social learning processes, to ultimately ensure individual experience the meaning and educational value as learning outcomes.
- 3) Cognitive presence can be described as the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse (Bates, 2019). Cognitive presence refers to the extent to which learners are engaged in critical thinking and problem solving in an online course. It involves the development of deep learning through meaningful interactions and reflective discourse (Garrison, Anderson & Archer, 2000).

Together, social presence, cognitive presence, and teaching presence form a Community of Inquiry that promotes active and meaningful learning in an online environment. By fostering these elements, instructors can create an engaging and supportive online learning experience that promotes student success. Connectivism and social constructivism are two distinct learning theories and they are both pertinent in the fourth generation. Using both learning theories will provide an environment where connection is made possible by using the internet and through social interaction and participation, for example, discussion forums where the students can share their experience and knowledge with each other and their tutors.

1.3.1.5 Fifth Generation of Distance Education

The fifth generation is referred to as the intelligent flexible learning model where campus portal access platforms and computer-mediated communication with automatic response systems are used (Bozkurt, 2019; Taylor, 2001). Other researchers refer to the fifth generation as the interactive nature of the internet and the world wide web (Pandey & Indrakanti, 2017; Taylor, 2001). Computer and internet-based virtual classes are common practice in this generation (Moore & Kearsley, 2012; Peters, 2001). Emphasis is not on web-based learning courses, but rather on the development of software applications that facilitate and enhance creative informal

interaction and the sharing of media such as videos, pictures, text, audio, animations as well as gaming and sport.

Social networks enable millions of users to gain access to social learning platforms where informal learning takes place on a regular basis (Craig, 2023). These developments have played a significant role in the changing of Higher Education. In 2019 Maya Dollarhide indicated that users engage with social media via web-based software or web applications on computers, tablets or smartphones, and frequently use social media for messaging. Web 3.0 uses algorithms to acknowledge users' interest when searching the web, and provides similar or even better information for use.

This explanation has shown how the generations evolved, with each generation's application to distance learning, to the most recent stage which is online learning or e-learning. Whilst online learning started in the third generation it rapidly evolved during the fourth and fifth generations and forms an integral part of open distance learning, with its particular characteristics contributing to the purpose and design of the Signature Courses at Unisa. The generations are not discrete and that often designers and teachers take technologies and even some pedagogy from earlier generations.

1.4 Differentiation between terms - distance, e-Learning and open distance learning

1.4.1 Distance Learning

There will always be students who are not able or who do not wish to study at a face-to-face institution. In these cases distance education assists those students to study where they are, meaning that they are not bound to be at the same place as their university as with face-to-face teaching and learning (Bozkurt, 2019; Department: Higher Education and Training, 2014b; Guri-Rosenblit, 2005; Holmberg, 2005; Moore, Dickson-Deane & Galyen, 2011; Moore & Kearsley, 2012). Central to the revolutionary potential of distance education are the educational opportunities for previously excluded populations, using a range of media and technologies, and

realising the potential of economies of scale (Department: Higher Education and Training, 2014b; Guri-Rosenblit, 2005; Kaufman, 1989; Peters, 2001). There are many characteristics of distance learning, but Moore and Kearsley (2012) offer a summary of the following potential benefits of distance education as: 1) cost effective, increased access and balancing inequalities to students; 2) providing up to date workforce skills; 3) enhancing the quality of current educational structures and improving the capacity of educational systems; 4) providing emergency training in key areas, and education in new subject areas; 5) ensuring a combination of work and family life while studying; 6) advances globalisation through internationalisation (Moore & Kearsley, 2012; Sun & Chen, 2016).

1.4.2 Online Learning/E-Learning

There are conflicting views on e-learning and online learning where some authors use e-learning and online learning interchangeably, whilst Moore amongst others indicates that the origin of e-learning is not clear (Moore, Dickson-Deane & Galyen, 2011; Singh and Thurman, 2019). It is speculated that e-learning originated at the same time as online learning during the 1980s. E-learning is defined *inter alia* as 'web-based, web-distributed, or web-capable' (Moore, Dickson-Deane & Galyen, 2011: 130). Govindasamy (2001) differs from Moore as she defines e-learning as any electronic media that delivers instruction be it through the internet or satellite (interactive TV and or video), audio/video tapes, or storage medium, for example, CD-ROMs (CDs are now virtually non-existent), DVD or memory stick. In addition, Govindasamy states that e-learning platforms will evolve to cater not only for instruction but will also include the total automation of teaching and learning processes inclusive of administration information and support through Learning Management Systems (Govindasamy, 2001). Khan suggests that '[T]he internet has become an increasingly powerful, global, interactive and dynamic medium for sharing information' (Khan, 2005: vii). Khan further explains 'a successful e-learning system involves a systematic process of planning, design, development, evaluation and implementation to create an online environment where learning is actively fostered and supported' Khan, 2005: vii). E-learning system is only successful if it is meaningful to learners, instructors, other stakeholders, for example, technical staff, designers, and the institution itself (Khan, 2005). Online learning and e-learning will be used interchangeably in this study.

1.4.3 Open Learning

According to Bozkurt (2019), open learning can be described as an educational policy or goal designed to remove learning barriers. Bozkurt (2019) further explains that openness is a concept that evolved from open access to make a meaningful contribution to universities where students with no prior qualifications can access the university, and may choose which media/technology they want to use during their studies. For example, the Open University (OU) in the UK was the first university founded as an open and distance learning institution. The OU's policy allowed students to register with no minimal academic admission requirements for undergraduate degrees and allowed them to study from different geographical areas (Peters, 2013). The only entry requirement was a minimum age of 18 years and proficiency in English.

Open learning in the South African context was defined in the previous section [see 1.3. The Broader Context of HE and Open Distance Education in South Africa] as: 1) learner-centredness; 2) lifelong learning; 3) flexibility of learning delivery; 4) access to learning; 5) recognition of prior learning; 6) providing learner support; 6) construction of learning programmes for student success; 7) quality assurance courseware; and support systems (Department: Higher Education and Training, 2014b). Unisa defines open 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 e-learning (ODeL) focuses on removing barriers to access learning, flexibility of learning provision, student-centredness, supporting students and constructing learning programmes. (University of South Africa, 2018: 2)

While most universities use the term 'open and distance' Unisa chose the term 'open distance' e-learning.

1.4.4 Emergency Remote Teaching (ERT)

Emergency remote education can be defined as an unanticipated practice requiring the use of whatever offline and/or online resources are available (Hodges et al., 2020). The Covid-19

pandemic forced academics to go online and use digitised formats to reach the students. This was seen as a temporary measure in a time of crisis, so academics and student were not necessarily prepared for or knowledgeable about online learning. This created long-term challenges, where, for example, student lack of preparedness for online learning and their social-emotional state are among the factors that should be considered. Hodges et al. (2020) advise institutions not to see ERT as a long-term solution but only as a way to address a short-term challenge as it takes intensive planning and development to ensure a quality online learning programme. It is crucial to note that while ERT normalised through exposure and contributed to a broader acceptance of online learning, it should not be conflated with well-designed online and distance education courses.

1.5 THE SIGNATURE COURSES: RATIONALE AND BACKGROUND

The history of the University of South Africa (UNISA) is described earlier as in this chapter, so a brief recap will be offered here. After the merger in 2004, which made UNISA the largest comprehensive university in Southern Africa, with a compelling social mandate to provide cost-effective education to a varied spectrum of students (Ryan, 2011), Unisa had to reconsider its contribution to the nation's economic and social development priorities and reimagine its curriculum and pedagogy (Ryan, 2013). Implementing a curriculum that was relevant and entrenched in the South African environment was therefore a crucial step in Unisa's curriculum reform process. Inclusive of the diversity of knowledge systems, adaptable in its delivery forms, and capable of engaging students in an interactive learning experience, the Signature Course project formed an important part of Unisa's goal of service to local communities and the greater African context. With over 375 000 registered students at the university at the time and serving over 30 regional centres nationally and internationally, Unisa sought partners to support and assist with a new future vision (Ryan, 2013). A partnership between the University of South Africa (Unisa) and the Council for the International Exchange of Scholars (CIES), a division of the Institute of International Education (IIE) hosting the Fulbright Scholar programme in the US, helped forge an idea which was conceptualised as the Signature Course project and where 'the term "signature" has come to be associated with "identity" or "distinctive features" in relation to a variety of matters'. (Ryan, 2013: 7)

The design of the SCs started with a desire for change in two large but remarkably dissimilar institutions on two different continents (Global Ecology LLC, 2011a; Ryan, 2013). The CIES/IIE, at that stage, enrolled over 1,200 United States scholars and administrators to teach and conduct research in over 140 countries and, in addition to this, managed more than 900 academics and professionals from around the world who came to the United States annually on Fulbright Scholar grants. Apart from this, more than 100,000 scholars and their institutions from around the world have benefited from CIES/IIE programmes, and the organisation has been active in a wide range of short-term, cutting-edge, innovative programmes (Ryan, 2013).

Already in 2008, conversations between Unisa and CIES pointed in the direction of mutually beneficial outcomes. In July 2008, the Pro Vice-Chancellor (PVC) hosted a conference, entitled *Towards a New Institutional Academic Identity: Revision, Rehabilitation, and Rebirth*, where curriculum objectives for the new Unisa were created with the support of invited speakers, including the CEO of CIES and its delegates (Ryan, 2013). In 2009, the Pro Vice-Chancellor organised a follow-up conference entitled *Transforming Unisa into a Knowledge Centre in the Service of Humanity: Curricular Reform through Distinguished Academic Exchange and Collaboration*, which took place between November 29 and December 2, 2009 (Ryan, 2011; Ryan, 2013). This second conference aimed to initiate a transformative process in which the production and implementation of knowledge in relation to the university's aims and strategic mission would be analysed (Ryan, 2013). A comprehensive report emanated from that conference at the end of 2009 written in collaboration with the Council for the International Exchange of Scholars (CIES/IIE, 2010; Ryan, 2011; Ryan, 2013). This report recommended that Unisa should seriously undertake academic transformation, and indicated some important characteristics to consider to guide such a transformation such as: programmes that aligned with multi-inter-trans-disciplinary approaches, graduates with specific attributes, particularly those encouraging Africanness, community involvement, and making a meaningful contribution to society through Unisa's values, beliefs and brand (CIES/IIE, 2010; Ryan, 2011).

The goals of the 2009 Conference were:

- 1) to support Unisa's leadership in articulating curriculum objectives for its 2015 strategic planning goals.
- 2) to develop effective strategies for implementing a curriculum that is responsive to the social, community and workforce needs; and to
- 3) identify areas of the curriculum and teaching activities where Unisa could use expert knowledge nationally and internationally.

The university's mission included fostering collaborative ties with its stakeholders and external partners in order to meet the requirements of a globally competitive society (Baijnath, 2015; Global Ecology LLC, 2011a; University of South Africa, 2004). The partnership between Unisa and CIES/IIIE was in line with the 2015 Strategic plan which had been developed in 2004, with the first targets planned for 2005 (University of South Africa, 2004) to ensure that transformation would take place. Unisa's vision, striving towards *the African university in the service of humanity* (University of South Africa, 2004) was adopted during a strategic planning session in 2006. It included the need to address the impasses in national knowledge, skills and values through an educational system that promotes values, social justice and fairness, respect and excellence, and which contributes to an educational and social responsibility to South Africa and the African continent by providing high quality programmes that are also cost effective (Baijnath, 2015; Global Ecology LLC, 2011a). It was the understanding that the Signature Courses would ensure the transformation of Unisa by addressing the national mandate, providing quality courseware, being competitive, and being cost effective (Baijnath, 2014; CIES/IIIE, 2010; Global Ecology LLC, 2011a; Ryan, 2013).

The SC course project was based on the following key characteristics:

- 1) Identifying an online learning pedagogy that supports self-directed learning attributes. A student-centred online model was one of the identified characteristics.
- 2) Applying a team course design approach to ensure quality courseware and monitoring of student progress. The academics who were responsible for the creation of the new study material and course design had to be aware of a variety of new ideas related to digitised modes of teaching and learning.

- 3) Designing and developing one Signature Course per College (to be included in all undergraduate qualifications at Unisa).
- 4) Ensuring that online learning assessment strategies are innovative, reliable, trustworthy and sustainable.
- 5) Providing a staff development programme to support staff with online learning knowledge and skills.

1.6 EXISTING RESEARCH ON THE SIGNATURE COURSES AT UNISA

As stated earlier, though this study is the first study to map the implementation process of the SCs at Unisa, published research on the SCs focused on different elements such as the research by Hülsmann and Shabalala (2016) on the implications on the workload of lecturers and teaching assistants in one particular SC, namely AFL1501. The specific role of assessment in the pedagogical structure of the SCs forms the crux of the study by Mafenya (2016), while Mbatl and Minnaar (2015) did a literature review of the facilitation in interactive online learning programmes. Goosen and Naidoo (2018) investigated student experiences in the SCs. Lastly, Louw (2014) focused on the practical implications for career counselling and guidance in the context of a specific Signature Course. While these articles address specific questions that may point to issues in the implementation process of the SCs, there is definite scope for further research on Unisa's first institution-wide online learning project.

1.7 THE AIM OF THIS STUDY

This research documented and evaluated the implementation *process* of the Signature Course project from its conceptualisation in 2009 as part of the broader ODL project to the 2015 registration period. Although the conceptualisation of the idea took place in 2009, it was not until 2011 that the Signature Course team was established, and the design, development and implementation took place. The conceptualisation, implementation, and stabilisation of the project took place during the four years spanning 2011 - 2013, and provided sufficient and credible evidence to chart the complete implementation process. Using a combination of implementation models, the researcher mapped and evaluated the different phases of the implementation process from conceptualisation to implementation including the different implementation decisions, the interdependencies, and the outcomes. The value in identifying

the implementation process was that its challenges and successes strengthen the design and assist with Unisa's commitment to become a fully online learning provider.

The value of implementation evaluation enhances the desired outcomes and impacts on the implementation (Peters et al., 2014). Researchers evaluate research to gain more knowledge about a specific field and to get a better understanding thereof (Chelimsky & Shadish, 1997). Patton defines the purpose of evaluation in making judgments about a programme to improve its effectiveness, and/or to inform programming decisions (Patton, 1987). There are three reasons why evaluation is important, apart from getting answers to questions; these are evaluation for accountability, development, and knowledge (Chelimsky & Shadish, 1997). Accountability measures efficiency or results, development evaluates actions that make institutions better, and knowledge evaluation provides a deep understanding of specific fields or areas. Evaluation for accountability provides information for decision making in case anything changed after something new was implemented, while efficiency indicates cost per value received and or comparative costs for a product or a service.

According to Nilsen (2015), implementation science is increasingly using theories, models, and frameworks to understand the mechanisms that produce more successful implementations. Implementation Science is a fairly new phenomenon, as the first published paper in this field was in 2006, creating the opportunity for an increased demand for implementation research across the different implementation stages (Nilsen, 2015, Ogden et al., 2012). Implementation research has been a growing field in the last decade and contributes to effective policies and programme development and implementation (Leahy, Thielsen & Millington 2009; Ogden et al., 2012; Peters et al., 2014). Peters et al. (2014) suggest that implementation research is still not well understood and emphasise that it is important to understand what was done, why it was done and how it was done. The aim is to improve on what was done to be more effective and improve the outcomes and impact of the implementation. Peters et al. (2014) state that implementation research will help understand various perspectives, different types of causal paths, and numerous types of outcomes, which are all common features of implementation research problems. According to Meyers, Durlak and Wandersman (2012) there is extensive research done on, firstly, the importance, and, second, the factors influencing implementation process, but there is still a need for research on the likelihood of quality implementation.

Following Nilsen (2015), who proposed that there are various frameworks, classic theories, and implementation theories that can be used to understand and/or explain what influences implementation outcomes, the researcher used different studies and models, for example, Bertram, Blase and Fixsen (2015), Govindasamy (2001), Mabert, Soni and Venkataramanan (2003), Meyers, Durlak and Wandersman (2012), Salama et al. (2015) and Maureen Snow Andrade and Bethany Alden-Rivers (2019) to study the implementation and evaluation of the SC implementation process [see Chapter 2 for a full discussion].

According to Fixsen, Blasé, Timbers and Wolf (2007) and Ogden et al. (2012), ten years is approximately the right time to 'follow up' on implementation success or failure; this corresponds with the timeline of the programmes examined in the present study. The SCs have now been offered for ten years plus (launched in 2012) and it is an opportune time to evaluate the implementation process of the SCs. It is also important to note that this study does not aim to evaluate student pass rates, the appropriateness of the curricula, the pedagogy, or issues pertaining to the effectiveness of the SCs.

Finally, as a result of the mapping of the design decisions, variables and the interdependencies in the design, development and delivery of the SCs, this study aims to develop a framework for guiding the implementation process of online learning in the specific context of Unisa.

Mabert et al. (2003) and Leahy et al. (2009) denote that complex implementation can take many years to complete and there is no guarantee of a successful outcome. It is important to note that while the SCs were implemented in 2013, continuous adaptations and changes have been made since 2011 to improve the courses in accordance with changing circumstances. Implementation, furthermore, is not the same for all programmes so the approach 'one size fits all' cannot apply. Also pertinent to this study is to decide from which perspective the implementation process would be evaluated. The researcher needed to identify how the implementation processes were designed for success, which factors and interdependencies arose and were considered, and how the iterative processes in the broader implementation were monitored, evaluated and quality assured. As will be discussed later in this chapter, there are useful implementation models and some clear guidelines on how to evaluate implementation processes.

To be able to realise the aim of the study the following main question and sub-questions need to be answered. The next section will provide the research questions for this study.

1.8 RESEARCH QUESTIONS

The main research question is as follows: How did the design and development of the Signature Courses at Unisa influence the implementation process?

Answering the research question can add value for accountability, development and for increasing the understanding of implementation [See Chapter 8].

Specific sub questions that will also inform the objectives are:

Question 1: What were the key design elements of the SCs that informed the implementation process?

Question 2: What variables were considered in each of the implementation stages?

Question 3: What were the interdependencies between the different functional areas in each of the implementation stages?

Question 4: What were the implementation decisions that shaped the implementation process?

1.9 RESEARCH OBJECTIVES

After the specific sub question were formalised, the following objectives were appraised.

Overall Objective: To determine how the design and development of the Signature Courses at Unisa influenced the implementation process.

Objective 1: Explore the role of the key design elements of the Signature Courses in the implementation process.

Objective 2: Identify the variables that played a role in each of the implementation stages.

Objective 3: Identify the interdependencies between the different functional areas in the implementation stages.

Objective 4: Document the different implementation decisions that shaped the implementation process.

1.10 PROBLEM STATEMENT

In the context of Unisa, it is not known how the design decisions, different variables and interdependencies informed the implementation process of online learning. As Unisa aims to be fully online by 2030 (University of South Africa, 2021) it is crucial to understand and map the interplay between the design elements, variables, and interdependencies in the implementation process of online learning based on the decisions made. There is a risk that in institutionalising online learning at-scale at Unisa, the valuable lessons of the implementation process of the Signature Courses will be forgotten.

Miles (2017) developed a framework from two existing frameworks to assist researchers identify research gaps. He identified seven possible research gaps, namely 1) an evidence gap; 2) a knowledge gap; 3) practical-knowledge conflict gap; 4) methodological gap; 5) an empirical gap; 6) a theoretical gap; and 7) a population gap. Of these, three possible gaps - theoretical, practical-knowledge and knowledge – served to guide the literature review as well as the research design, data collection and analyses in the present study.

Case study research designs may focus on practice and then make links to theory, or use theory to link to practice (Yin, 2018).

- 1) *Theoretical gaps* are defined as ‘gaps in the theory ’or a ‘lack of theory’ within prior published research. A preliminary literature search could not find any theoretical models or frameworks for evaluating the implementation processes involved in online learning. There are other frameworks in implementation studies/science, for example, the Active Implementation Framework, and the Theoretical Domains Framework (Nilsen, 2015) - but no implementation process frameworks or models in the context of online learning. The research by Govindasamy (2001) is rather dated and is focused on online learning quality frameworks. Some of the prior theories appear to be important, for example Chipere (2017) explores the sustainability of online programmes, and the quantitative study by Gómez-Rey et al. (2016) used an alternative method and measured the quality of online learning through analysing the satisfaction of the learners and the perceptions of the instructors as the implementors. The conclusion of this study noted that the main difference between the instructor’s and the

student's perception of online learning is that the instructor is aware of the importance of collaborative learning, and the interaction between instructor and learner, and between the learners themselves, whereas learners are cognisant of their own learning benefits like knowledge acquisition and transfer, course content and design, and learning satisfaction. As can be seen, the theory produced tends to focus primarily on quality assurance frameworks and partially on online implementation processes and does not encompass new paradigms in online learning processes (Miles, 2017).

- 2) A *practical-knowledge* gap refers to a divergence or conflict between theory and practice that motivates new research into a specific phenomenon. This study attempted to map the design, decisions, variables, and interdependencies in the online learning implementation process using a case study research design – allowing the researcher to integrate theory and practice in the analysis. The feedback combining the literature, document analysis, and the interviews allowed the researcher to develop the needed theoretical framework.

In some cases, the existing knowledge base is poor, especially when, for example, the researcher has to determine the interdependencies in the online learning implementation process, and this is where the practical experience from the participants assist in building knowledge (Yin, 2018).

- 3) A knowledge gap refers to the prospect of insufficient or no existing theories to explain a particular phenomenon, for example, the online learning implementation process, and thus a typical gap is identified in the existing research (Müller-Bloch & Kranz, 2015; Miles, 2017; Yin, 2018). Yin indicates that with a single case study it is possible to contribute to building knowledge (Yin, 2018). In this study the online learning implementation process generates new knowledge in support of learning, improving quality, and in identifying a variety of intersecting and often mutually constitutive variables/elements. The practical evidence collated from the Signature Course case study converged in disruptive knowledge and experiences, for example, the lessons learnt from the case study provide evidence on how to assist with future online learning implementations.

The researcher could not find published research on the evaluation of implementation *processes* of online courses. However, some studies discuss a variety of factors that play an important role during the implementation process. For example, a case study done by Heydenrych, Higgs, and Van Niekerk (2003) discusses several challenges impacting on successful implementation in an online learning community in Africa such as: 1) narrow bandwidth; 2) online security; 3) authoring in appropriate languages; 4) sufficient access; 5) timely up-dating of materials; 6) prior skills; 7) information overload; 8) copyright; 9) inadequate technology; and 9) less contact with learners when appropriate pedagogical commitments were not part of the design of communication. This study is, however, outdated (it was done more than 17 years previously), and in the light of the fast pace in technological advances, this current study may find similar or different factors impacting on the implementation of online learning [see Chapter 2 for a full discussion].

1.11 RESEARCH DESIGN PROCESS

Yin (2009) explains that theory permeates research, for example, the decision to use a specific case, the research aim and purposes, the research questions, research propositions if any, the unit of analysis, the collection and analysis of data, the interpretation of findings, and finally, the presentation or reporting of the findings. To be able to plan and execute research the researcher needs to follow a research design and methodology which varies from research to research. The next section will provide an overview of some research design definitions as the basis from which to justify the research design and methodology for this study.

1.11.1 Research Design Definitions

Researchers often define a research design as a plan, a set of guidelines and instructions, a route map, a point of departure, or a blueprint. It is often difficult to understand how the different elements of a research design fit together, so this study adopted the 'research onion' developed by Saunders, Lewis and Thornhill (2019) to guide the research process (diagram 1.3 below). Illustrated by the outer layer of the 'research onion' is the philosophy adopted to guide the research – in this case, pragmatism. The next layers of the 'research onion' present the different design choices in this study, namely, an inductive research approach using an explorative case study research design, and a qualitative methodology in a cross-sectional time horizon followed by a delimited scoping review, document analysis, semi-structured interviews, and testing the usability of the developed implementation process framework through a pluralistic walkthrough focus group discussion.

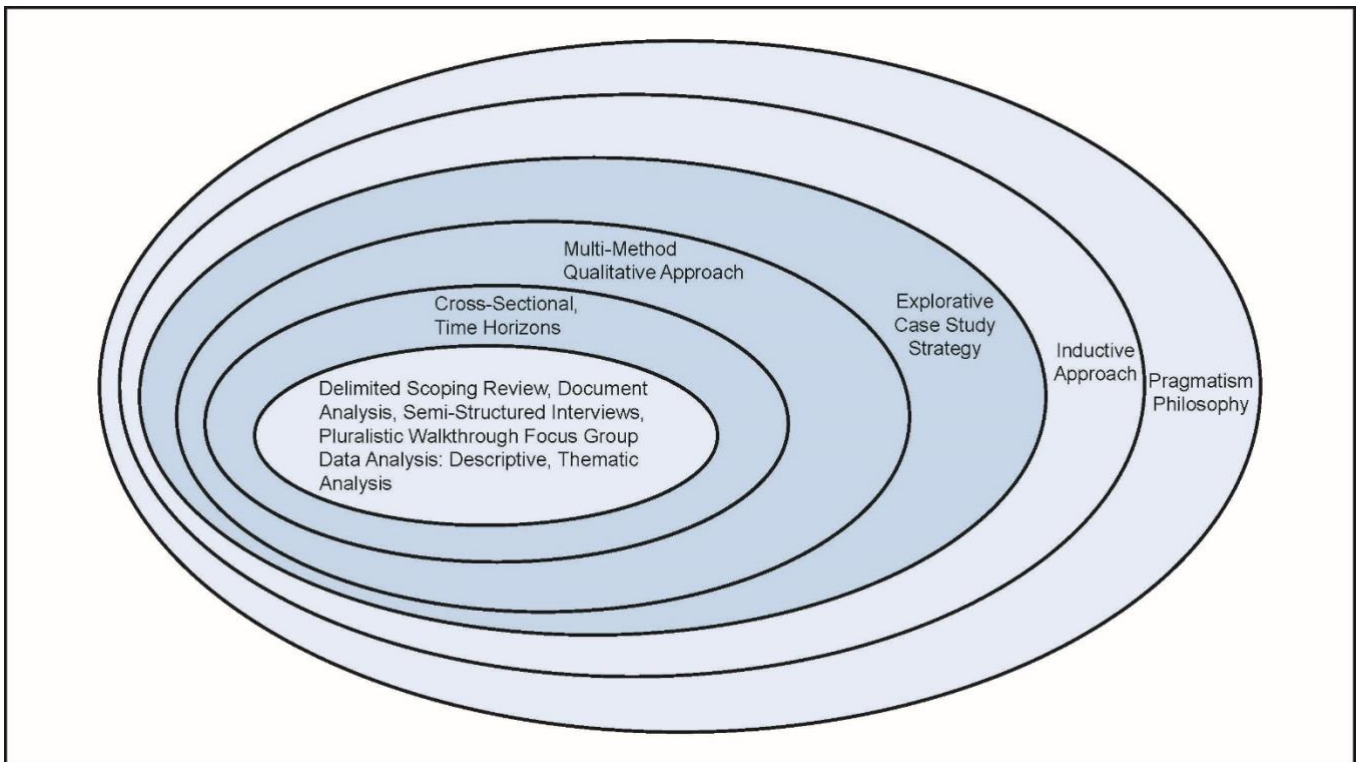


Diagram 1.3: The Research Onion (adjusted from Saunders, Lewis and Thornhill, 2019)

1.11.2 Research Philosophy and Paradigm

There is, according to Ngulube (2019), no one specific research design that would be appropriate for all research questions and contexts. In line with this study’s research aims, the researcher adopted pragmatism as a research philosophy.

Creswell and Creswell (2018) and Goldkuhl (2012) agree that pragmatism is a research philosophy portraying world views, which arises from actions, situations, and consequences rather than views from previous scholars (Creswell & Creswell, 2018). Pragmatism as explained by Goldkuhl (2012) is an interplay between knowledge and action with the epistemology focused on intervention and change. Paradigms have a direct impact on either good or bad analysis of data, and researchers are advised to use a pragmatic approach with evaluation by combining methods and approaches (Rogers & Goodrick, 2010). Pragmatism, therefore, allows the

researcher to find practical solutions for a problem through using multiple research methods such as qualitative, mixed methods, and so on, to collect, analyse, and interpret data (Saunders et al., 2019).

1.11.3 Inductive Reasoning

The approach to theory in this research is inductive reasoning. More than one method was used to collect data which was analysed and interpreted to answer the research question/s. After collecting the data, the researcher made sense of the particular information whilst analysing it before arriving at broad general themes (Creswell 2003; Creswell & Creswell 2018; Saunders et al., 2019) [see Table 1.4: Themes for Literature review (Stage 1), Document analysis (Stage 2) and Interviews (Stage 3)].

1.11.4 Qualitative Research Methodology

The different research methodologies are categorised under quantitative, qualitative, mixed methods, and multi methods. According to Creswell and Creswell (2018), qualitative research is 'an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem' (Creswell & Creswell, 2018: 4). The research process consist of a range of procedures within a natural settings for example crafting the research questions, collecting the data from the participants in the research and analysing the data. In addition, Creswell and Creswell (2018) argue that researchers who are involved in qualitative research prefer an inductive style focusing on 'individual meaning, and the importance of reporting the complexity of situations' (Creswell & Creswell 2018: 4). Qualitative research, according to Nieuwenhuis, focuses on 'describing and understanding phenomena within naturally occurring context (called naturalistic context) with the intention of developing an understanding of the meaning(s) imparted by the respondents – a seeing through the eyes of participants' (Nieuwenhuis, 2007b: 51).

The researcher used a qualitative approach to collect, interpret, and analyse the data in order to be able to answer the research questions, and explored the knowledge, real experiences, and their understanding, from the key participants who were involved in the roll out of the Signature Courses. Creswell (2003) and Ngulube (2019) refer to the term 'research approach', while Nieuwenhuis (2007b) uses the term 'research designs'.

The inquiry strategy that this study adopted is a qualitative, interactive, sequential single case study method (Nieuwenhuis, 2007c: 75) enabling the researcher to gain knowledge from the

actual implementation process of the Signature Courses by conducting interviews with a range of stakeholders to determine interconnected variables and their impacts, and, as such, visualise the implementation process in a different way. Dul and Hak (2008) explains that a single case study is the most basic case study, consisting of one instance, for example, a project or an event from which data are collated to reach the research objective (Dul & Hak, 2008). If the researcher asks the 'what' line of inquiry it is mainly exploratory research. and any research methods, for example, survey, experiment, archival analysis, history, or case study can be used (Yin, 2009). The Signature Courses' implementation process provided the case that was researched in depth to identify the 'what' elements that contributed to successful implementation and the lessons learned from it.

After a thorough document analysis, interviews were conducted with purposively selected participants to gain in-depth information and understanding of the implementation process. The analysis took place after the literature review and a framework was developed. Thereafter, the same process followed with the document analysis and the interviews. The researcher then developed a final framework, merging the three frameworks to get to a final framework. The final framework was used for the participants of the pluralistic walkthrough focus group to discuss and evaluate. After the pluralistic walkthrough focus group discussion took place the online learning implementation framework was adjusted for the final time.

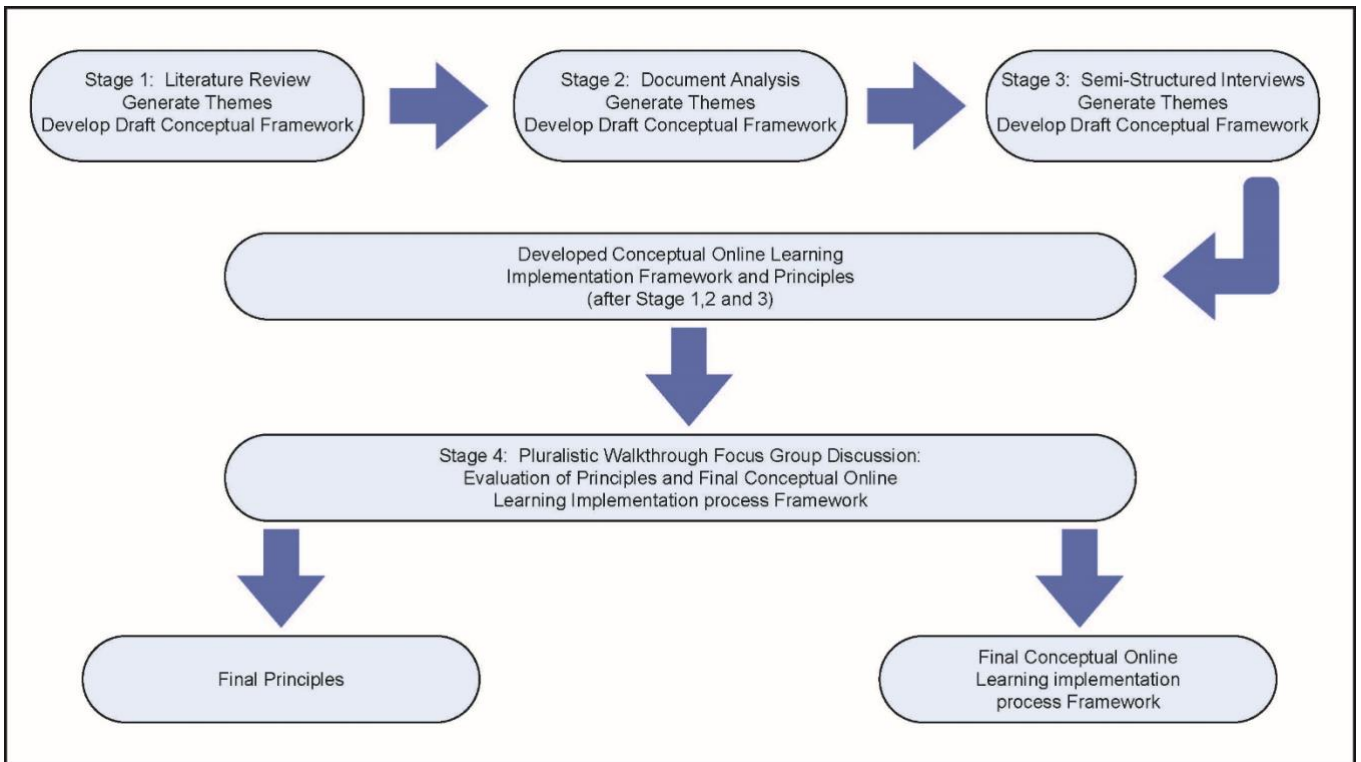


Diagram 1.4: Data Collection and Analysis Process

Also see Annexure 1.1 for a description of the Signature Course modules that were implemented during the period. The Annexure provides information on the number of formative assessments as well as the final summative assessment. All the Signature Course modules implemented online e-portfolios for summative assessment (an exception here is the module Ethical Information and Communication Technologies for Development Solutions (Eup1501) which practised online examination during 2013 after which this was phased out).

1.11.5 Population, Sample and Sampling Method

As previously indicated [see Diagram 1.4: Data Collection and Analysis Process], the researcher decided to use document analysis, semi-structured interviews, and a pluralistic walkthrough focus group discussion in this study. The researcher's first task was to identify who should form the population of this study. After identifying the population, the researcher had to determine the size of the sample as it is not always possible with a qualitative study to involve the whole population (Creswell & Creswell, 2018). The sampling method that was used was based on non-probability with purposeful sampling for stages two, three and four. Stage 1 refers to the Literature review [See Diagram 4.4].

1.11.5.1 Stage Two: Population for Document Analysis

Document analysis formed an integral part of this study to evaluate the implementation process of the Signature Courses. Table 1.1 provides detail regarding the identified documentation which was specifically applicable to the Signature Course implementation process.

Table 1.1: Documents identified for document analysis of the Signature Courses.

Population of Documents	Responsible units	Sample documents according to Period
Sections dealing with the SCs in the minutes and decision register	Unisa Management Committee	From inception to December 2015
Minutes and progress reports and workshop presentations	SC Steering Committee Meeting	From inception - 2015
Sections dealing with the SCs in the minutes and decision register	Senate Tuition and Learner Support Committee (STLC)	From inception - 2015
SCs functional unit progress reports.	From functional units	From inception – 2015
Strategic plans and unit plans such as ICT, Implementation plans and related implementation reports	Functional units for example the ICT and top Management Unisa 2016-2030 strategy Counsel workshop	From inception – 2015
Related Unisa policies	Tuition Policy: Teaching and Learning Charter, Framework for implementing a team approach to curriculum and learning development at Unisa, Assessment Policy, Open Distance e-Learning, Policy on the provision of e-Devices for e-learning and Prescribing books, readers and journals articles and recommending books	From inception – 2015
Reports	ODEL Model Blueprint V1.0 and Programme governance	version 4 Sept 2020

After the documents were identified the researcher received the documents from the Project manager and the documents used in this study are captured in Chapter 4, Annexure 4.11: List of documents used in the document analysis.

1.11.5.2 Stage Three: Population and Sampling for Semi-Structured Interviews and Pluralist Walkthrough Focus Group

The population was identified for the semi-structured interviews and the pluralistic walkthrough focus group discussion. Through non-probability purposeful sampling the researcher could collect rich information with in-depth interviews with the identified members of the original steering committee members and the functional units. Members were selected on their involvement in the SC's planning and implementation from 2012-2013 and the teaching assistants appointed from 2013-2015.

The table below indicates the 'population size' in the left column of the table and the 'sample size' on the right column. Please note the members were identified from information contained in Signature Course project reports to see who was involved and their respective roles. All the identified members were contacted by means of email. The first member who responded to the email was booked through an electronic diary booking system and the appointment was confirmed upon their availability for the interview.

The study planned to get as much possible information from all the participants who were involved during the implementation period of the Signature Courses.

Table 1.2: Stage 3: Semi-Structured Interviews Population and Sample Size

Semi-Structured Interview Population and Sampling	
Population Size	Sample Size
<ul style="list-style-type: none"> Signature Course original Project Steering Committee consisted of three members, however one member has since passed on. 	<ul style="list-style-type: none"> All members in the Steering Committee Total of 2 Members
<ul style="list-style-type: none"> There were seven primary lecturers 	<ul style="list-style-type: none"> Two primary Lecturers who were directly involved with the SCs

<ul style="list-style-type: none"> • There were seven Curriculum Development and Transformation (DCDT) members 	<ul style="list-style-type: none"> • One Learning Development member from DCDT who was directly involved with the SCs
<ul style="list-style-type: none"> • Members from Instructional Support and Services (DISS), the Centre for Professional Development (CPD), Tuition Support, and myUnisa Administration 	<ul style="list-style-type: none"> • One member from CPD who was directly involved with the SCs
<ul style="list-style-type: none"> • Members from Information Communications Technology Department (ICT) 	<ul style="list-style-type: none"> • One member from ICT who was directly involved with the SCs
<ul style="list-style-type: none"> • Members from Human Resources department (HRD) 	<ul style="list-style-type: none"> • One member from HRD who was directly involved with the SCs
<ul style="list-style-type: none"> • Members from Finance, Costing and Budgeting Department 	<ul style="list-style-type: none"> • One member from Finance, Costing and Budgeting Department who was directly involved with the SCs
<ul style="list-style-type: none"> • Members from Department of Institutional Development (DIA) 	<ul style="list-style-type: none"> • One member from DIA who was directly involved with the SCs
<ul style="list-style-type: none"> • Members from registration, assignment and examination DSAR and DSAA. 	<ul style="list-style-type: none"> • One member from DSAR who was directly involved with the SCs • One member from DSAA who was directly involved with the SCs
<ul style="list-style-type: none"> • Study material and print production (SMPD) 	<ul style="list-style-type: none"> • One member from SMPD who was directly involved with the SCs
<ul style="list-style-type: none"> • Members from the five Regional Hubs 	<ul style="list-style-type: none"> • One member from the Regional HUB who was directly involved with the SCs (Technology Enhanced coordinator)
<ul style="list-style-type: none"> • Members from the College Administrators 	<ul style="list-style-type: none"> • One member from the College who was directly involved with the SCs
<ul style="list-style-type: none"> • Teaching assistants 	<ul style="list-style-type: none"> • Two Teaching assistants from the Colleges who were directly involved with the SCs

<ul style="list-style-type: none"> • 32 Unisa permanent staff members • 192 members (TAs) 	A total of 14 members Total of 2 Part time members initial
<ul style="list-style-type: none"> • Total 224 (32+192) 	A total of 16 members (14+2)

After determining the population and the size of the population the supervisor provided the researcher with the email addresses of the potential participants (Creswell & Creswell, 2018).

1.11.5.3 Stage Four: Population and Sampling for the Pluralistic Walkthrough Focus Group Discussion

The same process as described above took place for the pluralistic walkthrough focus group discussion, but this was scheduled to take place on one specific day and time whereas the interviews took place over a range of days.

This group consisted of individuals who formed part of the same group used for the interviews but included other experts in the field such as librarians, academics, and a researcher. The population were people who implemented online learning but who were not specifically involved with the Signature Courses. The sample size for the pluralistic walkthrough focus group discussion is based on the identified role and expertise of each of the participants in relation to the implementation of the Signature Courses and depending on their availability. After determining the population and the size of the population the supervisor again provided the email addresses of the potential participants to the researcher (Creswell & Creswell, 2018).

Table 1.3: Stage 4: Pluralistic walkthrough focus group discussion population and sample size

Pluralistic Walkthrough Focus Group Discussion Sampling	
Population Size	Sample Size
<ul style="list-style-type: none"> • There were seven primary lecturers 	<ul style="list-style-type: none"> • Four Lecturers who were directly involved with online learning

<ul style="list-style-type: none"> • There were seven Curriculum Development and Transformation (DCDT) 	<ul style="list-style-type: none"> • Two Learning Development members from DCDT who were directly involved with online learning
<ul style="list-style-type: none"> • Members from Instructional Support and Services (DISS) which consist of the (Centre for Professional Development (CPD), Tuition Support and myUnisa Administration) 	<ul style="list-style-type: none"> • One member from DISS who was directly involved with online learning
<ul style="list-style-type: none"> • Members from Information Communications Technology Department (ICT) 	<ul style="list-style-type: none"> • One member from ICT who was directly involved with online learning
<ul style="list-style-type: none"> • Members from Human Resources department (HRD) 	<ul style="list-style-type: none"> • One member from HRD who was directly involved with online learning
<ul style="list-style-type: none"> • Members from Finance, Costing and Budgeting Department, 	<ul style="list-style-type: none"> • One member from Finance, Costing and Budgeting Department who was directly involved with online learning
<ul style="list-style-type: none"> • Members from registration, assignment and examination DSAR and DSAA. 	<ul style="list-style-type: none"> • Two members from DSAA who were directly involved with online learning
<ul style="list-style-type: none"> • Study material and print production (SMPD) 	<ul style="list-style-type: none"> • One member from SMPD who was directly involved with online learning
<ul style="list-style-type: none"> • Members from the five Regional Hubs 	<ul style="list-style-type: none"> • One member from the Regional HUB who was directly involved with online learning (Technology Enhanced coordinator)
<ul style="list-style-type: none"> • Library 	<ul style="list-style-type: none"> • One Librarian who was directly involved with online learning
<ul style="list-style-type: none"> • Research Expert 	<ul style="list-style-type: none"> • One Research Expert who was directly involved with online learning

<ul style="list-style-type: none"> • The members could not be quantified except for the five Regional Hubs 	<ul style="list-style-type: none"> • A total of 16 members
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1.11.6 Qualitative Data Collection Methods

There are different data collection methods and techniques in qualitative research (Bowen, 2009; Creswell & Creswell; 2018; Nieuwenhuis, 2007c; Yin, 2018). The techniques/methods to collate the information will be artefacts (documents), semi-structured interviews, and a pluralistic walkthrough focus group discussion. The data from the Signature Course case study was collected to assist with the development of an online learning implementation framework. By using these techniques the researcher focused on answering the research questions which relate to the design, decisions, implementation variables, and interdependencies across functional areas.

1.11.6.1 Document Analysis

The first stage of the research entailed a directed, inductive/deductive document analysis (Ivankova, Creswell & Clark, 2007; Creswell & Creswell, 2018; Nieuwenhuis, 2007a; Saldaña, 2016, Saunders et al., 2019) and the purpose was to look for specific information regarding the strategic and operational levels of management under planning, implementation variables, interdependencies and decisions taken. An in-depth document analysis provided the researcher with information related to the key design elements, key decisions, and information regarding the functional departments, the key staff that were involved, and how the implementation process was rolled out from the inception of the Signature Courses to 2015.

The document analysis furthermore assisted the researcher in identifying and mapping the design decisions, elements/variables in the different implementation stages, and different roles and responsibilities, interdependencies between the functional areas, and the decisions taken during the implementation.

1.11.6.2 Semi-Structured Interviews

The second stage of this study entailed explorative, semi-structured interviews to get a broad and first impression in understanding the purpose of the Signature Courses, and the complexities and interdependencies in the planning and eventual roll-out. The researcher used semi-structured questions to gather and collate as much information as possible to understand the complexity, and was careful not to narrow it down and thereby lose valuable information. The researcher developed nine questions for the steering committee members and 10 questions for the functional committee members. The conceptual framework that resulted from the scoping literature review informed the formulation of the questions in the interview schedule. A mock interview was conducted with the supervisor to assist the researcher in eliminating problem areas in advance, such as, ensuring that the key people were identified, that ethical and confidentiality criteria were applied correctly, and that the data gathering methods and the questions in the case of the semi-structured interviews were well understood (see Adams, 2010). All the semi-structured interviews took place through MS Teams and were recorded. Through explanatory/exploratory discussions the researcher was allowed to probe and ask questions during the interviews when more information was required about the topic. The researcher was also able to go back to the individual concerned after the interview when some information was not clear. The experiences, knowledge, fears, successes, challenges, lessons learned, and different outcomes were collected from this group.

A total of sixteen interviews took place from 12 July 2022 – 4 August 2022. The interviews were transcribed and recorded. The study interviewed as many as possible participants to arrive at an in-depth understanding regarding the implementation process of the Signature Courses, or until data saturation had been reached.

1.11.6.3 Pluralistic Walkthrough Focus Group Discussion

The researcher presented the implementation principles and the various online learning implementation frameworks that were developed after the literature review, the document analysis, and the interviews to the group. Riihiaho (2002) defines a pluralistic walkthrough focus group discussion as a range of engagement where relevant people such as users, developers, and functional units, for example, human resources, work step by step through a framework or scenario and discuss each element. The pluralistic walkthrough focus group discussion was divided into four different break-away discussion groups to ensure that sufficient time was

provided to discuss and provide input into the implementation principles and the online learning implementation framework. The group recorded their input on a handout paper pack that was provided to them in advance. The discussions were very interactive and the participants interacted with the researcher during discussions when they needed more clarity. A total of 16 participants took part in the pluralistic walkthrough focus group discussion.

1.11.7 Qualitative Data Analysis

The researcher followed the particular steps in the data analysis: the data was organised on a data analysis tool called ATLAS.ti Version 22, which is the most recent version released in December 2021; the data was coded on ATLAS.ti following an inductive and deductive process (Saldaña, 2016) wherein the researcher does the coding while reading through the content (inductive), and the researcher uses certain terms, for example 'design', to find any data with the word design (Creswell & Creswell, 2018, Fereday & Muir-Cochrane, 2006; Linneberg & Korsgaard, 2019; Saunders et al., 2019). After the coding process was completed, the descriptive and in vivo data analysis emerged for categorising, and subcategories via theming/concepts were developed (Saldaña, 2016). The researcher then interpreted the themes by organising the information into a descriptive report which resulted in assertions/theory. Interpretation, according to Rossman and Rallis, (2012) is making sense of what was told and found from the data, and from other plausible interpretations.

Data analysis took place after each stage [see diagram 1.4 Data Collection and Analysis Process]. The researcher mapped the tentative findings and developed a draft framework after each stage on the implementation of online learning at Unisa. During the last stage the researcher used the pluralistic walkthrough focus group discussion to evaluate the principles and framework. Thereafter the final data analysis took place to deepen, broaden and improve the developed framework using the pluralistic walkthrough focus group discussion.

1.11.7.1 Qualitative Document Analysis

The selected documents were imported into ATLAS.ti after which axial coding was done (inductively/deductively). Axial coding is a technique that the researcher used to code the

document content into relating codes, categories, and subcategories. The information was interpreted through developing themes from the subcategories.

As described in Chapter 4, the researcher used documents that were developed in the institution specifically applicable to the Signature Courses or which were relevant to this study [see 4.6.1 Stage 2: Document Analysis]. The researcher identified and analysed the 83 documents using qualitative, descriptive, and process coding strategies (as described in Chapter 4). The documents were all readable and the researcher did not need to retype any documents before adding them into ATLAS.ti, which was used to code these documents inductively and deductively.

The inductive coding process of the corpus relied on, *inter alia*, the processes described by Linneberg and Korsgaard (2019), and Saldaña (2016). The researcher exported the corpus to ATLAS.ti and started the coding process. After an initial coding of 10 articles, the researcher shared the coding with a co-coder and, following a discussion and clarification, the whole corpus was coded. Thematic analysis was used to analyse the data, and a code list was created with 253 codes (the first cycle), which were grouped into 44 group codes (second cycle). Thereafter the researcher grouped the 44 group codes into a total of 21 super group codes (or categories) and seven themes aligned with the research objectives from 1976 quotations emerged. [See Table 1.4: Themes for Literature review (Stage 1), Document analysis (Stage 2) and Interviews (Stage 3)]. A draft online learning implementation framework was developed after the document analysis.

1.11.7.2 Semi-Structured Interviews

The interviews with the steering committee and the functional units took place through MS Teams, and the interviews were recorded on the MS Teams platform. The recordings were transcribed and anonymised. The participant transcripts were imported into ATLAS.ti then analysed using the same process as described in the qualitative first stage (document analysis) of this research. The audio files and anonymised transcriptions were saved onto a password - protected cloud server.

The researcher analysed the semi-structured interview responses from 16 research participants for qualitative content using coding strategies (Linneberg & Korsgaard, 2019; Smit & Scherman, 2021; Saldaña, 2016; Saldaña, 2021; Thomas, 2006). The analysis of data is guided by constantly keeping in mind the research and interview questions. To this end, the researcher engaged in data reduction where essential information is extracted from a large amount of information, categorizing meaningful information using coding of data process and decoding the data to analyse and interpret these qualitative data forms to at the end be able to generate patterns and or themes (Saldaña 2021: 8-10). The methods unfolded through concurrent and iterative research processes: data collection, audio-recorded semi-structured interview data, transcription of data and data analysis. Following Saldaña (2021: 133-148), the researcher applied coding terminology and procedures. The researcher specifically used descriptive, process, and in vivo codes, which were created inductively (data-driven). The researcher used the responses from the participants and coded firstly inductively and thereafter deductively (see also Chapter 3, the literature review, and Chapter 5, the document analysis of the Signature Course implementation). The researcher created a code list or a codebook of 329 codes (1st cycle), which the researcher reduced to 44 codes (2nd cycle) and 11 code groups or categories, and five themes aligned with the research objectives from 321 quotations. The data responses were edited except where direct citations were used. A draft conceptual online implementation process framework was developed after the interviews (see Chapter 3, the literature review, and Chapter 5, the document analysis of the Signature Course implementation).

Before the pluralistic walkthrough focus group discussion took place the researcher developed the principles and the final framework. The researcher did a cross correlation on the literature review, document analysis, and content from the semi-structured interviews to corroborate the findings.

Table 1.4: Themes for Literature review (Stage 1), Document analysis (Stage 2) and Interviews (Stage 3)

Stage 1: Literature review	Stage 2: Document Analysis	Stage 3: Semi-Structured Interviews
6 Themes	5 Themes	6 Themes

Theme 1: Macro environment	Theme 1: Designing the online learning experience discuss Phase I	Theme 1: Understanding Signature Courses
Theme 2: Designing the online learning experience	Theme 2: Managing the implementation process (Phase II)	Theme 2: Key design elements
Theme 3: Managing the implementation process	Theme 3: The role of information and communication technology (ICT) in the implementation process (Phase II and III)	Theme 3: The experiences of implementing signature courses in the different phases
Theme 4: The role of executive management and functional management in ensuring effective implementation process	Theme 4: The role of budgeting and costing (Phase II and III)	Theme 4: Interdependencies between functional units and management decisions
Theme 5: The role of budgeting and costing	Theme 5: <u>Lessons learned (Phase III)</u>	Theme 5: Information and Communication Technology (ICT)
Theme 6: The role of Information and Communication Technology (ICT) in the implementation of online learning		Theme 6: Lessons learned: successes and challenges

1.11.7.3 Pluralistic Walkthrough Focus Group Discussion

The principles and the online learning implementation process were captured on separate workshop handouts that were provided to the group. The principles were evaluated to gauge whether the participants agreed with the principles, whether the principles were important, and whether any amendments were required to add to the principles.

The following nine principles informing the implementation process framework were tabled for discussion:

- 1) Executive Management buy-in, support, and resource allocation.
- 2) Alignment with institutional character, mandate, vision, and policy environment.
- 3) Alignment with disciplinary context – what works in one course may not work in another.
- 4) Student-centredness – placing the student at the centre of the design, pedagogy, assessment, delivery, and student support (student experience and success).
- 5) Roles, responsibilities, and interdependencies need to be defined, agreed upon and committed to (Team Approach).
- 6) While all functional departments are integral to successful implementation, ICT support (systems, infrastructure, software) is fundamental.
- 7) Professional development and skills development for staff and students.
- 8) Staff motivation, wellness, and support.
- 9) Continuous monitoring, quality assurance, improvement, and evaluation of the implementation process.

The participants were asked to give their key thoughts on the design, development, and implementation elements of the framework according to phases I, II and III. They were also asked to evaluate the online learning implementation process framework. There were four specific questions for the participants to evaluate: firstly, the participants were asked to indicate whether the framework was effective; second, whether the framework guided the implementation process; third, whether the framework was comprehensive; and, last, whether the framework was easy to use considering the experimental setting of this walk-through.

The online learning implementation process framework was evaluated for completeness, ease of use, and usefulness. The researcher analysed the evaluation feedback from the different groups and made adjustments to the principles and the online learning implementation process framework. An improved developed framework was the envisaged output. The last stage corroborated, deepened, and broadened the developed framework

1.12 TRUSTWORTHINESS AND VALIDITY

According to Yin (2018), the quality of the research design and empirical data of a study should be evaluated against trustworthiness and validity. Yin (2018) denotes that validity can be constructed as internal and external. Internal validity is applicable to explanatory studies whereas external validity indicates whether the research findings of the study can be generalised. Yin (2018) also refers to reliability which refers to research results that would be the same if the study was repeated using the same processes.

Qualitative inquiries can be judged or evaluated against trustworthiness using the following four sub-elements: credibility, dependability, conformability, and transferability (Lincoln & Guba, 2008) [see Chapter 4; 4.9 Trustworthiness of the Study for more information].

Credibility consists of different techniques, for example, prolonged engagement, triangulation, peer debriefing, and member checking (Lincoln & Guba, 2008). In the present study, credibility is supported by paying attention to the following:

- 1) The credibility of the interviews was enhanced through prolonged engagement with the participants allowing them to share thick descriptions of their direct involvement, expertise, experience, and knowledge in the initial planning, roll-out, and feedback on the implementation progress of the Signature Courses.
- 2) Triangulation is a technique that the researcher used in this study to enhance the credibility of the study. Credibility was attained using more than one method to collect and analyse primary data (Lincoln & Guba, 2008; Nieuwenhuis, 2007c). The researcher used document analysis (the Signature Course reports, minutes, management committee decision registers, and policies), semi-structured interviews (rich information from participants directly involved with the Signature Courses), and the pluralistic walkthrough focus group discussion to collect and analyse primary data. For example, the researcher collected and analysed primary data from the pluralistic walkthrough focus group discussion where the participants provided feedback on the principles and the framework, and also evaluated the framework in terms of ease of use, comprehensiveness, and whether it could serve as a guide for the implementation of online teaching and learning. By using multiple data sources, the researcher gained a deep understanding of the complex phenomena and data relating to the Signature Courses. After each data collection process a framework (literature review, document

analysis and semi-structured interviews) was developed and then converged into an online learning implementation process framework (Nieuwenhuis, 2007c).

- 3) The researcher used member checking by taking the research information back to the participants for validation (Hancock and Algozzine, 2006; Lincoln & Guba, 2008). The participants had an opportunity after the semi-structured interviews to validate the transcriptions and ensure that it was a true reflection of their experiences.

Mills, Durepos and Wiebe (2010) and Yin (2018) use the term reliability rather than dependability, and suggest that this occurs when a researcher obtains the same results when the study is repeated, for example, after following the same collection procedures. A case study protocol was used to enhance the reliability of this study which helped to steer the researcher along specific procedures and recording the information accordingly so that the research is replicable with the same findings (Yin, 2018) [see Chapter 4; 4.5.1 Case Study Protocol for more information].

Dependability can be accomplished with data analysis. Saldaña (2016) explains that coding is an iterative process generating a code list, after which the codes are condensed into categories, and, later, into themes (Saldaña, 2016). This iteration assists with the consistency of the process and therefore ensures dependability. The researcher used a co-coder and more than one peer researcher to analyse and interpret the data of the semi-structured interviews. According to protocol, the research procedures and findings should be interrogated in order to identify possible discrepancies which might affect the credibility of the research (Hancock & Algozzine, 2006; Nieuwenhuis, 2007a). The data needs to be accurate, and the interpretation of the data needs to be done in such a way that the results/findings are believable (Patton, 2002; Yin, 2018).

Conformability refers to the importance of the neutrality of the 'perspective, beliefs and values' (Lincoln & Guba, 2008: 1) of the researcher whose position impacts on trustworthiness. The researcher is currently an employee in the Gauteng Hub at Unisa and is known throughout the institution and to some of the participants. The researcher therefore excluded the Gauteng region as part of the sample for the interviews and the pluralist walkthrough focus group discussion by inviting participants from other regions, thus maintaining her neutrality.

Transferability refers to the way in which the researcher presents the outcomes of the study so that 'the findings have applicability in other contexts' (Lincoln & Guba, 2008: 1). The researcher discusses the generalisation of the outcomes/findings in Chapter 4 [see 4.2 Inductive and Deductive Reasoning, 4.3.1 A Quantitative Methodological Approach, and 4.5.2 Different Case Study Designs]. Wilkins, Neri and Lean (2019) suggest that qualitative studies are able to be generalised in the form of 'lessons learned' or research 'findings from qualitative studies' (Wilkins, Neri and Lean, 2019: 3). The principles and the online learning implementation process framework developed may benefit other scholars and be useful to them.

1.13 ETHICAL CONSIDERATIONS

The researcher received ethical approval from two separate committees at the University of South Africa. First the researcher applied for ethical clearance from the Unisa Ethics Review Committee and ethical clearance was received: ERC Reference # 2021_CEMS_BM_124. Thereafter the researcher received approval from the Research Permission Sub-Committee (RPSC) of the Senate Research, Innovation, Postgraduate Degrees, and Commercialisation Committee (SRIPCC) and approval was received: 2021_RPSC_080. [Annexure 1.2 Ethics Review Committee and Annexure 1.3 RPSC Permission Certificate]. The researcher abided by the following guidelines:

- 1) According to these approvals the researcher needs to ensure that the research participants sign a confidentiality form both to protect the research and to allow it to be shared with third parties for research purposes.
- 2) All stakeholders dealing with research data, for example, editor, proofreaders, transcriber, and graphical designers need to consent to the confidentiality of participants' personal information, interviews, and identity through a signed confidentiality form.
- 3) All participants should be treated professionally and in alignment with the university's values: respect, integrity, and trust.
- 4) Participants with specific cultural needs or 'vulnerable' participants should be accommodated.
- 5) The researcher forwarded a letter to all the participants indicating:
 - a. the purpose of the study and the methods used to collate data.

- b. how the researcher will ensure safe-keeping of documents and audio/visual material.
- c. how the feedback process would follow after the completion of the research; participants can request feedback on their input after the transcribing to ensure their views are correctly recorded.
- d. Participating in the research is voluntary; participants can at any time decide not to participate in the research activity (Unisa, 2016).

1.14 ACADEMIC VALUE AND CONTRIBUTIONS

The significance of this study is to document empirical evidence on the evaluation of the implementation process of the Signature Courses using a combination of existing implementation evaluation frameworks. A range of strategies and activities whose effectiveness has been proven by research will be used.

The value of a rigorous evaluation of the implementation process of the Signature Courses provides the following:

- 1) The context: why (purpose) and how (design) the Signature Courses were implemented. This will be documented through mapping the implementation process.
- 2) Through mapping the implementation process, the responsible functionalities, roles responsibilities, and tasks will be clear. Some of the functionalities were Information and Communication Technology, Human Resources, the Finance Department, Department of Innovation and Advancement, the Registration and Assessment Department and the five Regional Hubs.
- 3) Owing to the complex implementation process the variables are identified through evaluation implementation process.
- 4) Through mapping the variables, the interdependencies of the functional units will be revealed.
- 5) The implementation process evaluation provides a clear understanding and interpretation of the outcomes and impact analyses.
- 6) Informing the decision makers helps to replicate or measure/scale successful interventions.

Not only does this study provide pointers for a framework for the implementation process of online learning in the context of Unisa, but the study may be used to evaluate the implementation process of other online learning projects in the global South and beyond. As such this study will be the first of its kind in the context of the Global South.

1.15 ASSUMPTIONS AND DELIMITATIONS

The researcher assumed she would have access to the different minutes and archival documents that contain information on the origins, planning, design and roll-out of the Signature Course project in all its iterations. However, some documentation was lost or destroyed, and some of the staff who were originally involved in the planning and implementation of the Signature Courses have already retired, or have passed on, or have left the services of Unisa. This was a limiting factor for the researcher.

While the student experience during the different iterations of the Signature Courses may be interesting and valuable, the purpose of this study is not to evaluate the quality of the Signature Courses, or the student experience, but to map and evaluate the implementation process from an institutional perspective.

1.16 CONCLUSION

The chapter has indicated the importance of Unisa's vision, mission, and strategic plan towards transformation, and how the Signature Courses are aligned with this plan. The specific elements for the Signature Courses encompassed the university's core values and were designed to produce graduates who could play out their roles as local, national, and global citizens by being self-directed and critically astute, and who were also digitally literate, thereby endorsing the image of the university as a globally competitive institution.

1.17 CHAPTER OUTLINE

Table 1.5: Chapters and Description

Chapters	Description
Chapter 1 Research Orientation	Introduction and scope of the study, research problem, and purpose of the study, research objectives, research questions, literature review identifying the gaps, and the research design and methodology.
Chapter 2 a Brief overview of implementation and evaluation literature	The literature review will provide an overview of published research with regard to different theories, models and frameworks for implementation process and evaluation process. (introduction of implementation and evaluation science through existing research in these fields as well as the different models)
Chapter 3 Literature Review	The literature review will provide an overview of themes that emanated from the published research and the draft conceptual framework for online learning implementation. The themes are as follows: Theme 1: Macro environment; Theme 2: Designing the online learning experience; Theme 3: Managing the implementation process; Theme 4: The role of executive management and functional management in ensuring effective implementation process; Theme 5: The role of budgeting and costing; and Theme 6: The role of Information and Communication Technology (ICT) in the implementation of online learning.
Chapter 4 Research Design and Methodology	Research design, research foundational and philosophical assumptions, methodology, research approach, research methods and techniques, (sampling, data collection and data analysis). Trustworthiness and credibility and ethical requirements.
Chapter 5 Document analysis of the Signature Course implementation	Document analysis A online learning framework will be provided after the collection, processing and interpretation.
Chapter 6 Presentation, analysis, and discussion of the semi-structured interviews	Semi-structured interview process An online learning framework will be provided after the collection, processing and interpretation.

<p>Chapter 7 Presenting and testing the proposed framework for the implementation of online learning</p>	<p>Pluralistic walkthrough focus group discussion evaluation analysis A final online learning framework will be provided after the collection, processing and interpretation as well as guiding principles towards online learning.</p>
<p>Chapter 8 Findings, Lessons Learnt and Conclusion</p>	<p>Reflection on the research process, summary of the empirical findings, lessons learnt, new published research, limitations of this study, and conclusion.</p>

CHAPTER 2

A BRIEF OVERVIEW OF IMPLEMENTATION AND EVALUATION LITERATURE

As indicated in the first chapter the researcher will introduce each chapter with a diagram below illustrating the mains sections of the chapter.

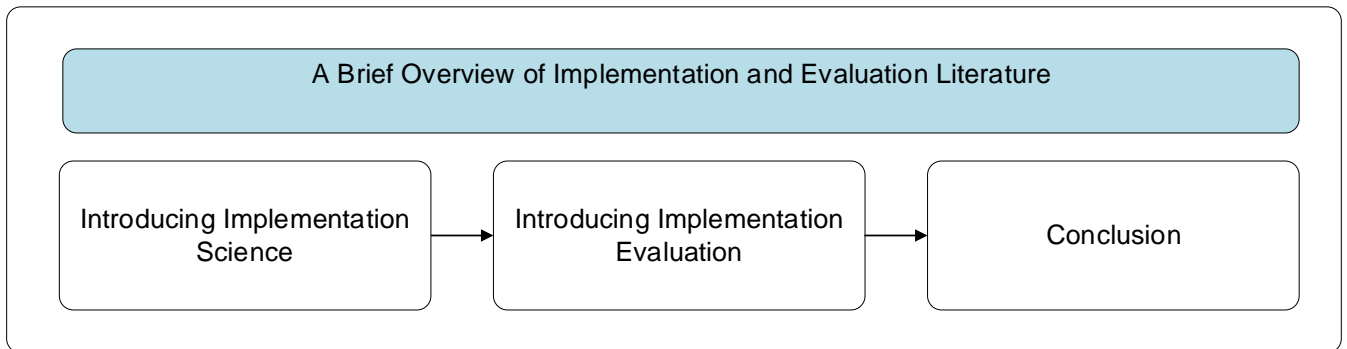


Diagram 2.1: A Brief Overview of Implementation and Evaluation Literature

2.1 INTRODUCTION

In Chapter One the researcher discussed Higher Education trends and their implications for ODL, followed by a description of the broader context of Higher Education and Open Distance education in South Africa. The researcher discussed the evolution of distance education, the differentiation between different terms, for example distance, e-learning etc. to give context to the motivation and aim of the study as well as the research questions and objectives and the problem statement.

The aim of this Chapter is to introduce the reader to implementation science and evaluation through existing research in these fields as well as the different models. Lastly the researcher will briefly discuss the cost, access, and quality triangle model.

2.2 INTRODUCING IMPLEMENTATION SCIENCE

According to Nilsen (2015) implementation research started in the health care discipline and was empirically driven as it was used to provide evidenced-based practice (EBP) outcomes. Implementation science was started in approximately 2005 in response to a need to apply a theoretical underpinning for the concept and practice of implementation. Nilsen (2015) further argues that poor theoretical underpinning will make it difficult to understand why and how implementations succeed or fail. There are, according to Nilsen (2015), three main reasons why the evaluation of implementation has become a 'science', namely: 1) to describe the process and process models; 2) to understand and/or explain the factors that have impacted on the implementation outcomes (determinant frameworks); and 3) to evaluate implementation. These implementation and evaluation models and frameworks often focus on what is required during the implementation to achieve the intended outcomes, and to evaluate to what extent the outcomes were achieved (W.K. Kellogg foundation, 2017).

Implementation is described by Ogden and others as the 'movement of evidence-based programmes (EBPs) from science to practice, or the active and planned effort to mainstream a new intervention within a practice organization' Ogden et al. (2012: 1). Accepted and or adopted intervention programmes may not necessarily be implemented and put into practice. This is referred to as the 'knowing-doing gap' in which practitioners fail to do what might improve their

practice and or outcomes. A transition period takes place during implementation in which the implementors become increasingly skillful, consistent, and committed in their use of a new intervention (Ogden et al., 2012).

Therefore, implementation establishes a connection between what is discovered in theory and, conversely what is discovered in multidisciplinary effective practice. (Fixsen et al., 2009; Moir, 2018). Research studies in implementation science emphasise the factors and elements that plays a critical role in the success, acceptance, and sustainability of programmes. Acceptance of new programmes demands change (Eby 2017; Fixsen et al., 2009; Moir, 2018). Change management involves careful planning for organisational change while preparing for high-level process and culture to specific individual roles. Implementation science acknowledges that people need to be receptive to change and that ideal conditions be established to support and sustain the intervention. Consequently, it is critical to the design successful interventions. In addition, to comprehend the effectiveness of the intervention and the implementation of evaluation and analyses of the outcomes and the impact are required (Kelly and Perkins, 2012). The Active Implementation Research Network (2020) identifies key implementation drivers that support the successful implementation of innovations as competency development, organisational support and, lastly, leadership. Bertram, Blase and Fixsen (2015) and Leahy, Thielsen and Millington (2009) support the AIRN in that competency development and leadership are two of the success factors contributing to successful evaluation in their projects [see 2.2.3 Successful Implementation Drivers].

Mabert, Soni and Venkataramanan (2003) as well as Leahy et al. (2009) point to the fact that owing to differences between programmes, the implementation variables and implementation decisions are not the same for all programmes. They conclude that owing to these differences, there is no 'one size fits all' model that can be applied to all contexts and programmes.

Standards are developed by HE institutions to indirectly guide implementation success and the Institute for Higher Education Policy developed a quality criteria tool for online studies called QUALITY ON LINE: BENCHMARKS FOR SUCCESS (The Institute for Higher Education Policy, 2000). Govindasamy (2001) cites the seven pedagogical elements for successful implementation of online courses under (1) Institutional support, (2) Course development, (3) Teaching and learning, (4) Course structure, (5) Student support, (6) Academic support and (7) Evaluation and

assessment, which will be discussed later [2.2.4.3 Successful Implementation of online learning: a pedagogical consideration], along with their activities, give direction to what needs to be in place for online courses to be successfully implemented.

2.2.1 Different Types of Implementation Strategies

According to Burke (2013) there are four different system implementation strategies, namely, pilot system, parallel system, phase in/phase out system and cut off system, also referred to as the big bang approach. Burke (2013) further explains that a pilot system is normally a mini system and is used to carry out heuristic development processes which involve continuous adjustments and where all challenges are resolved as the implementation unfolds. Pilot systems are typically used when a new system is required, or small changes are required to an existing system. It allows for testing and feedback from the users to ensure the system is correct before any full-scale implementation occurs. With Pilot system, implementation takes place in a controlled environment and focus on a specific department or division. Parallel systems are where two systems run parallel and the new system is only implemented when all challenges are resolved to ensure reliability when the system is implemented. The phase in/phase out system systems is allowing for a gradual change process from the existing system to the new system. The implementation takes place in phases and is only implemented when the phase is tested to ensure disruptions are minimized optimally and it provides the opportunity to manage change better. The cut off system is abrupt; it is where the old system is changed to the new system and is immediately in full operation. This implementation process is required when the organisation needs to quickly implement a new system and the old system is not supported anymore. After providing the four different implementation strategies the best fit strategy that the Signature Course model followed was the big bang or cut-off system and the motivation would be that the system was developed in a short space of time, minimum testing was done and when the implementation was affect during 2013 not all systems were in place and was still in development.

To be able to document and evaluate the implementation process of the SCs the researcher will briefly provide an introduction to implementation and evaluation as a science and why it is important to do research on online model's implementation and evaluation from the conceptualisation of the Signature Courses in 2009, and the design, development and the implementation from 2011 -2013 and the subsequent changes up to the 2015 registration period.

2.2.2 Different Stages with Implementation Models or Frameworks

Implementation models often refer to the different stages or steps in the implementation process. As such these models provide a systematic and structured guide on how implementation should be done. Using these different stages provides insight into, for example, interdependencies, stakeholder understanding of the process and how resource allocation may have impacted on a specific stage, and subsequently, on the unfolding of the implementation.

The literature indicates different implementation modalities as some models have between three and six implementation stages which differ from each other in terms of focus and or meaning

The model by Saldana et al. (2014) proposes three stages of implementation. Burke (2013) explains the implementation phases in four steps. Fixsen, Blase and Van Dyke (2018) posit six stages whereas the (Active Implementation Research Network, 2020)(2020) has four stages. What follows is a brief discussion what the stage entails of the four different models.

2.2.2.1 Saldanha's Three Step Implementation Stage Model

According to Saldana et al. (2014) implementation can be categorised into three stages, namely 1) pre-implementation, 2) implementation, and 3) the sustainability stage. A way of determining whether programmes were implemented successfully can be learned from Saldana's study where she used the Stages of Implementation Completion (SIC) model to measure the time/duration it took to complete the activities against those activities not yet completed. Saldana et al. (2014) then determine the factors that influence successful implementation. Saldana et al.(2014) also map the time and cost in the SIC model. Costing the activities determines the expenditure in the three different implementation phases (Saldana et al., 2014). Most of the time, cost estimation frameworks for implementation are lacking according to Saldana et al. (2014).

2.2.2.2 Burke's Four Step Implementation Stages

Burke (2013) explains the implementation phases as, Step 1: conceive an initiation phase; Step 2: design and development phase; Step 3: implementation or construction phase; and Step 4:

commissioning and handover phase. Burke (2013) further explains that the level of effort is the highest in the third step, namely the implementation and construction step, as most of the work takes place during this phase. Burke (2013) also argues that the level of influence and the potential to add value takes place during the first two steps of implementation when the concept of the innovation needs to be 'sold' to all stakeholders after which the design and development take place. New motivations need buy-in from different stakeholders as they bring about change which can be totally different from business as usual. The cost of implementation takes place during Steps 3 and 4 where the implementation, construction, commissioning/testing and hand-over take place (Burke, 2013).

2.2.2.3 Fixsen, Blase, and Van Dyke's Six Step Implementation Stages

Fixsen and others Implementation Framework consist of six stages towards full implementation are as follows: 1) current situation exploration, 2) consideration of change, or installation phase, 3) preparation for change, or initial implementation phase, 4) full implementation, where change is being engaged in, 5) innovation, where after practising interventions with fidelity, subtle adjustments to address the user requirements, and 6) maintenance of procedures to ensure sustainability (Fixsen et al., 2005; Fixsen, Blase, & Van Dyke, 2018; Leahy et al., 2009).

- 1) Exploration is the genesis of the innovation determining through the first serious of meetings if the innovation can reach a visionary goal or close a gap or address a need.
- 2) Installation starts with acquiring the resources, preparing implementation drivers, training and preparing staff and organising resources to support the selected innovation.
- 3) Initial Implementation begins when the innovation is used for the first time and the adjustments with the initial implementation drivers take place. The changes are managed and the team starts with improvement plans.
- 4) When 50% of all the participants in the organisation achieve high fidelity, full implementation starts. Implementation drivers are monitored, managed, and the outcomes reached, which leads to improved fidelity.
- 5) The innovation phase takes place two years after full implementation. This phase takes place after the outcomes of the adaptation were reached and the evaluation was done with acceptable fidelity.
- 6) The final stage determines the sustainability of the innovation that was implemented.

The implementation stages tend to overlap and move back and forth between the years and do not have an end point.

2.2.2.4 AIRN's Four Step Implementation Stages

The following four stages of implementation will provide the researcher with a systematic or structured guide on what to do during implementation.

1) Implementation Stage One

Stage one is also known as the Pre-Implementation stage where a proposal or a draft plan is prepared for the buy-in and approval of top management. Buy in and approval depends on the personal and organisation readiness. Moir (2018) distinguishes between personal and organisational readiness for change. Personal readiness for change requires an individual to be motivated and capacitated, and there should also be an opportunity for change. Moir (2018) further explains organisational readiness for change and indicates that it is not as simple than personal readiness for change. A barometer to measure the success of organisational change is the degree to which individuals as collectives within an organisation are committed and confident.

The risks identified with the project should be part of the proposal or draft plan as these will inform the approvers of the possible implications of their approval. The proposal should include explanation of why and how the innovation needs to be implemented and what changes it will bring about. Was the implementation team identified and were there any challenges and or barriers with the genesis of the idea? (Active Implementation Research Network, 2020; Mabert, Soni & Venkataramanan, 2003).

During the first stage, the pre-defined performance metrics, (which assist to measure if the objectives have been met, should be developed, and the proposal should indicate detail regarding the networking and consultation with stakeholders.

2) Implementation Stage Two

Stage two consists mainly of planning and preparing for implementation. Choosing the implementation strategy, developing the implementation plan, and making decisions on how

implementation quality will be addressed and monitored takes priority in this stage. The team needs to ensure that the organisation will be ready to start using the programme or practice by implementation strategies such as training, acquiring resources, and adapting existing practices which forms part of the strategy (Active Implementation Research Network, 2020).

'Planning effort' can be defined as all the elements and factors that must be planned before the project can start. The plan will entail information such as what needs to be done; when and where it needs to happen; how it is to happen; and who is responsible. This is the action plan of all tasks that need to take place. The time frame and the costing are important variables at this stage (Active Implementation Research Network, 2020). There are different strategic options on how to conduct implementation depending on which decision is taken. These different implementation strategies requires decisions whether to implement using for example the Big-Bang approach versus the phased-in approach, and the extend of software customisation and reengineering required to complete an project (Active Implementation Research Network, 2020; Burke, 2013).

Ensuring that proper administrative and logistical support is provided during this phase is critical. During this phase leadership should ensure regular and constant communication to all stakeholders, so as to inform them about the successes, challenges and progress of the project. Reporting plays an important role to inform the project sponsors on the progress of the project. Continuous decisions need to take especially when deviations from the original implementation plan occur (Active Implementation Research Network, 2020).

With large and complicated projects there could be functional teams with a project coordinator to monitor the quality and progress of the implementation. In this phase the variables with their dependencies and interdependencies will be monitored and evaluated, and the outcomes will be identified.

3) Implementation Stage Three

It can be that the team did not implement the right or best decisions in Stage two. During this stage continuous improvement and refinements are happening to ensure that the programme is running effectively. During this stage the goals planned in the previous stage are reached and the last step will be to sustain the programme. An in-depth analysis of the impact of the implementation will be done to determine the value adding that took place and to use data and

information to guide improvements and adaptations. Changes and adaptations need to be documented and the value of this step will provide the lessons learned for future scholars (Active Implementation Research Network, 2020).

4) Implementation Stage Four

The last and fourth stage is where the programme is maintained. Decisions need to be taken on whether the programme is stable and if it needs to be rolled out to more services or other departments. If the decision is taken to roll it out on a bigger scale the new implementation programme starts (Active Implementation Research Network, 2020).

2.2.3 Successful Implementation Drivers

Govindasamy (2001) defines successful implementation as a Return on Investment (ROI) and productivity. Implementing e-learning, for instance, should yield a justifiable increase in revenue for an organisation and a significant increase in employee productivity as a direct result of the implementation. It is not always easy to measure ROI and productivity but variables such as student enrolments, retention, satisfaction, and pass rate could be used as a measurement (Govindasamy, 2001). Productivity is normally measured by cost/expenditure divide by hours worked.

In this study, the researcher will not measure productivity or return on investment but will focus on the performance drivers of successful implementation. An example of such would be to allocate academics more time to focus on research and community engagement apart from teaching and learning which all form part of the academic performance indicators of the academics.

AIRN (2020) identifies three successful implementation drivers as 1) competency development; 2) organisational support; and 3) leadership that enhances staff motivation and improves organisational culture. These three drivers compensate for one another so that a weakness in one component can be overcome by strengths in other components (Active Implementation Research Network, 2020). The AIRN uses a triangle format to explain how the three drivers are integrated and interact with each to ensure the effective implementation of innovative ideas (Active Implementation Research Network, 2020; Leahy et al., 2009). The three drivers will be discussed in this format despite the fact that this is not a linear process as each driver contributes to the holistic success of the implementation.

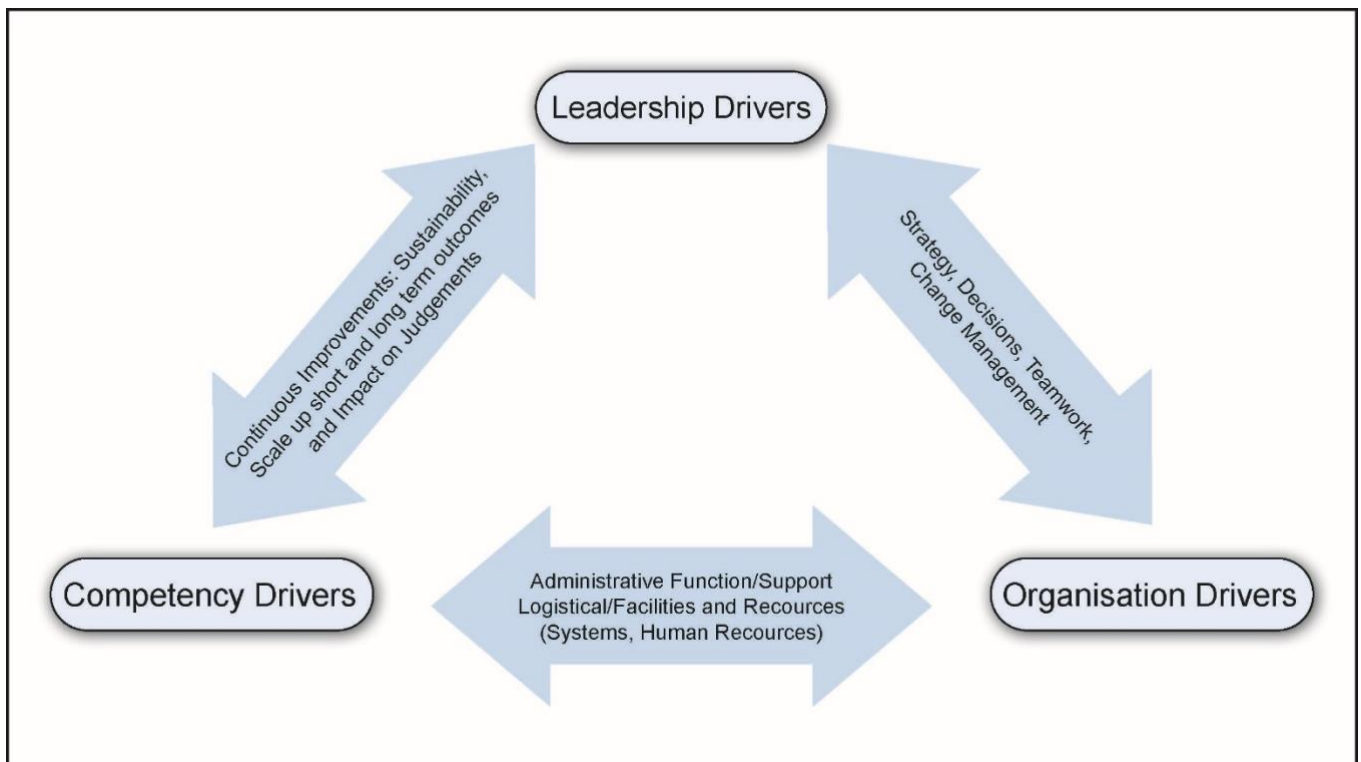


Diagram 2.2: Implementation Drivers (adjusted from Bertram, Blase & Fixsen, 2015)

1) Competency Development

The Fixen's Components Framework is focused on the staff and the key competency drivers to sustain implementation starts with the 1) staff you select to work in your team or organisation, 2) staff needs to be trained before they are exposed to any service, 3) ongoing consultation and coaching with staff and 4) staff performance evaluation to measure their performance (Bertram, Blase & Fixsen, 2015).

The competency vector of the triangle requires the team working on implementation to be familiar with the product, design, and processes to ensure effective implementation. To be able to implement effective innovations the team must acquire certain competencies, and development needs to take place because of the new ways of doing something (Active Implementation Research Network, 2020; Louw, 2014). Teams ensure synergy and improve efficiency and productivity as they balance the weaknesses and scale up the strengths. Burke (2013) defines a team as several people interacting with one another and working together to reach a common goal. Burke further explains that a team shares creativity, innovation, decision making, morale, values and job performance. He argues that the difference between a team and a group of people

is that people in a group do not necessarily interact with each other as they would within a team (Burke, 2013). Trainers, mentors and coaches can ensure that the team acquires the required skills and competencies to ensure successful implementation and evaluation (Peters et al., 2014; Govindasamy, 2001; University of South Africa, 2013a).

2) Organisational Support

Organisational support is on the other side of the vector where management is responsible for administrative functions and logistical support, and resources should be in place to ensure effective implementation (Govindasamy, 2001). Systems should provide information from data to make decisions on quality and performance. Organisational drivers are described as the mechanisms to sustain system environments and facilitate implementation through 1) decision support data systems; 2) facilitative administrative support; and 3) systems interventions (Fixsen, Blase & Van Dyke, 2018). These competency drivers give an understanding into the design and evaluation of the interventions.

3) Leadership

Leadership needs to resolve challenges, to make decisions and to implement change management. Not everybody believes that change can be for the good, and new ideas and practices sometimes need time to get used to. The leadership needs to get the team together, identify barriers and challenges, and resolve them. When implementing new ideas and innovations, it is easier to implement these with a team that shares the vision and the end result. According to the AIRN (2020), leadership facilitates technical challenges, manages goals, ensures the implementation happens according to time, cost and quality, and uses data to make decisions and solve problems (Active Implementation Research Network, 2020).

The interactive processes in the triangle are integrated to maximise the influence on staff behaviour and the organisational culture. The inter-activeness of the implementation drivers also compensates for one another so that a weakness in one component can be overcome by strengths in other components (Active Implementation Research Network, 2020).

As we have now discussed the different implementation stages and successful implementation drivers, the next section will discuss different implementation models in addition to the models discussed previously.

2.2.4 A Brief Overview of Selected Implementation Models and Frameworks

While the researcher encountered implementation models and frameworks which could be helpful to this study the researcher could not find any framework that ideally fits the online learning environment. The following models or frameworks contribute to the development of an evaluative online framework for online learning. The researcher identified an additional three models and frameworks, [2.2.2 Different Stages with implementation models and frameworks] that will be discussed accordingly:

- 1) The Quality Implementation framework from Meyers, Durlak and Wandersman researched 25 implementation frameworks and thereafter identified 14 critical steps to construct the QIF (QIF) implementation framework that can be used as a blueprint in future studies (Meyers, Durlak & Wandersman, 2012).
- 2) Enterprise resource planning (ERP): Managing the implementation process (Mabert et al., 2003). Most of the time ERP systems are challenging systems to implement and although there are some companies who successfully implement ERP system there are those who could not manage as such. This study did not provide a model or framework however it assisted with important factors that influence successful implementation which may assist with the development of an online learning implementation framework.
- 3) The Institute for Higher Education Policy (2000): Quality on the line benchmarks for success in Internet-Based Distance Education (The Institute for Higher Education Policy, 2000).

The factors that are required during implementation are briefly indicated as follows:

2.2.4.1 The Quality Implementation Framework

Meyers, Durlak and Wandersman (2012) studied 25 different implementation frameworks (two represented management and one represented business) and developed the Quality

Implementation Framework (QIF). Meyers, Durlak and Wandersman (2012) developed a Quality Implementation Framework that is associated with quality implementation, and maps four phases in the implementation process. They identified 14 critical steps to construct the QIF implementation framework that can be used as a blueprint in future implementation studies. The table below provides information on the four phases and 14 steps of the Quality Implementation Framework.

Table 2.1 Quality Implementation Framework (adjusted from Meyers, Durlak & Wandersman, 2012)

<p>Phase One: Initial considerations regarding the host setting</p>	<p>Assessment strategies</p> <ol style="list-style-type: none"> 1. Conducting a needs and resources assessment 2. Conducting a fit assessment 3. Conducting a capacity/readiness assessment <p>Decisions about adaptation</p> <ol style="list-style-type: none"> 4. Possibility for adaptation <p>Capacity-building strategies</p> <ol style="list-style-type: none"> 5. Obtaining explicit buy-in from critical stakeholders and fostering a supportive community/organisational climate 6. Building general/organisational capacity 7. Staff recruitment/maintenance 8. Effective pre-innovation staff training
<p>Phase Two: Creating a structure for implementation</p>	<p>Structural features for implementation</p> <ol style="list-style-type: none"> 9. Creating implementation teams 10. Developing an implementation plan
<p>Phase Three: Ongoing structure once implementation begins</p>	<p>Ongoing implementation support strategies</p> <ol style="list-style-type: none"> 11. Technical assistance/coaching/supervision 12. Process evaluation 13. Supportive feedback mechanism
<p>Phase Four: Improving future applications</p>	<ol style="list-style-type: none"> 14. Learning from experience

Phase One consist of the initial considerations regarding the host setting which consist of assessment-, decisions-, and capacity-building strategies. Phase Two focus on building a structure for implementation which consist of the implementation team and -plan. Phase Three focus on continuous support for example technical support and evaluation. The last phase four is about improvements and learning from experiences for example lessons learnt.

2.2.4.2 Enterprise Resource Planning (ERP): Managing the Implementation Process

According to Mabert et al. (2003), their study identified planning, management and implementation variables and decisions during ERP implementing. See table below

Table 2.2: Enterprise Resource Planning (ERP): Managing the Implementation Process (adjusted from Mabert et al., 2003)

Planning variables	<ol style="list-style-type: none"> 1. Developed a business case 2. Defined very clear desired outcomes 3. Defined performance metrics 4. Strong executive sponsorship 5. Strong executive involvement 6. Empowered ERP steering committee 7. Had an ERP implementation team/war room 8. Developed clear organisational change strategies 9. Developed clear education and training strategies 10. Communicated ERP plan to the enterprise 11. Addressed data conversion and integrity issues early 12. Technology/infrastructure in place
Management variables	<ol style="list-style-type: none"> 1. Strong executive involvement 2. Strong executive support 3. Regular Communication progress across the company 4. Benchmarked implementation progress against clear milestones or performance metrics 5. Allowed ERP committee to make key decisions

	<ol style="list-style-type: none"> 6. Communicated regularly with all who would be impacted 7. Created “Super-Users” who served as trouble-shooters 8. Trained all who would be using the system 9. Kept suppliers/customers informed
Implementation decision variables	<ol style="list-style-type: none"> 1. Implemented single ERP package 2. Used a mini Big-Bang implementation 3. Average number of modules implemented 4. Made major modifications to system 5. Undertook limited reengineering upfront 6. Used accelerated implementation strategy 7. Actual on-time 8. Actual late

2.2.4.3 Successful Implementation of Online Learning: a Pedagogical Consideration

Govindasamy based her framework on the Institute for Higher Education Policy (IHEP) which developed quality on the line: benchmarks for success in internet-based distance education (the Institute for Higher Education Policy, 2000). These benchmarks were also adopted by South Africa Institute for Distance Education (SAIDE) promoting open learning in distance education. The seven pedagogical elements (1) Institutional support, (2) Course development, (3) Teaching and learning, (4) Course structure, (5) Student support, (6) Academic support and (7) Evaluation and assessment will be discussed along with their activities to give direction on what needs to be in place for online courses to be successfully implemented. The seven elements will be used as a guide to cluster the implementation activities into meaningful units within the different phase of implementation (Govindasamy, 2001).

The seven educational elements are briefly discussed:

1) Institutional Support

The staff is motivated and cooperative when innovation incentives and institutional rewards are used when rolling out new innovations with effective outcomes. The incentives do not

necessarily mean monetary value but can be other incentives and rewards in terms of research funding, training, and development. A comprehensive documented technology strategy and plan needs to be developed to ensure quality standards. The identified systems, software and infrastructure need to be identified and in place. The ICT plan should comply with governance regulations.

2) Course Development

Course design should take place in a team approach with experts, for example, instructional designers and evaluation personnel. Courses should be designed with a consistent structure which is easy for students to use and which should also cater for different learning styles. The online course modules should be peer reviewed and minimal standards guidelines should exist for course design, development, and delivery. The technology being used to deliver course content should be based on learning outcomes, and Instructional materials should be periodically reviewed to ensure it meets the standards.

3) Teaching and Learning

A communication platform needs to in place so that the students can interact with each other and their academics. Student interaction and communication with the academia should be facilitated through diverse ways, and feedback to students should be professional, students should not be afraid to ask questions. Courses/modules should be designed in self-contained segments since students cannot proceed if they do not master the previous section. The modules/segments may differ in length due to complexity of learning outcomes. Students should be able to analyse, synthesise, and evaluate their course assignment. Students should work in groups and use problem-solving activities to understand the material, and timeous student assignment feedback should be provided. Course materials should promote collaboration among students. Roblyer and Wiencke (2003) divide the interactivity between the academic and the learner, the learner to learner and the learner and the content in the following scales:

- Low: brief introduction at the beginning of the course/two-way interaction not required, provide learner with content and lectures.

- Minimum: introduction and sharing personal information/learner interact with academic on an individual base.
- Moderate: one class activity/discussion in groups or pairs with academic and learners using discussion forum.
- Above average: the academic forms part of discussions on the social platform/students work together and develop content to be delivered by groups/teams).
- High: ongoing interaction in share course content and even used at a credit base/ when team/group results are shared with other groups.

4) Course Structure

The study material should assist the student to plan their assignments and to study on a weekly basis. When studying part time through distance education it is difficult to avoid procrastinating with the studies. Student should receive their assignments back quickly and not have to wait long for assignment feedback and gradings. Online resources should be available to students to access, for example, the library repository with recommended books, articles and journals, magazines and newspapers, and audio material, for example, podcasts and video materials. Before starting, students are advised about the programme to determine whether they have the self-motivation and commitment to learn at a distance. The first tutorial letter is an introduction into the course and outlines all important information a student needs. It ranges from administrative guidance to academic support. Students are provided with the maximum interaction with both the module content and their peers. This model of teaching and learning has been proven to lead to student success. Learning outcomes should be clear and to the point. Students will easily know what is expected from each module

5) Student Support

In this era of the digital divide students' needs support and assistance on how to successfully access electronic data. The students are required to have internet access so alternatives need to be provided to students if they do not have access to internet and computers. The students will need the internet to upload their assignments and portfolios, and in order to participate in discussions. Students need to receive updates from the University both academic and

administratively. Library training assists students in securing material through electronic datasets, interlibrary loans, journals, archives, news articles and websites. Written tutorial letters provide information about the modules. Technical support assists students with software and or IT related challenges. Students should report complaints on a structured system.

6) Academic Support

Academics should be assisted in the transition from printed material academic to online distance education. Academic needs to be assessed in the process. Academics need to receive technical assistance in course development, for example, when developing podcasts, voice notes and assessments. Academics need to have peer mentoring resources available. Training on distance instruction should be continuous. Academics are provided with written resources to deal with issues arising from student use of electronically accessed data. Academics are responsible for academic work, and the administrative staff should be available to ease the workload and provide them time to teach, do community engagement work, and research. The systems and procedures should be in place to do their work effectively with the required administrative resources available to assist with student enquiries, capturing marks, support with the appointment of teaching assistants, and so on.

7) Evaluation and Assessment

Teaching and learning processes need to be evaluated for improvements to take place. Specific standards are in place to compare and improve learning outcomes. Data on enrolment, cost and successful innovative uses of technology are used to evaluate programme effectiveness. Intended learning outcomes are regularly reviewed to ensure clarity, utility, and appropriateness (Active Implementation Research Network, 2020).

2.2.5 The Factors Impacting Implementation of Online Learning

In a study by Ngoni Chipere in 2017 he develops a framework for developing sustainable e-learning programmes (Chipere, 2017). He based his framework on three pillars namely,

stakeholder centredness, cost effectiveness, and high operational efficiency. His framework covered nine elements, and six operational management elements were marked as driven product, quality assurance system, international standards for programmes, costing model, standardised report templates, and project management principles (Chipere, 2017). In Chipere's conclusion he mentions four success factors: 1) enough funding for the development of e-learning courses; 2) leadership for the required backing and support for the project (Mabert et al., 2003; Micks & Steiker, n.d.); 3) teamwork sharing best practices and working together; 4) on-line resources available on the world wide web and open education material accessible to all team members. Online resources help in not reinventing the wheel as some information may already be available.

There is agreement from researchers who have examined implementation and evaluation models, among them Mabert et al. (2003), Meyers, Durlak and Wandersman (2012), and Chipere (2017) concerning the identified success factors contributing to implementation and evaluation, and, by and large, these researchers indicate the importance of planning with specific reference to implementation plans.

Eby (2017) indicates that an implementation plan should consist of the following key components: defining goals/objectives; working out a schedule to meet milestones which are inclusive of deadlines and project timelines; ensuring adequate resources by allocating resources to tasks, allocating resources to milestones, allocating team members to roles and responsibilities; defining how to measure success; ensuring that a plan is in place to adapt if plans need to be changed; and determining how often progress and success will be evaluated through, for example, quarterly reports and/or reviews.

Chipere (2017) agrees with Mabert et al. (2003) about the importance of leadership and budget. Meyers, Durlak and Wandersman's (2012) study indicated that the most important critical steps during implementation are 1) Process evaluation; 2) Capacity-building strategies; 3) Staff recruitment/maintenance; and 4) Developing an implementation plan. According to Meyers, Durlak and Wandersman (2012) process evaluation, building capacity, recruiting the right people when implementing a project, and developing an implementation plan can be identified as very important predefined success factors.

Holmberg (2005) indicated that factors impacting on implementation are, buy-in from stakeholder support, planning, decision making, systems and processes, cost, timeframes, and evaluation.

The case study by Mabert et al. (2003) on the implementation of Enterprise Resource Planning (ERP) systems across 12 manufacturing firms suggests commonalities on software package implementation, activities, and strategies. Commonalities supporting implementation are: commitment and support from senior executives, clear project guidelines, executive leadership to steer cross-functional steering committees, empowerment to make crucial decisions during all stages of planning, implementation and evaluation, an upfront detailed implementation plan, senior management's need to prioritise, technology as key to successful implementation, clear performance measure guidelines set out in time, and regular communication to all stakeholders. Mabert et al. (2003) focused on six key areas in his survey study: 1) The respondent's and the company's characteristics; 2) the ERP planning process; 3) implementation decisions; 4) management of the implementation process; 5) timelines; and 6) budgets and costs. This research found that the two success factors contributing to successful implementation were, firstly, upfront planning which includes training, and, second, minimum source code modifications, as this kept the cost and implementation time down and ensured easier upgrades of the system.

SUNRISE Technologies (2019) confirms Mabert et al. (2003) recommendations and lists the seven critical factors for successful enterprise resource planning (ERP) implementation as: 1) executive team involvement; 2) employee involvement; project scope clearly defined; 4) optimisation of business processes (customisation is expensive); 5) proactively implement change; 6) use project tools to minimise miscommunications and misinterpretations and 7) work with partners that know the industry.

The Active Implementation Research Network (2020) supports Chipere's (2017) conclusion that teamwork is a success factor, and, lastly, Andrew Lane (2014) supports Chipere (2017) in thinking that on-line resources on the world wide web and open education material accessible to all team members are success factors. Researchers are unanimous regarding the role of leadership as a success factor of implementation (Mabert et al., 2003; Micks & Steiker, n.d.).

Rollinson (2016) identifies five key factors to successful implementation of strategy namely: 1) clearly define accountability, 2) ensure strategy is cascaded down to business units; 3) provide adequate resources (budget, skills, time, capabilities); 4) manage change consistently and professionally; and 5) create a culture of performance and the discipline of getting things done. As already mentioned, another factor that can have a negative implication on the implementation of online courses is the fact that the workload for online teaching is much higher than in conventional teaching (Hülsmann & Shabalala, 2016).

2.3 INTRODUCING IMPLEMENTATION EVALUATION

Evaluation is a concept that has emerged as a prominent process of assessing, testing and measuring (Chelimsky & Shadish, 1997). The main purpose of evaluation is to ensure qualitative and quantitative improvements in a particular organisation or programme, and to gain more knowledge about a specific field resulting in self-development and/or specialisation (Chelimsky & Shadish, 1997). Evaluating actions provides information for decision making and for judgements about a programme for future rollout (Chelimsky & Shadish, 1997). Evaluation ensures accountability through measuring efficiency and provides information on organisational or programme sustainability (Chelimsky & Shadish, 1997; Toor & Ogunlana, 2010).

Implementation evaluation is a continuous linear or nonlinear process that creates a platform for change and development. The science and practice of evaluating implementation of strategy and interventions have a long history and evolution, with different implementation and evaluation frameworks and models. Evaluation of implementation also focuses on whether the intended improvement of quality was achieved, and whether the lessons learned from the implementation have been documented in order to inform organisational learning, etc.

According to Taryn Moir (2018) economic climate demands require more than ever that service delivery results in maximum positive outcomes in a most effective way. She further indicates that poor implementation leads to poor outcomes, and indicates that a smorgasbord of interventions was designed and researched to assist implementers to reach positive outcomes. She promotes evidence-based intervention as an authentic adopted intervention to increase implementation effectiveness (Moir, 2018; W.K. Kellogg foundation, 2017). As indicated previously, implementation evaluation assessments generate information that is credible

evidence to be able to make judgements and or decisions (Tonini, Kirby & Ruud, no date; Chelimsky & Shadish, 1997).

Evaluation of implementation through 1) assessment provides information that indicates the 2) impact (also called impact evaluation) that can have short- or long-term outcomes and which results in 3) continuous improvement through consistent review processes of the negotiated measures and outcomes, using data to support the sustainability and scale up (Tonini, Kirby & Ruud, no date).

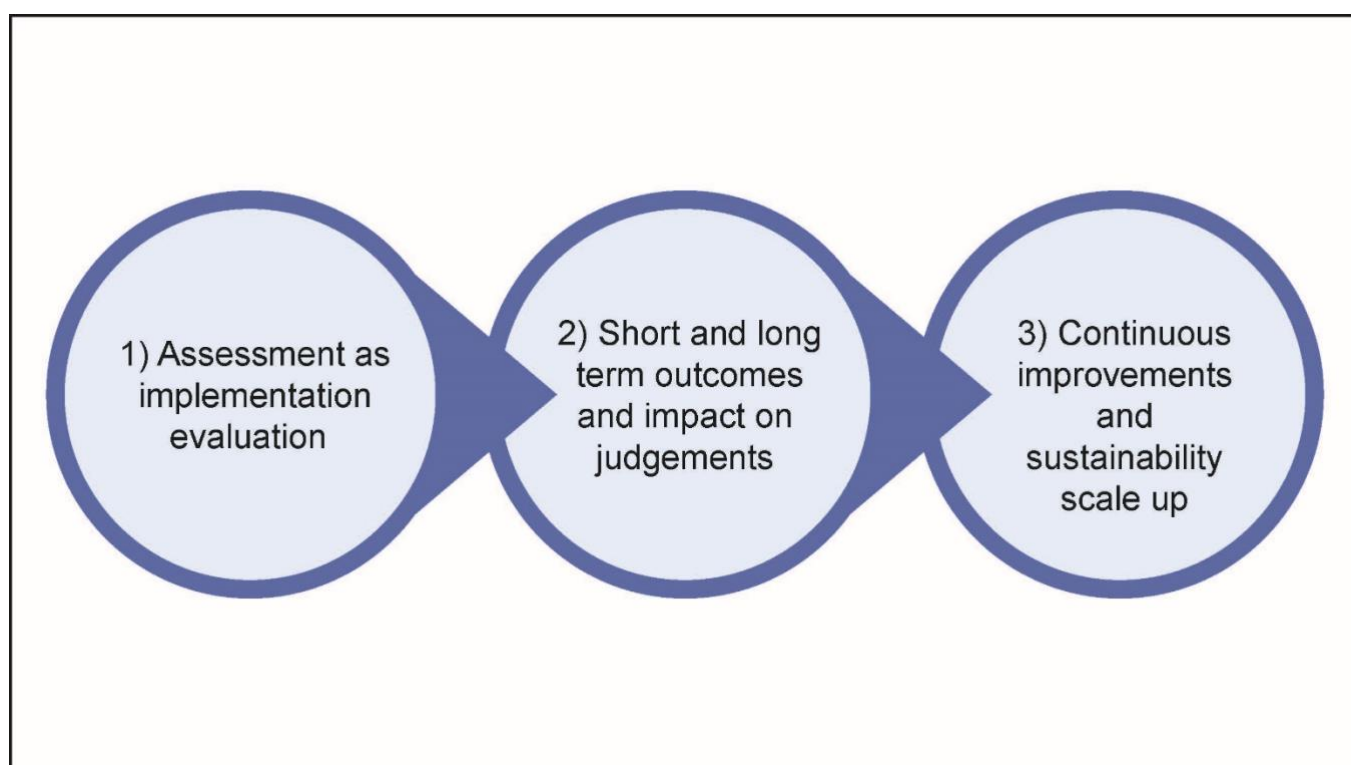


Diagram 2.3: Evaluation Implementation

The value contribution of implementation evaluation lies in improving the implementation by identifying its strengths and weaknesses (W.K. Kellogg foundation, 2017). It involves identifying what is working and what is not working. It further suggests changes and then gathering evidence about the effect of these changes. This cycle can be undertaken several times. W.K. Kellogg foundation (2017) further indicates the value of evaluation to ensure that development takes place in skills, knowledge and strengthens teamwork which makes solving problems easier as they discuss and self-reflect based on their own experience and the information available.

According to the W.K. Kellogg foundation (2017) planning and budgeting for evaluation should start from the inception of the project as the aim of evaluation is to assist with quality measuring and monitoring. As previously mentioned by Leahy et al. (2009) the ultimate value of evaluation can be judged in terms of its usefulness in informing policy and practice.

According to Leahy et al. (2009) the key elements that play an important role in the success of evaluation are that there should be firstly an evaluation culture and commitment to self-examination. Evaluation culture characteristics include the presence of self-assessment, performance evaluation, development, and training. Leahy et al. (2009) further explain that when the organisation does not have an evaluation culture the staff will merely perform evaluation activities for the sake of meeting the compliance standards, and the organisation will not produce and implement innovative ideas and achieve meaningful results and improvements for the organisation to be more effective. Secondly there needs to be a demand for quality data and analytical experience. Thirdly, collaborative partnerships should be in place, and, fourthly, leadership responsibilities should be adhered to. As with projects, programme evaluation requires the involvement of leadership as the decision makers. If leadership is passionate about success, productivity, consumer satisfaction, and needs assessments, it will create a culture of development, continuous improvement, and evaluation (Leahy et al., 2009).

2.3.1 What is Successful Evaluation

According to Cox, Issa and Ahrens (2003), the success of a project may be viewed differently by management, as role-player expectations differ, and each party will think differently and experience success differently. The project beneficiaries will look at the project from a macro perspective (operations/functions of long-term gain) and the consultants and contractors from a micro (in time, budget and within specifications or quality) perspective. Cox, Issa and Ahrens (2003) indicate that there is a difference between project success and project management success. In a project management success, the project is successful if the time, cost, and specifications/quality were met. Project success is how the project reached all the objectives in the project (Cox, Issa and Ahrens, 2003).

Cox, Issa and Ahrens (2003) also distinguish between success factors and success criteria. Success factors entail the efforts made to the success of the project, and success criteria are the

measures used to determine whether the project was successful or not. Key performance indicators (KPI's) provide criteria to measure the failure or success of the project and can be used to measure quantitative and qualitative data (Toor & Ogunlana, 2010). Quantitative and qualitative performance measure need to be measured through criteria such as effectiveness, sustainability, stakeholder satisfaction and efficiency (Toor & Ogunlana, 2010).

To be able to evaluate the success of the implementation from a micro perspective of the project the basic deduction would be if the project was finalised in time, in budget and within the available, or under budget and specification requirements. Cooke-Davies (2002) substitutes the specification requirements with quality.

Even though the project delivers a quality product it is debatable if it guarantee success as in Andy Lane's (2014) student success study, he argues that student perspective is dependent on motivation, preparedness and organisation. Lane (2014) argues that a student can have access to good quality material at an affordable price, but if he/she is not motivated, does not have the required skills and competencies (does not attend workshops to assist with time management etc.) or does not have enough time to prepare his/her studies the student will probably drop out (Lane, 2014).

There are different types of evaluation. In general, we refer to two broad categories formative and summative evaluation. These will be discussed briefly.

2.3.2 Different Types of Evaluating Learning Systems

The following section will discuss the two different programme evaluation measures.

1) Formative Programme Evaluation

Formative evaluation differs from summative evaluation as it takes place during the planning and development stages. Formative evaluation improves products and services, in this case, learning activities, while the planning and development takes place. Gathering and analysing data during the planning and development phase provides information to the planners and designers that enables them to rectify or improve the system while in process (Moore, Lockee &

Burton, 2002). This type of evaluation can be done throughout the life of the programme, as needed.

According to Moore, Lockee and Burton (2002) distance learning programme evaluation can be divided into two categories, instructional and interface design and it takes place from the course development phase:

First, instructional design evaluation focuses on teaching strategy choices and assessment methods. Learning effectiveness will be evaluated through a set of questions, for example: did students meet the course goals and objectives; were the objectives clear and measurable; did the students understand the instructions; did the instructional strategies support the content and objectives; were there sufficient examples and appropriate assessment methods? Formative evaluation provides the opportunity to be most effective since course revisions can be done before implementation. Formative evaluation can involve several different stages that vary. For example: design, expert, one-on-one, small group review, field trials and ongoing reviews (Moore, Lockee & Burton, 2002).

Secondly, according to Moore, Lockee and Burton (2002) interface design evaluation focuses on the technical side, for example, web-site navigation or the learning management system, easy navigation, understandable, readable, easy and quick downloading, links accessible for plug-ins, sight impaired graphics used, and access to transcriptions for the hearing-impaired).

2) Summative Programme Evaluation

Summative evaluation measures whether the goals/outputs were reached. This involves measuring whether the programme has achieved its intended outcomes, and what decisions need to be taken in future after consideration of the successes and challenges, including the decision to retain or stop the programme (Moore, Lockee & Burton, 2002).

According to Moore, Lockee and Burton (2002) summative evaluation defines general areas of concern and then compiles questions regarding those areas. Summative evaluation has mostly three categories of interest, namely, input, outcome, and implementation concerns.

Moore, Lockee and Burton (2002) provide insight into these categories as follows:

- 1) During the input phase the researcher identifies resources, personnel and budget to be evaluated.
- 2) During the outcomes phase the researcher focuses on performance outcomes (knowledge/skills/attitude); attitude outcomes (expected attitudes are interest, motivation, and participation); unexpected attitudes; programme or product design; perception and social interaction concerns; programmatic results (market reach); professional impact (promotion, job change); college incentives and rewards; college time; and organisational change.
- 3) The implementation phase issues are technological concerns (stability and maintenance); staff support concerns (academic preparedness, involvement in curriculum development, involvement in course development, professional development needs, and incentives and rewards); and student concerns (access to delivery system(s), learner preparedness, communication/interaction with academic, communication/interaction with peers); and organisational concerns (quality assurance and accreditation criteria).

Formative and summative evaluation caters for different audiences. Formative evaluation caters for the planners, designers, implementers, clients, and all stakeholders who play a part during the planning, development, and implementation stages (Moore, Lockee & Burton, 2002). Summative evaluation caters for programme sponsors, financial groups, policy makers, and accreditation institutions, and is interested in whether the programme reached its targets (Moore, Lockee & Burton, 2002).

As indicated previously evaluation determines whether the outcomes were reached in a project, programme or initiative. Therefore, it is important to know what the difference is between outputs and outcomes. Outputs present a product resulting from certain activities and does not measure the value or impact, whereas outcomes indicate the performance or achievements because of the activities. Implementation outcomes for potential; evaluation should be measured against certain criteria, and both Peters et al. (2014) and Proctor et al. (2011) agree on the following outcomes, namely, acceptable/acceptability, adoptable/adoption (also referred to as uptake), sustainable/cost effective (can also refer to maintenance or institutionalisation),

feasible/feasibility, coverage/penetration (integration of a practice within a specific setting) and reliability/fidelity.

In addition to the above and, as already mentioned, Moore, Lockee and Burton, (2002) focus on summative performance outcomes. In their view, it is essential to determine the criteria that will be used during evaluating the implementation of a programme. Scope, time and budget are essential micro features of projects, while according to the iron triangle model, quality is deemed essential here as well.

2.3.3 Different Evaluation Methods

Different methods are used during evaluation, for example, Logic modelling or management by objective. However Julian (1997), Newton (2013), and Saldana et al. (2014) suggest that the Logic model be used in an educational environment as evaluation research method.

The Logic model aligns the evaluation process with resources, activities, outcomes, and impact. The Logic model from the Kellogg's model is a simple model used for implementation studies in education, and can be used to design and improve the strategy/programme/innovation; develop models for implementation; develop evaluation questions and the plan; and write an evaluation report (W. K. Kellogg Foundation, 2017).

Leahy et al. (2009) however differ from the previous scholars by suggesting that the Logic model is not an evaluation tool, but merely a learning and management tool embracing change and knowledge development, and can be used to determine short, medium, and long term outcomes. According to Peters et al. (2014) implementation evaluation is a continuous linear and or nonlinear process that creates a platform for change and development. Peters et al. (2014) further indicate that self-learning and self-development take place through planning, decision making, and implementing new ideas and innovations through continuous improvement of outcomes.

Logic models should be used to facilitate effective planning, implementation, and evaluation as well as improvements, and should be a continuous life document and process (Julian, 1997; Newton et al., 2013). The Logic model assists in determining whether the outcomes were reached and the impact of those outcomes in the short, medium, and long term. The logic

diagram below indicates the five steps from collating input and prepare resources to the actual activities and the outputs resulted from the activities the outcomes and lasty what was the impact of the implementation.

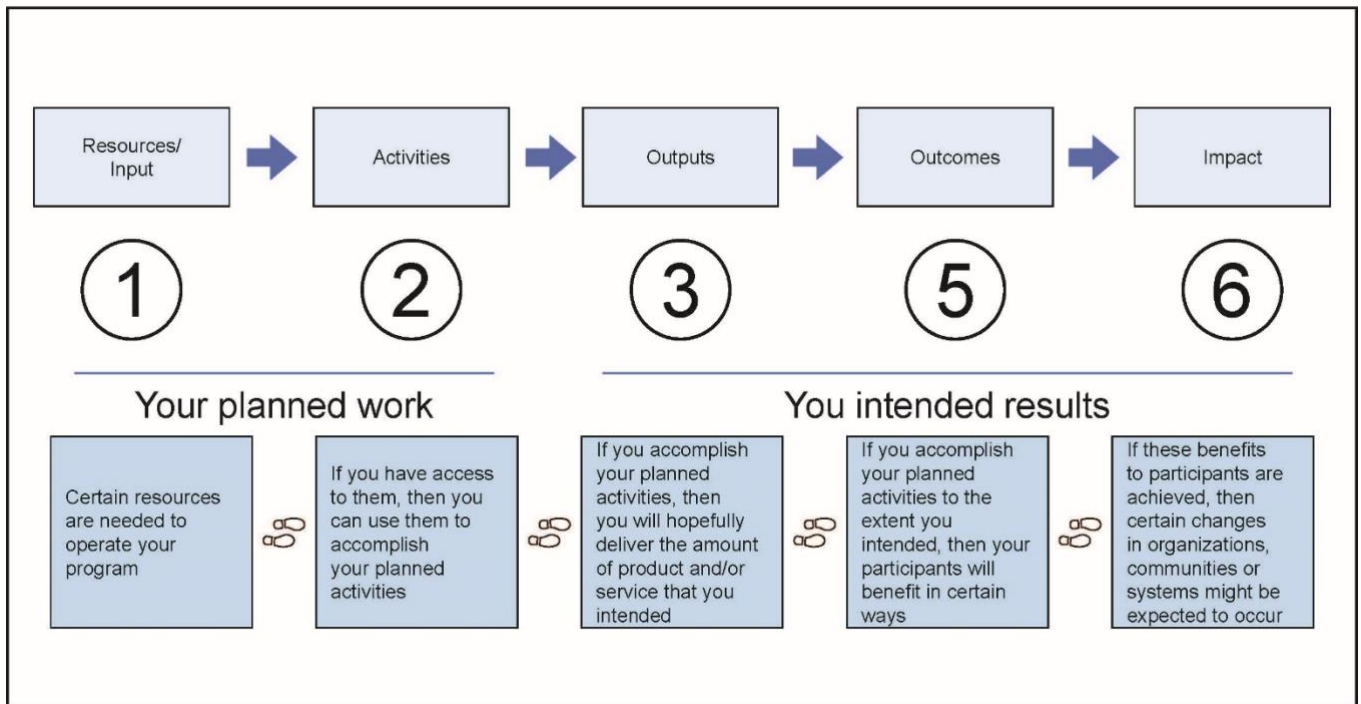


Diagram 2.4: Logic Model (adjusted from W.K. Kellogg Foundation, 2004)

Clearinghouse for Labor (2014) developed a checklist to ensure that the evaluation of the implementation process was in line with the required categories. The framework simulates Table 2.3 above as it consists of four main categories: 1) planning and design, 2) input and resources, 3) activities and 4) outputs or outcomes (impact). Other implementation findings may include: fidelity measures, costs, perceived benefits, collaboration, implementation challenges and implementation solutions.

Table 2.3 Checklist for implementation process

Compulsory elements:	
Category	Summarize the finding related to:
1) Planning and design	<p>Decisions regarding programme design and the key stakeholders are part of the planning process</p> <p>Possible questions</p> <ul style="list-style-type: none"> • What was the primary design decisions and • Could the project team substantiate and defend the design decisions? • Did you experience any challenges with the design decisions and did you had to re think the decisions? • did the planning involve the key stakeholders?
2) Input and resources	<p>The factors needed to support implementation</p> <p>Was there funding allocated to the project and was it sufficient</p> <p>Type of organisation?</p> <p>Was the facilities/support for service delivery in place?</p> <p>Staff characteristics, training, and performance?</p> <p>Availability of training and technical assistance?</p> <p>Availability of written documents such as policy?</p> <p>Availability of programme manuals to guide consistent implementation?</p>
3) Activities	<p>What was the details of programme activities / service components</p> <p>Whether it contributes to understanding the business processes in implementing a particular form of e-learning in an ODL context</p>

4) Outputs or outcomes	<p>Measures of what actually happened</p> <p>Did the programme do what it was supposed to do?</p> <p><u>Service delivery</u> (Content delivered, Quality of services, Mode of service delivery)</p> <p><u>Participation (prevalence)</u></p> <ul style="list-style-type: none"> – Recruitment and engagement of participants and/or key stakeholders (for example, employers) – Who participates (relative to eligibility or target population) • Dosage (Length of participation, Intensity of participation (hours per week or month and types of activities)) • Participants outcomes (Educational achievement outcomes) – Labor market outcomes
Additional Implementation findings	
Fidelity measures	<p>whether the programme was implemented with reliability/fidelity to the programme model,</p> <p>What measures were used to determine the fidelity(reliability)?</p>
Costs	What was the costs of the programme?
Perceived benefits	<p>What were the benefits of the programme implementation?</p> <p>(perceived benefits as reported by respondents (administrators, staff, and programme participants but not measured by researchers).</p>
Collaboration	Was any collaboration required (the role and with whom)?
Implementation challenges	<p>What were the implementation challenges?</p> <p>What were the compromises, interdependencies, and inter-relationships?</p>

Implementation solutions	Were the solutions of implementation challenges summarised as potential successes.
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2.3.4 Quality Assurance as Part of Evaluation

In an ideal prospective design Fixsen, et al. (2018) explain that quality levels of implementation should be measured at each implementation stage. The importance to measure and compare each implementation element during all the stages increase the level of quality. In addition to the above statement part of quality according to Fixsen, et al. (2018) is the importance to maintain staff competence and reliability in relation to staff turnover. There is no standard framework when evaluating the quality of e-learning systems according to Chua and Dyson (2004), and whilst applying the ISO9126 model evaluating e-learning system and detect flaws in the system. The quality characteristics used in the model were functionality, reliability, usability and efficiency. These characteristics were also divided into a total of 12 sub-characteristics. The conclusion of the study of the ways in which the ISO9126 model can be used show that it provides an effective tool that can be used beyond superficial evaluation of e-learning systems. This tool also includes sustainability as one of the sub-characteristics. The limitation of this model is that software developers need to have experience in educational pedagogy as it does not cater for specific teaching and learning activities.

In a quantitative/empirical study by Gómez-Rey, Barbera, and Fernández-Navarro (2016) on the evaluation of the quality of online learning programmes, they identify as a gap that the opinions of the learners and academics were ignored. Gómez-Rey et. al. (2016) bases their study on the Sloan-C framework that consists of five pillars: 1) access; 2) learning effectiveness; 3) scale/cost effectiveness, 4) academic satisfaction; and 5) student satisfaction. This resonates with Sir John Daniels study on access, cost and quality [see 2.3.6 Brief Background: Cost, Quality and Access]. The Online Learning Consortiums scorecard that was based on the Sloan-C framework consists of nine categories and 70 quality indicators emanating from feedback by experts and panelists. This study, using an alternative method, measures the quality of online learning through analysing the satisfaction of the learners and the perceptions of the academics as the implementors. It also uses an online quality index with 11 categories and 36 quality indicators. The 11 categories are: 1) learning support; 2) social presence; 3) academic; 4) learning platform;

5) academic interaction; 6) learner interaction; 7) learning content; 8) course design; 9) learner satisfaction; 10) knowledge acquisition; and 11) ability to transfer.

The study only covered three out of the five pillars of the Sloan-C framework, namely: 1) access; 2) learning effectiveness; and 3) student satisfaction. The other two pillars, scale/cost effectiveness and academic satisfaction, were not used in this study as the participants resided under the administrative support evaluations. The conclusion of the study indicates that the main difference between the academic and students' perceptions with online learning is that the academic is aware of the importance of collaborative learning and the interaction between academic and learner and between learners themselves, where learners are cognisant of their own learning benefits like knowledge acquisition and transfer, course content and design, and learning satisfaction. The Gómez-Rey et al. (2016) study indicates that both academic and learners find learner support and learning platforms immaterial when measuring the quality of online programmes. This is probably because the participants were digitally literate, and support could easily be sourced. This finding is consistent with the literature, which shows the pervasive interest of online academics in encouraging collaborative activities in their programmes (Barkley, Cross and Major, 2014; Slavin, 2017).

2.3.5 Programme Evaluation Models

There are different programme evaluation models and quality assurance approaches to improve quality of services, and outcomes of individuals and programmes. Leahy et al. (2009) describe quality assurance and programme evaluation as two separate concepts but indicate the convergence of the concepts during the 80's. In order to evaluate quality assurance (QA), Leahy et al. (2009) cite the Plan-Do-Check-Act (PDCA) model as an evaluation model, and for programme evaluation (PE) they discuss the Utilization-Focused Evaluation model (UFE), the CIPP Model (context, inputs, processes and products), and the Input-Intervention-Output evaluation models. Leahy et al. (2009) further explains that quality assurance and programme evaluation are vague in practice, and suggests that it is more revealing to observe how they integrate than it is to withstand definitional boundaries. He discusses 'Project Excellence' and the 'Peckham and the Walker Model' as two current initiatives that demonstrate how QA and PE have been applied in evolving best practices (Leahy et al., 2009). The Project Excellence model identifies three four variables that ensure successful evaluation as staff involvement, training, partnerships, and leadership. To increase the quality of customer services, staff need to be

involved on all levels of project evaluation as staff provide ideas and initiatives for new projects to improve customer services in the organisation. During project research staff assist with the compilation of evaluation questions, evaluate data for results and recommendation that can lead to policy or practice changes. Successful evaluation requires that the training needs of the staff are consistently addressed, and that training effectiveness is tracked.

A significant strength that causes Project Excellence's partnership model to be successful is

the long-standing trusting relationship that has been built over many years. Further, creative leadership, common values, and shared goals are "success factors" that continue to be significant contributors to on-going impact.

(Leahy, Thielsen and Millington, 2009: 76)

Leahy et al. (2009) cite the case where a large company based their evaluation and continuous improvement on a modified version of The Walker Model and was asked to describe this process. The company applied the empowerment model for continuous improvement and innovation as all staff were included and participated in the evaluation and continuous improvement:

- 1) all staff participate in compiling the business plan and at least two goals related to supporting the overall mission of the company.
- 2) the staff received support from the evaluators to compile the objectives, measures, and expectations in relation to effectiveness (success), efficiency (productivity), and consumer satisfaction.
- 3) departments submit quarterly reports and report on those goals not reached and where corrective action will be taken to reach the goal.
- 4) Department managers should yearly present and consult their plan and envisaged outcomes with all other managers in other service departments.
- 5) The individuals from the receiving service organisation should be part of the quality improvement process.
- 6) Inputs should be received to improve services through consumer meetings
- 7) Distribute consumer satisfaction questionnaires to external and internal stakeholders at regular intervals and share the survey feedback to ensure improvements plans are developed and monitored.

- 8) The manager should be responsible for their departments when staff requires attention and action plans should be developed to address challenges.
- 9) develop yearly key performance indicators for the year and management should select the staff who were not previously involved in designing these goals and lastly
- 10) all staff who was part of reaching these goals, are rewarded.

Finally this chapter briefly needs to introduce the leader to Iron Triangle, Access, cost and quality (Daniel, Kanwar & Uvalić-Trumbić, 2009).

2.3.6 Brief Background: Cost, Quality and Access

Depending on the context Universities may open access to students, providing them with a quality learning experience which is affordable and using technology, skills, and experience. The university should ensure that the model it implements should be cost effective and will not compromise on quality while being sustainable in the long run. The implementation of the Signature Courses requires the University of South Africa to maximise positive outcomes in the most cost-effective way.

The research study concluded by John Daniel, Asha Kanwar, and Stamenka Uvalić-Trumbić in 2009, namely '*Breaking Higher Education's Iron Triangle*', states that in traditional/campus universities widened access, high quality, and low cost cannot be achieved at the same time (Daniel, Kanwar & Uvalić-Trumbić, 2009).

Daniel indicates that DE institutions can however increase access, improved quality and decreased cost when applying technology and implementing online courses. (Daniel, Kanwar & Uvalić-Trumbić, 2009; Hill & Lawton, 2018; Hülsmann & Shabalala, 2016; Lane, 2014; Uvalić-Trumbić, Daniel & West, 2008; Power & Gould-Morven, 2011). However, Kanuka and Brooks differ with Daniel by suggesting that Higher Distance Education institutions can achieve 'any two of the following: flexible access, quality learning experience and cost-effectiveness – but not all three at once' (Cleveland-Innes & Garrison, 2010: 69).

Daniel argues that access does not compromise quality and that HE should be affordable and not earmarked only for the wealthy. In his opinion, the true concept of Higher Education is to

broaden access to students from predominantly developing countries and to provide good quality education at a low cost. In querying how this could be achieved, the authors use the Higher Education Iron Triangle's different vectors - access, cost and quality - as representations of different models of e-learning. Daniel states that the growing demand for education will not be accomplished by traditional face-to-face education alone and that in developing countries open and distance learning (ODL) and online are viewed as a solution to the challenges at hand. Online learning according to Daniel makes it possible and affordable for students to study (Daniel, Kanwar & Uvalić-Trumbić, 2009).

2.4 CONCLUSION

The chapter provided the reader with information on existing research regarding implementation and evaluation sciences. The different implementation stages were discussed and additional implementation models. The researcher provided information about successful implementation drivers and the factors impacting on implementations.

Thereafter the implementation evaluation was discussed specifically focusing on what defines successful evaluation, the different types of programme evaluation and different evaluation methods. Specific programme evaluation models were introduced and lastly a brief discussion on the Iron Triangle which is very relevant to Higher Education was discussed.

The following chapter will entail a thorough literature review on articles identified through a scopus review process and which will be specifically used to develop a draft conceptual framework for online learning implementation process.

CHAPTER 3

LITERATURE REVIEW

3.1 INTRODUCTION

In Chapter 1, the researcher alluded to the need for a conceptual framework for online learning which should be attempted after doing a preliminary literature review. The focus of this chapter is a review of the literature to determine the existing knowledge that exists in the field with a view to developing a conceptual framework that would serve as basis for the rest of the research.

The purpose of reviewing literature is to identify published articles or other research documents which will assist in answering the main research question informing this thesis: How did the design and development of the Signature Courses at Unisa influence the implementation process? (Arksey & O'Malley, 2005; Levac, Colquhoun & O'Brien, 2010; Tricco et al., 2016). As such, the review will assist in identifying key online learning designs, elements/variables needed during the design and development of online learning, and key decisions that impact on the design, development, and implementation on online learning. It will also be necessary to research existing online learning implementation models and processes as well as the interdependencies that impact on the implementation of online learning, especially in the context of distance learning. The findings of the review will allow us to identify research gaps (Levac, Colquhoun & O'Brien, 2010; Miles, 2017; Tricco et al., 2016; Tricco et al., 2018), and also arrive at an informed understanding of what is already known in the field of the implementation of online learning in distance education contexts, including the theories and models that have been used in these contexts.

As will be illustrated in 3.2: Overview and discussion of the different types of literature review, the researcher investigated several options in doing a literature review and finally opted to do a systematic review of literature as it provides a structured way to identify the available research literature. The adopted systematic review approach initially guided the researcher to identify the search terms, as well as to select appropriate databases for the literature search. As explained, the initial search on the implementation processes of online learning in distance learning contexts did not reveal any published research, at which point the researcher changed from a systematic review to a *scoping* review. After explaining the execution of the scoping review, using the

PRISMA guidelines, the researcher will explain the inductive and deductive coding process as well as the analysis of the data and the themes emanating from the data analysis (Levac, Colquhoun & O'Brien, 2010; Tricco et al., 2018). Scoping reviews denoted by Levac, Colquhoun and O'Brien (2010) differ from literature reviews in requiring data analysis (analytical reinterpretations).

The next section will provide some insight on the different types of literature review strategies or approaches which can be used to identify relevant research material, before detailing the first searches and choices.

The diagram below illustrates the main sections that will be discussed in this chapter.

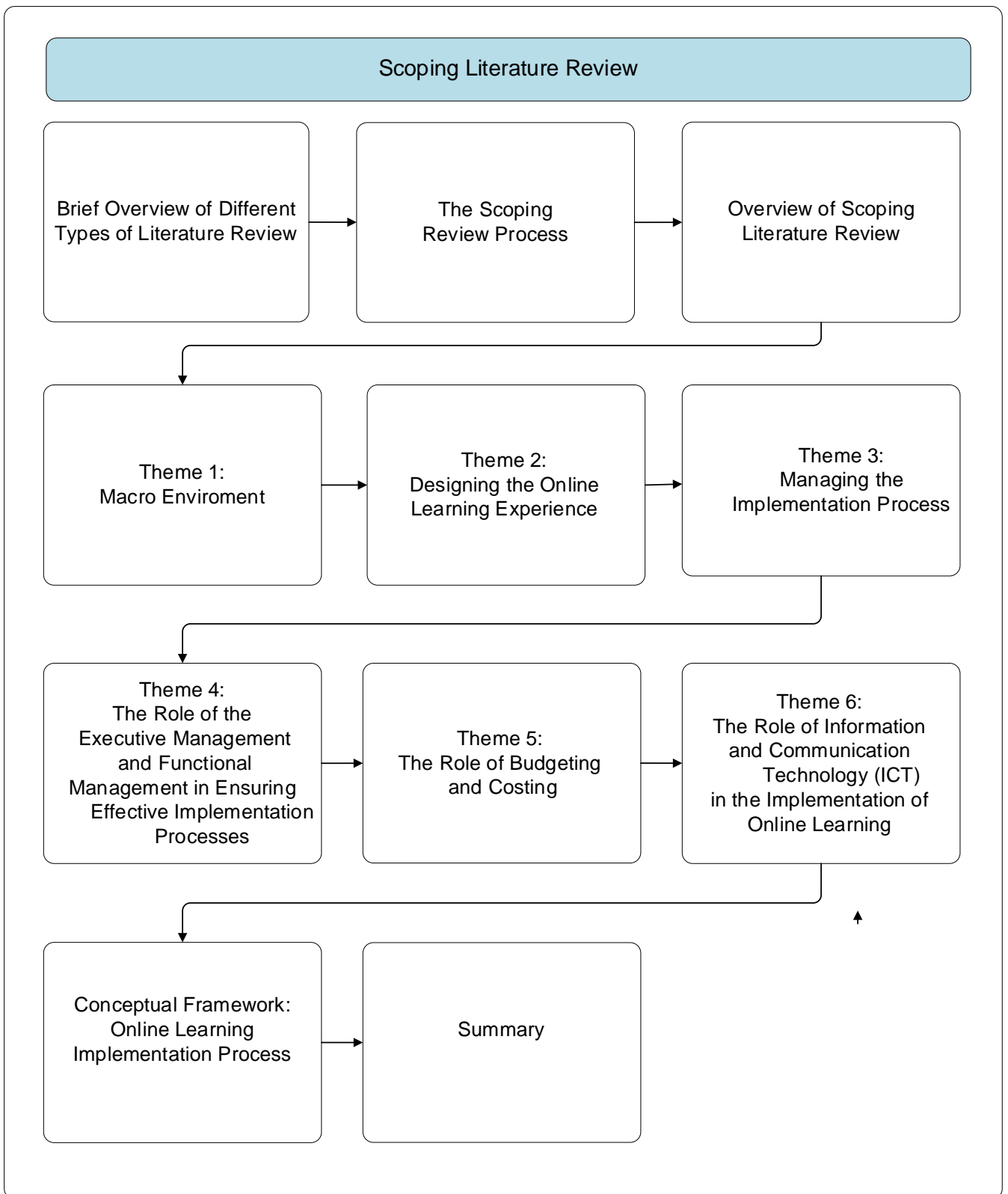


Diagram 3.1: Scoping literature review

3.2 BRIEF OVERVIEW OF DIFFERENT TYPES OF LITERATURE REVIEW

When embarking on a research project, the researcher needs to identify and determine which kind of review will best fit the study. Grant and Booth (2009) detail 14 different methods for research reviews, for example 1) critical review, 2) literature review, 3) mapping review/systematic map, 4) meta-analysis, 5) mixed studies review/mixed methods review, 6) overview 7) qualitative systematic review/qualitative evidence synthesis, 8) rapid review, 9) scoping review, 10) state-of-the-art review, 11) systematic review, 12) systematic search and review 13) systemised review, and 14) umbrella review. In addition, the University of Maryland (2011) adapted the Cornell University Library's document and summarised the most used reviews as 1) literature review, 2) rapid review, 3) umbrella review 4) integrative review, 5) systematic reviews, and 6) scoping review. Cant, Ryan and Kelly (2022) agree with the University of Maryland, indicating that systematic reviews, scoping, integrative, narrative and qualitative methodologies are very commonly used.

Systematic and scoping literature reviews have been applied in multiple disciplines, such as health care, education, business management, and technology (Munn et al., 2018; Peterson, Pearce, Ferguson & Langford, 2017). Initially, there were some concerns regarding the methodological value of systematic reviews in qualitative studies, as these were initially used in research with a positivist paradigm and implemented by healthcare disciplines using quantitative methods to prove usefulness (Bearman et al., 2012). Though there are some similarities between systematic and scoping reviews, they serve different purposes and approaches (Munn et al., 2018; Tricco et al., 2016; Tricco et al., 2018).

Alexander (2020) describes a *systematic* review as a process and a product, where the process refers to doing a thorough, logical, and transparent search for literature with the major discourse addressing a certain research question or an important topic within a specific discipline (field). *Scoping* reviews are when researchers aim to identify research gaps in a specific topic without knowing the precise search words that would yield the desired results. In contrast, systematic reviews necessitate a well defined and articulated research question (Alexander, 2020; Arksey & O'Malley, 2005; Levac, Colquhoun & O'Brien, 2010).

Both systematic and scoping reviews entail a specific structured, robust and reproducible process to gather and assess existing literature through analysis and synthesis, and to provide this evidence-based information in response to a crucial research topic (Alexander, 2020; Levac, Colquhoun & O'Brien, 2010; Munn et al., 2018). Both systematic and scoping reviews are furthermore guided by the PRISMA guidelines (Alexander, 2020; Munn et al., 2018; Page et al., 2021; Tricco et al., 2018).

Scoping and systematic reviews can be used for research enquiries, affording syntheses of the current status of knowledge in a specific field and informing future priorities for research. They can address different questions which could not be answered by studies using different methodologies; and they are able to identify primary research flaws that should be addressed in future research since researchers can construct or evaluate theories regarding how or why phenomena occur (Alexander, 2020; Munn et al., 2018; Page et al., 2021; Tricco et al., 2016).

There are, however, differences between systematic and scoping reviews as indicated in the table below such as the comparison provided by Munn et al. (2018: 2).

Table 3.1: Systematic reviews/Scoping reviews

Systematic reviews	Scoping reviews
1. Uncover the international evidence	1. Identify the types of available evidence in a given field
2. Confirm current practice/ address any variation/ identify new practices	2. Clarify key concepts/ definitions in the literature
3. Identify and inform areas for future research	3. Examine how research is conducted on a certain topic or field
4. Identify and investigate conflicting results	4. Identify key characteristics or factors related to concept as a precursor to a systematic review
5. Produce statements to guide decision-making	5. Identify and analyse knowledge gaps

In deciding which of the two types of review is more appropriate, Munn et al., (2018) propose that while a systematic review aims to produce evidence in response to a 'clinically meaningful question or provide evidence to inform practice', scoping reviews are more appropriate for research that is interested in the identification of certain characteristics/concepts and when there

is a need to report on these characteristics/concepts and provide an ‘overview or map of evidence’ (Munn et al., 2018: 2). These authors offer exemplars of scoping reviews which include identifying available evidence in the field, clarifying key concepts and definitions, identifying key characteristics related to concepts or to analysis, or identifying and analysing existing gaps in what we currently know about a concept or practice (also see Tricco et al., 2016; Levac, Colquhoun & O’Brien, 2010). Another characteristic of a scoping review, according to Levac, Colquhoun and O’Brien (2010), is when authors do not typically ‘assess the quality of included studies’ (Levac, Colquhoun & O’Brien, 2010: 1).

Summarising the key difference between scoping and systematic reviews, Munn et al. (2018) claim that a scoping review will have a broader ‘scope’ than traditional systematic reviews ‘with correspondingly more expansive inclusion criteria’ (Munn et al., 2018: 5). A scoping review is a precursor to a systematic review (Munn et al., 2018; Tricco et al., 2016; Tricco et al., 2018).

The researcher could not find any evidence of online learning implementation process frameworks in distance education during the initial literature review, and a knowledge gap was reported as such in Chapter 1. Following the guidance provided by Munn et al. (2018), the researcher opted to do a scoping review using the study’s research questions as broad guidance:

Question 1: How did the key design elements of the Signature Courses inform the implementation process?

Question 2: What variables were considered in each of the implementation stages?

Question 3: What were the interdependencies between the different functional areas in each of the implementation stages?

Question 4: What were the implementation decisions that shaped the implementation process?

3.3 THE SCOPING REVIEW PROCESS

In 2018, Tricco et al., published the ‘PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation’ that provides clear guidelines about the different steps to be included in a scoping review (also see, Munn et al., 2018).

3.3.1 Step 1: Initial Preparation of the Scoping Review Phase

The first step is to determine the scope of the scoping review (Munn et al., 2018). The researcher may provide information about the history of the specific topic and identify characteristics or relationships between key concepts from existing studies relevant to the topic (Levac, Colquhoun & O'Brien, 2010). Thereafter the researcher should articulate clear questions to be used in the scoping review and define the research objectives (Tricco et al., 2016).

Levac, Colquhoun & O'Brien (2010) advise when using scoping review to form a team which have experienced members that provide iterative guidance and decisions on methodological aspects, content, electronic data bases and assist with identifying inclusion and exclusion criteria of the Scopus search (Levac, Colquhoun & O'Brien, 2010).

3.3.2 Step 2: Start with a Comprehensive Search Strategy

The researcher should start with a comprehensive search strategy by searching and selecting studies both published and unpublished (Tricco et al., 2016; Munn et al., 2018). In this process the application of the search parameters (inclusion and exclusion criteria) which were developed in the initial stage applies (Levac, Colquhoun & O'Brien, 2010). The results of the search strategy and information evidence needs to be recorded.

3.3.3 Step 3: Screening Process

A process of screening the articles and selecting those that meet the inclusion and exclusion criteria should be recorded with the information as evidence (Munn et al., 2018; Tricco et al., 2016). The researcher should assess and independently screen the relevance of the research studies (articles, conference papers, books etc.) and eliminate the risk of bias and/or conflict of interest (Munn et al., 2018). Therefore, it is important to use another researcher(s) to screen as well to ensure that only relevant articles are fully reviewed to eliminate ambiguity and enhance transparency (Levac, Colquhoun & O'Brien, 2010). This process is to ensure that the research studies are in line with the search parameters/inclusion and exclusion criteria and the scope of the study and that no duplicates are recorded.

3.3.4 Step 4: Collecting, Analysing and Interpreting the Data

The researcher should read through the identified articles (which may consist of qualitative and quantitative articles), collect relevant data through an extracting process, for example, inductive and deductive coding, and analyse the quantitative or qualitative extracted data (Tricco et al., 2016; Munn et al., 2018). Other analysis methods can include meta-analyses, network meta-analyses and other synthesis methods. Meta-analyses are defined by Gough (2007) as the statistical combination or combining of the results into a new product. Researchers usually use a flowchart to logically illustrate the search strategy results (Tricco et al., 2018).

3.3.5 Step 5: Quality Assure Methods, Process, and Data Validity

The researcher should evaluate the methodological process or consistency of the included studies to ensure that the process followed was without any prejudice, and to ensure the validity and reliability of the results (Munn et al., 2018). It is useful to follow a peer and/or a team approach which assists with the transparency of the process, especially during the inclusion and exclusion process, and screening (Levac, Colquhoun & O'Brien, 2010).

3.3.6 Step 6: Interpreting and Results, Finalising Findings, Writing up the Conclusions and Presentation

After the results have been interpreted, the researcher should determine their certainty and draw conclusions with respect to practice and research (Munn et al., 2018). Thereafter, a presentation and synthesis of the findings needs to be done. After the conclusions are listed they need to be communicated in an appropriate manner to the readers (Munn et al., 2018). The scoping review needs to follow transparent reporting of the methodology and methods followed (Munn et al., 2018). Researchers use PRISMA as an evidence-based instrument to document the scoping review process. PRISMA specifies the minimum set of items when documenting and reporting on the evaluation of the effects of intervention. However, PRISMA can also be used to report on scoping reviews when not evaluating interventions (Page et al., 2021; Tricco et al., 2018).

3.4 OVERVIEW OF THE SCOPING LITERATURE REVIEW

The overview of the scoping literature review will be discussed in two parts namely the 3.4.1 formulation of appropriate search parameters and thereafter 3.4.2 inductive and deductive coding and analysis.

The formulation of appropriate search parameters which consist of 3.4.1.1 specifying the corpus of search terms, 3.4.1.2 establishing the right time frame, 3.4.1.3 delimiting the search, 3.4.1.4 screening process and the 3.4.1.5 Prisma Flowchart to ensure the scoping review is well documented to ensure the research results are reproducible (detailed reporting on the method/process).

3.4.1 Formulation of Appropriate Search Parameters

One of the trademarks of a scoping review is that the researcher sets the search parameters to assist in identifying the electronic databases and potentially relevant works needed to address the research questions (Levac, Colquhoun & O'Brien, 2010; Tricco et al., 2018). This will assist the researcher to identify where to find appropriate literature, for example, which databases the researcher may use.

The researcher identified Scopus to source relevant un/published articles, books, book chapters, and conference papers so as to be able to provide a comprehensive literature resource for the field covered by the research (Tricco et al., 2016; Munn et al., 2018). The Scopus database covers multiple specialised areas, inclusive of technology, and is an interdisciplinary database which contains abstracts and citations that are source-neutral and managed by independent subject-matter experts. Scopus gives researchers, librarians, institutional research administrators, and funders access to compelling discovery and analytics tools. For instance, the database contains more than 9.8 million conference papers from approximately 120,000 global events (Elsevier, 2020).

3.4.1.1 Specifying the Corpus of Search Terms

The researcher needs to carefully choose the key constructs and variables associated with the study (Tricco et al., 2018). For this research, the researcher used elements of the research topic as well as elements of the research question (Levac, Colquhoun & O'Brien, 2010; Torres-Carrion et al., 2018). The main constructs in this study were 'implementation of online course/s and online learning', 'evaluation of online course/s and online learning', and 'distance education'. The other constructs used in the search strings were design, decisions, variables and interdependencies. The researcher broadened the research parameters to include 'higher education' and synonyms of online learning such as 'virtual learning' and 'eLearning' [see Table 3.2: List of search strings and the search results].

The researcher followed the search according to Table 3.2 [see List of search strings and the search results] from 1.1 - 4.10 in this table. There were two search mainstreams, one focused on implementation (see 1.1 - 2.14), and the second focused on evaluation (see 3.1 - 4.10). Table

3.2 provides the search strings that were used to locate the existing knowledge in the implementation and evaluation of online learning.

3.4.1.2 Establishing the Right Time Frame

All searches were performed for a 2012 to 2021 timeframe, and the researcher downloaded the articles on 25 March 2021. The rationale for the beginning date was that during 2012 the New York Times (Pappano, 2012) made an announcement that 2011 was the year of the MOOCs which marked the build-up to increased acceptance of online learning coterminous with several renowned higher education institutions offering MOOCs:

In recent years, Massive Open Online Courses (MOOCs) has been attracted millions of learners around the world, through various MOOC providers such as edX, Coursera, and Udacity. MOOC facilitates millions of learners to enroll courses from reputed universities around the world such as Harvard University, Stanford University, Massachusetts Institute of Technology (MIT), University California at Berkeley (UCB) etc. (Rai & Chunrao, 2016: 262)

The researcher included research information up to 25 March 2021 which was the date when the researcher began the literature review for the Doctor of Philosophy in Management Studies. Because the research title encompasses the implementation process, the researcher decided to do the search in two parts, firstly, with the focus on implementation process, and second, with the focus on the evaluation of the implementation process.

3.4.1.3 Delimiting the Search

The researcher used 'article title', 'abstracts', 'keywords' and 'date' as delimiters (see Table 3.2: List of search strings and the search results for complete information). As an exclusion criterion, all articles relating to MOOCs were not considered (Munn et al., 2018). While MOOCs are defined as online learning and fall within the broader scope of modes of delivery that do not require physical proximity between the providing institution and students, MOOCs were excluded in the search string as they are presented as short courses with summative assessment not as a compulsory element. As such, they differ from formal courses offered at higher education

institutions as part of academic programs or qualifications with formal summative assessment an integral part of the design

3.4.1.4 Screening Process

The scoping literature review aims to find the published and unpublished literature available according to the search parameters and the screening process. The search took place in a sequential format as per Table 3.2: List of search strings and the search results (see no 1.1 - 4.10)

Thereafter the screening process started. To make it easy for the reader all the search terms marked blue in Table 3.2: List of search strings and the search results are the final search terms used and they are numbered 1.5, 2.6, 2.10, 2.11, 2.14, 3.5, 4.6, 4.7, 4.9 and 4.10.

226 Scopus database abstracts were identified to be part of this study. However, 18 articles could not be accessed (three of the 18 articles were not available in English, the other articles were not accessible on the database because of subscription challenges). The researcher then identified 38 duplicates and removed them from the list. A total number of 170 articles in full text were read by the researcher. 121 articles were deemed not relevant, and, finally, the researcher identified 49 articles as relevant for the study.

To ensure the quality of the articles, only peer-reviewed published articles were used, and to address the question of objectivity the researcher worked very closely with the supervisor (Munn et al., 2018). To make sure that the study is reproducible the researcher presented the proper documentation using the search steps, as per Table 3.2, to logically illustrate the documented search, and also followed a transparent reporting of the methodology by using the PRISMA flowchart to logically illustrate the screening process and search strategy results (Munn et al., 2018) [see Table 3.3 Prisma Flowchart of the screening process]. The blue market text in Table 3.2 List of search strings and the search results, indicates the search strings that was used to access the relevant research articles, conference papers and books that will be able to answer the research questions.

49 articles are included as a final synthesis in this study for analysis [see Chapter 3. Annexure 3.1: List of final corpus used in the Literature review]. The “*” in the search strings in table 3.2 below is called a wild card. Wild cards are used to complete a word or phrase for example “online course*” can search for online courses or implement can search for implementation.

Table 3.2: List of search strings and the search results

No	Search strings	Delimiters	Search Results
1.1	TITLE (“ <u>online course*</u> ” and <u>implement*</u>)	<u>Article title, Abstract,</u> <u>Keywords</u>	1922
1.2	TITLE (“ <u>online course*</u> ” and <u>implement*</u>)	<u>Abstract</u>	1653
1.3	TITLE (“ <u>online course*</u> ” and <u>implement*</u> and “Distance education”).	<u>Article title, Abstract,</u> <u>Keywords</u>	225
1.4	TITLE (“ <u>online course*</u> ” and <u>implement*</u> and “Distance education”	<u>Abstract</u> date from 2012 to 25 March 2021	42
1.5	TITLE (“ <u>online course*</u> ” and <u>implement*</u> and “Distance education” not “Mooc*”).	<u>Abstract</u> date from 2012 to 25 March 2021	30
2. 1	TITLE “*learning” and <u>implement*</u> and “Distance education”	<u>Article title, Abstract,</u> <u>Keywords</u>	2714
2.2	TITLE “*learning” and <u>implement*</u> and “Distance education”	<u>Abstract.</u>	813
2.3	TITLE “*online learning” and <u>implement*</u> and “Distance education”	<u>Article title, Abstract,</u> <u>Keywords</u>	272
2.4	TITLE (“online learning” or “virtual learning” or “eLearning”) and <u>implement*</u> and “higher education” and not “MOOC*”	<u>Abstract.</u>	707
2.5	TITLE (“online learning” or “virtual learning” or “eLearning”) and <u>implement*</u> and “higher education” and not “MOOC*”	<u>Abstract and the date</u> <u>between 2010 and 25</u> <u>March 2021.</u>	494

2.6	TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and decision* and not “MOOC*”	<u>Abstract and the date between 2010 and 25 March 2021.</u>	31
2.7	TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and variable* and not “MOOC*”	<u>Abstract and the date between 2010 and 25 March 2021.</u>	22
2.8	TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and design* and not “MOOC*”	<u>Abstract and the date between 2010 and 25 March 2021.</u>	224
2.9	TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and design* and not “MOOC*”	<u>Abstract and the date between 2010 and 25 March 2021. A limit to articles was done</u>	119
2.10	TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and design* and not “MOOC*”	<u>Abstract and the date between 2010 and 25 March 2021. A limit to articles and e-learning</u>	26
2.11	Title (“online learning” or “virtual learning” or “eLearning”) and implement* and not “MOOC*” and “mabert” and design)	All documents	6
2.12	Title (“online learning” or “virtual learning” or “eLearning”) and implement* and not MOOC*” and “mabert” and design)	<u>Abstract and the date between 2010 and 21 March 2021. A limit to articles and e-learning and learning systems</u>	
2.13	Title “Mabert”	Abstract	7
2.14	Title “Implementation process” and “online learning”	Title, Abstracts and Keywords	24
3.1	TITLE (“ <u>online course*</u> and <u>evaluat*</u> ”)	<u>Article title, Abstract, Keywords</u>	2578

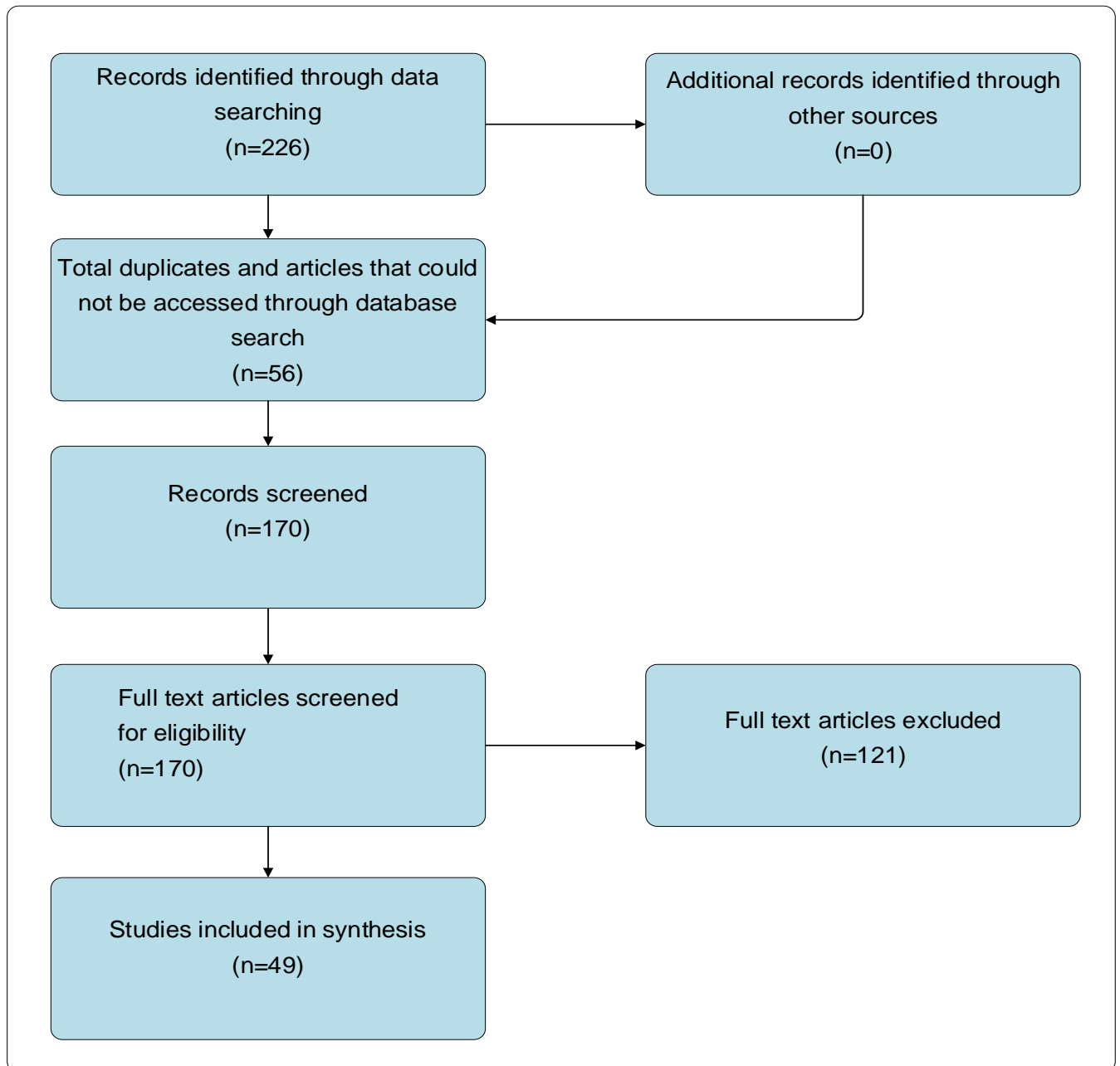
3.2	TITLE (" <u>online Course*</u> " and <u>evaluat*</u>)	<u>Abstract.</u>	2125
3.3	TITLE (" <u>online course*</u> " and <u>evaluat*</u> and "Distance Education")	<u>Abstract</u>	79
3.4	TITLE (" <u>online course*</u> " and <u>evaluat*</u> and "Distance education")	<u>Abstract</u> " date from 2012 to 18 March 2021	55
3.5	Title (" <u>online course*</u> " and <u>evaluat*</u> and "distance education" and <u>implement*</u> or <u>process</u> and not "mooc*") and <u>pubyear>2011</u>	<u>Abstract</u> date from 2012 to 18 March 2021	16
4.1	TITLE "** learning" and <u>evaluat*</u> and "Distance education")	<u>Article title, Abstract,</u> <u>Keywords</u>	2710
4.2	TITLE "**learning" and <u>evaluat*</u> and "Distance education")	<u>Abstract</u>	805
4.3	TITLE "online learning" and <u>evaluat*</u> and "Distance education")	<u>Abstract</u>	69
4.4	TITLE ("online learning" or "virtual learning" or "eLearning") and <u>evaluat*</u> and "higher education" and not "MOOC*")	<u>Abstract</u>	400
4.5	TITLE ("online learning" or "virtual learning" or "eLearning") and <u>evaluat*</u> and "higher education" and not "MOOC*")	<u>Abstract and the date</u> <u>between 2012 and 25</u> <u>March 2021.</u>	227
4.6	TITLE ("online learning" or "virtual learning" or "eLearning") and <u>evaluat*</u> and "higher education" and <u>decision*</u> and not "MOOC*")	<u>Abstract and the date</u> <u>between 2012 and 25</u> <u>March 2021.</u>	18
4.7	TITLE ("online learning" or "virtual learning" or "eLearning") and <u>evaluat*</u> and "higher education" and <u>variable*</u> and not "MOOC*")	<u>Abstract and the date</u> <u>between 2012 and 25</u> <u>March 2021.</u>	13

4.8	TITLE (“online learning” or “virtual learning” or “eLearning”) and evaluate* and “higher education” and design* and not “MOOC**”	<u>Abstract and the date between 2012 and 25 March 2021.</u>	118
4.9	TITLE (“online learning” or “virtual learning” or “eLearning”) and evaluate* and “higher education” and design* and not “MOOC**”	Abstract and the date between 2012 and 25 March 2021. A limit to articles and elearning	19
4.10	TITLE (“online learning” or “virtual learning” or “elearning”) and evaluate* and “higher education” and implement* and process and not “mooc**”) and pubyear>2011	Abstract and the date between 2012 and 25 March 2021	14

3.4.1.5 Prisma Flowchart

The table below provides a summary of the Scopus review processes followed and the result of the searches. A list of the 49 Articles can be viewed [see Annexure 3.1 List of final corpus used in the Literature review].

Table 3.3 Prisma Flowchart of the screening process



The following section will discuss the inductive and deductive coding and analysis.

3.4.2 Inductive and Deductive Coding and Analysis

After identifying the 49 published articles and conference papers through a scoping review process, the researcher loaded these articles onto the ATLAS.ti version 22 (the latest version

released in December 2021). ATLAS.ti is a computer-assisted qualitative data analysis software package. The researcher read through all the articles on ATLAS.ti and followed both an inductive and deductive literature review coding process suggested by Fereday and Muir-Cochrane (2006). This approach focused on answering the specific research questions that informed the research objectives specified previously.

In the following section the researcher briefly discusses the coding process in the inductive analysis process before explaining the deductive coding process. This will be followed by a presentation of the themes that emerged from the inductive analysis.

3.4.2.1 Inductive Coding and Analysis Process

The inductive coding process of the corpus relied mainly on the processes described by Linneberg and Korsgaard (2019), Thomas (2006) and Saldaña (2016), as described in Chapter 4. To briefly recap the process, the researcher exported the corpus to ATLAS.ti and started the coding process. After an initial coding of 10 articles, the researcher shared the coding with a co-coder and, following a discussion and clarification, the whole corpus was coded, resulting in 558 quotations and 821 codes [see Annexure 3.2: Inductive and deductive report from ATLAS.ti]. Once the first round of coding was completed, the researcher met with the co-coder and the 821 codes were clustered into a total of 58 subgroups, followed by clustering the 58 subgroups into 22 'supergroups' on ATLAS.ti. The 22 'supergroups' were themed and resulted in six overarching themes [see Annexure 3.2: Inductive and deductive report from ATLAS.ti for an overview of the 58 sub-groups and 22 categories].

3.4.2.2 Deductive Coding and Analysis Process

After the inductive literature review the researcher used the same 49 articles and did a deductive analysis with specific attention to the guidance by Azungah (2018), Linneberg and Korsgaard (2019) and Pearse (2019). Using the following key terms, the researcher collected relevant content from the 49 articles: 'Design', 'Variables', 'Interdependencies', 'Decision', 'Implementation' and 'Model'. These key terms were derived from the four research questions relating to the key design elements informing the implementation process, the variables that are considered during the implementation stages, the interdependencies between the functional

units and implementation stages, and how the implementation decisions impact on the Signature Courses. The researcher also searched the words 'implementation' and 'model' to draw more specialised information on online implementation and the different models used to assist with the conceptual framework. The key terms were coded. The researcher engaged in data reduction, so only text which was applicable/valuable to this study was coded and decoded as qualitative data forms through an analytical iterative process. Thereafter the qualitative data was analysed and interpreted (Saldaña 2021). This thematic coding resulted in the genesis of certain family groupings, which may or may not be duplicated in the four main constructs of design, variables decisions and interdependencies.

The ATLAS.ti coded text from the 49 articles was then exported as quotations to Word and Excel. The number of quotations found in this deductive analysis was as follows: Design=319; Variables=31; Decision=66; Interdependencies=3; Implement= 92; and Model=371.

In the deductive analysis, searching for 'variables' mostly resulted in information about 'research variables': and was not useful. Replacing 'variables' with 'factors' which resulted in 205 results, and 'elements' which resulted in 78 results, did provide positive search results and were coded accordingly. The researcher therefore identified the variables through the different factors and elements that form part of online learning implementation and through the different models. The search for 'interdependencies' or 'interdependent' also did not result in anything useful.

The researcher also searched deductively for related literature available on 'implementation' and resulted in coding 377 implementation codes. Thereafter, the researcher exported the coded quotations to Word and Excel in order to analyse them. The researcher then searched the corpus deductively on related literature available on 'model' and the search resulted in 378 model codes which the researcher exported to Word and Excel in order to analyse these as well. During the data analysis, the researcher discovered that the search for different models also produced data on frameworks. The only rationale for the researcher was that scholars who wrote these articles/references either used frameworks during their literature review or created frameworks from previous models. Therefore, the researcher did not use 'framework' as a search parameter though the results in the search provided some frameworks.

The researcher needed to determine the lenses which were used in these articles and found that most articles focused on evaluation, implementation, quality assurance and quality standards, pedagogical models, and two articles referred to change management and resource model. For example, the Kirkpatrick's evaluation model was mentioned in a few evaluation articles and the Community of Inquiry Model (COI) by Garrison, Anderson, and Archer was also mentioned in a few teaching and learning models.

As a result of both inductive and deductive analyses, the researcher integrated the findings into the six identified themes. The researcher analysed the qualitative literature using descriptive, process, and in vivo coding strategies. In the following section the six main themes resulting from the inductive and deductive analysis will be discussed.

Theme 1: Macro environment. This theme highlights the growing need for distance education and the technology advancement and affordance which makes education possible for disadvantaged students. The Covid-19 pandemic forced universities to introduce advanced technology more effectively, and the role-accredited bodies ensure quality products and services when implementing these advance technologies.

Theme 2: Designing the online learning experience.

Designing an online learning experience requires that the academics who are central to the online learning course be well supported. The academics should have the knowledge and ability to apply online learning models and address the challenges which students may find in online learning. This theme also refers to the characteristics and critical success factors in implementing online learning. Online courses should furthermore be designed to take note of standards and quality assurance processes as an integral part of their design.

Theme 3: Managing the implementation process. Managing the implementation process requires continuous decision making, and meticulous integrated institutional planning and monitoring. Further to this, the implementors need to ensure that executive management in the institution drives the change management processes, institutional communication, and the involvement of all stakeholders. All stakeholders involved in the processes need to be well trained, and interdepartmental cooperation is required to manage the interdependencies of functional units to ensure successful implementation.

Theme 4: The role of executive management and functional management in ensuring effective implementation process. Online learning as an initiative needs support from institutional leaders, specifically executive management. They need to ensure that they set the vision, the mission, and the goals, as they function on a high strategic level to enable the manager to implement the initiative. The institutional mission needs to be relevant and suitable for online offerings (Salama et al., 2015). They ensure the resources are in place, negotiate partnerships and collaborations, and create a culture of innovation. They ensure that policies and procedures are developed and revised, and that the budget, and specifically the digital platforms, are in place.

Theme 5: The role of budgeting and costing. The online learning budgets and cost need to be calculated and expenditures monitored. Financial support is required when considering implementing online learning (Andrade & Alden-Rivers, 2019; Daud & Farrah, 2013) and quality online learning needs to be effective and sustainable (Sun & Chen, 2016). Therefore, implementation of online learning courses needs to be in time and within budget limits (Annamalai & Ramayah, 2013). Economies of scale allows for a decrease in cost as the student numbers increase (Vaganova et al, 2018), however when implementing the course interaction is costly. Therefore, choosing resources and media that are cost effective is essential (Andrade and Alden-Rivers, 2019).

Theme 6: The role of Information and Communication Technology (ICT) in the implementation of online learning. An ICT architecture describes the design and interrelation of the processes or components whereas infrastructure consists of the constituent parts of the system which need to be in place before the development of online courses. This theme discusses the technology required during the instructional design process as well as the learning management platform to support such. When technology systems or software are implemented, testing needs to be done against best practices to ensure successful implementation.

The findings of above-mentioned themes will now be discussed.

Some of the chapter and or section are very long and contains detailed descriptions. Although the numbering of the section may assist the reader to give an indication where the reader is in the chapter the researcher decided to ad hoc supplement the text with a visual diagram that

illustrates where the researcher is in the text. These diagrams will only apply where the researcher may deem it necessary and will be applied throughout the script.

The diagram below illustrates the four main elements that will be covered in Theme 1.

Therefore the 'blue' areas in the diagram below means "YOU ARE NOW HERE" in this chapter. The reader is in Theme 1: Macro environment and the first element is '3.5.1 The growth in online and distance education' followed by 3.5.2 Massification and academic integrity of online offerings, 3.5.3 Changes in student demographics/profiles and support and lastly 3.5.4 The impact of Covid-19.

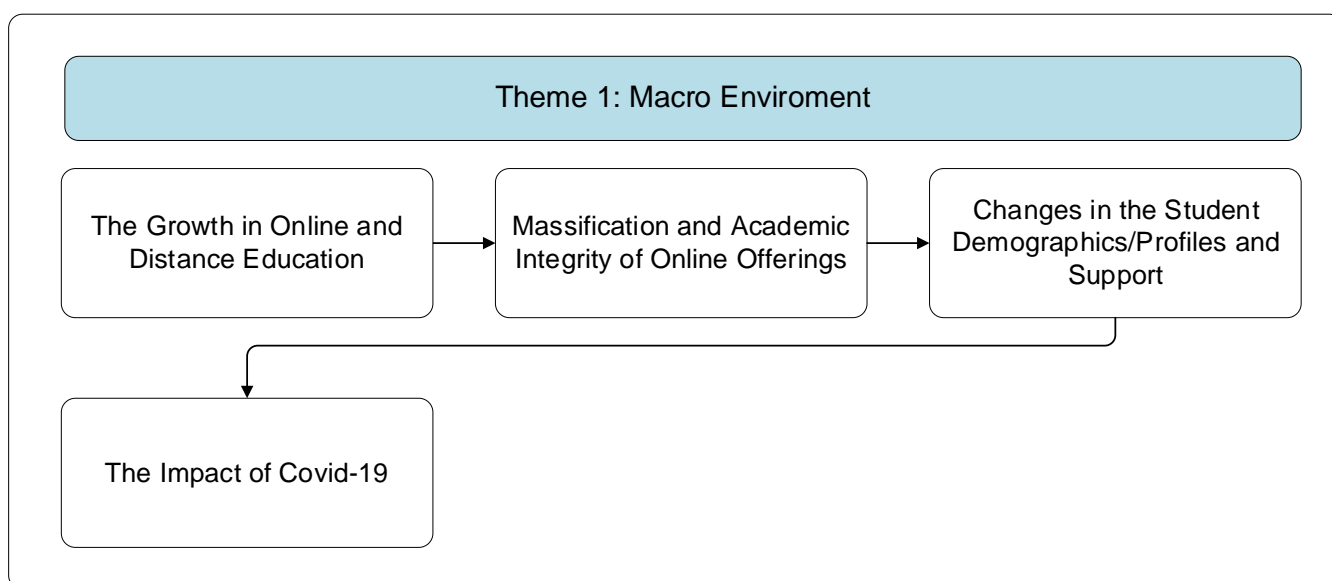


Diagram 3.2: Elements of Theme 1: Macro Environment

3.5 THEME 1: MACRO ENVIRONMENT

The need for flexible education and access, which offer chances to play a competitive role in education, is driving up demand for distance education. Many public and private institutions are competing using advanced technologies to optimise the affordances online learning provides to the world. This theme refers to technological advancements, changes in student profiles, perceptions of online learning, and institutional competition to win global markets. During the Covid-19 epidemic, the use of technology become necessary, especially for traditional faces to face institutions, to assist with accessibility and adaptability. This theme also refers to the role

of accrediting and regulatory bodies to ensure the quality of qualifications, assuring optimum flexibility to cater for the growing need for education.

3.5.1 The Growth in Online and Distance Education

One of the first element that emerged under Theme 1, was the growth in online and distance education. Sarder (2014) observes that Distance Education historically dates back centuries, and with evolving technology distance education today is increasingly aligned with online learning. Distance education and access to technology significantly contributed to the increase in opportunities for potential students to receive education through on-line learning (Andrade & Alden-Rivers, 2019; Sarder, 2014; Srinivasa et al, 2012; Sun & Chen, 2016; Theresiawati et al., 2020; Vaganova et al., 2018; Zimmerman et al., 2020):

Today, with easy access to the internet and the proliferation of personal computers and other web-enabled devices, distance learning has almost become synonymous with online learning. Distance learning exists because there is a need for it, and that need centers around student access.

(Vaganova et al., 2018: 218)

The demand for distance and online learning provision is growing and more universities are taking advantage of this macro environmental development as they expand their course offerings to be more competitive by developing and implementing online courses supported by modern technologies (Vaganova et al, 2018; Sarder, 2014; Stefanovic et al., 2011). As far back as 2014 it was evident that online learning was growing. As Sarder (2014) suggests, breakthroughs in affordable technology provide an alternative for students who previously could not study owing to restrictions such as physical location, financial obstacles, and other factors, which effectively barred lower and middle-class students from receiving an education (Sarder, 2014).

During the past two decades, more higher education organisations have offered fully online courses as a fundamental part of their curricula and there is evidence that the traditional face-to-face course enrolments are declining. Hence there is no contestation that online learning is the modern/contemporary educational paradigm and is likely to be so in the future (Abuhassna et al., 2020; Theresiawati et al., 2020).

According to Vaganova et al., (2018), the internet is the largest online information network globally, and supporting technologies are used to reach students during all stages of their educational journey. Santally et al., (2020) indicate that due to the advance and intensity in application and the integration of ICTs the role of distance education universities and traditional face-to-face universities is becoming blurred with more traditional face-to-face universities moving to online distance education modes. However, taking into consideration the aforementioned, there is still confusion about how best to infuse this change in the real world (Santally et al., 2020). Further, different viewpoints about online learning are also evident, as Abuhassna et al. (2020) point to, in a 2010 study from Paechter, Maier and Macher, which revealed that many Austrian students prefer face-to-face over online learning because of improved communication and interpersonal relations. This preference is also confirmed in a more recent study, in 2018, by Panyajamorn, Suthathip, Kohda, Chongphaisal and Supnithi.

3.5.2 Massification and Academic Integrity of Online Offerings

The second element under Theme 1 is massification and the academic integrity of online learning. Higher Education providers provide access with different contexts in mind, for example, firstly to attract unlimited students for reasons of profit (D'Agustino, 2012; Vaganova et al., 2018), second, to provide access to HE for under-privileged students, third, to provide access to students who cannot access education through traditional face-to-face institutions owing to geographical distance, pace, and mode of delivery (D'Agustino 2012; Andrade & Alden-Rivers, 2019; Karataş & Tuncer, 2020), fourth, to add value to the institution itself, and/or, lastly, to stimulate the economy, provide competitiveness in qualifications, and expand HE opportunities (Andrade & Alden-Rivers, 2019; Theresiawati et al., 2020).

Increasing access to HE can be realised through innovative strategies, for example, online learning models which meet the needs of diverse students (Andrade & Alden-Rivers, 2019; Theresiawati et al., 2020). To be able to address diverse student needs, educational providers need to meet with leaders of business and industry to ensure that their qualifications are relevant to their requirements and market needs (Andrade & Alden-Rivers, 2019; Theresiawati et al., 2020), and make sure that students contribute to the economy through a range of qualifications and training (Andrade & Alden-Rivers, 2019).

According to Salama et al. (2015), Distance Education institutions should follow the Council of Regional Accrediting Commission's interregional guidelines to assist with planning and academic integrity. These guidelines consist of the following nine criteria:

- 1) Ensure that the institution's mission is relevant and suitable for online offerings [see 3.8.1.1: The Role of Executive Management].
- 2) Integrate institutional plans and process for developing, implementation, evaluation and sustainability for online offerings [see 3.6.1 Integrated Institutional Planning].
- 3) Amalgamate online learning goals with the institution's academic and governance systems and ensure academic oversight [see 3.8.2.2 Shared Governance and Risk Management].
- 4) Ensure the institution's online learning curricula are academically sound and consistent (rigour) compared to traditional face-to-face programmes [see 3.6.3.1 Curricular Aspects].
- 5) Measure the effectiveness of the institution's online offerings. This includes which goals were achieved and which enhance the attainment of the goals [3.6.4.3 Quality Assurance Procedures and Variables].
- 6) Ensure qualified, developed, and effectively supported academic departments for delivering online learning courses, and evaluate students' success as a goal [see 3.7.2 Professional development and collaboration].
- 7) Provide effective student and academic services [see 3.6.3.7 Student Support].
- 8) Provide sufficient resources for online offerings [see 3.8.1.3 Resources], and
- 9) Ensure institutional assurance of the integrity and recognition of its online learning offerings. Quality assurance is discussed in depth later in this chapter [see Theme 2 Designing the online experience, 3.6.4. Quality Assurance].

3.5.3 Changes in Student Demographics/Profiles and Support

The third element that emerged under Theme 1 is changes in student demographics/profiles and support. An increase in student enrolments is mainly influenced by demographics such as pipeline students from secondary schools that feed into the universities and not because of

special marketing strategies (Andrade & Alden-Rivers, 2019). Demographics of the prospective population be used when planning and designing online material:

These recent studies suggest that ethnicity, race, nationality, and generation also emerge as potentially significant components of online student populations, although conclusions about the components' impact on learning preferences and outcomes need to be refined by further research. (Money & Dean, 2019: 70)

Boticario et al. (2012), agrees with the Money and Dean, and added when planning online learning all personal needs and preferences should be taken into consideration. This underlines the importance of a system that stores student information such as:

- i) demographics (personal information),
- ii) preferences (general and accessibility preferences),
- iii) learning styles (in terms of Felder dimensions [Felder, 88]),
- iv) goals and competencies,
- v) progress (qualifications, certificates and licenses obtained by the student), and
- vi) psychological profile (indicators about attention, memory, time management and other skills). (Boticario et al., 2012: 68)

Accessibility preferences such as technology not only changed the educational landscape, according to Sinclair, Kable and Levett-Jones (2015) and Stefanovic et al. (2011), but also became a prerequisite for universities and other teaching institutions, which had a direct impact on societal change. The younger generation is particularly affected by this social transformation, according to Sudarwati (2018), as they socially mature from a young age using these modern technologies and social networking in contrast to older generations which had restricted exposure to new technologies. There are ample studies on the challenges and difficulties students in HE experience such 'functional diversity issues or requir[ing] adaptations due to their age' (Boticario, et al., 2012: 63), given that these students are primarily lifelong students.

Universities face challenges to provide educational opportunities to a rapidly growing and also increasingly diverse student population (Andrade & Alden-Rivers, 2019; Boticario et al., 2012). Universities are cognisant that they need to provide support to increasingly diverse student

populations, not only recent school leavers but also mature students in need of lifelong learning, students with disabilities, and students studying in very diverse contexts, including contexts which cross regional and national boundaries and time zones (Andrade & Alden-Rivers, 2019; Boticario et al., 2012).

3.5.4 The Impact of Covid-19

The fourth element that emerged under Theme 1 is the impact of Covid-19 which started towards the end of 2019. Karataş and Tuncer (2020) explain the ways in which this it affected the world globally and resulted in enormous disruption/hinderance of the traditional HE environment. 'In the digital age, the spread of COVID-19 is the first crisis with such global effects' (Karataş & Tuncer, 2020: 1).

The pandemic forced universities to provide online education. As Sun and Chen (2016) indicates, for the two years after the onset of the pandemic, enrolment in online courses exceeded that in traditional face-to-face courses. Online learning continued to increase and created a global online learning explosion. Sun and Chen (2016) explain that during Covid-19 people began new qualifications to find a new job because employment numbers dropped, and/or people felt a need to improve their current qualifications. The international Covid-19 disaster demanded educational flexibility and increased access (Karataş & Tuncer, 2020).

Thus far the discussion has focused on the Macro Environment and the ways in which technology has impacted on the way we educate our students. The next section deals with the ways it influenced the design of online courses (Boticario et al., 2012; Money & Dean, 2019; Sinclair et al., 2015; Stefanovic et al., 2011). There are specific elements that need to be taken into consideration when an education institution introduces and designs online courses. Some of the important elements that online learning introduced are increased access to HE and flexibility to study from any place and anytime (D'Agustino 2012; Andrade & Alden-Rivers, 2019; Karataş & Tuncer, 2020).

Within the context of the macro environment, most institutions are responsible for developing their own online coursework which, according to Songkram (2017), entails course management, and effective course design through creative and innovative activities of online learning. Theme

2 will provide a picture of the integrated institutional planning and management of the online learning experience.

3.6 THEME 2: DESIGNING THE ONLINE LEARNING EXPERIENCE

In this section Theme 2: designing the online learning experience, the diagram below illustrates the six elements arose from the thematic analysis: 3.6.1 integrated institutional planning; 3.6.2) planning and designing online learning courseware; 3.6.3) development of online courseware; 3.6.4) quality assurance; 3.6.5) academic concerns; and 3.6.6) different online learning models and frameworks impacting on the implementation of online learning.

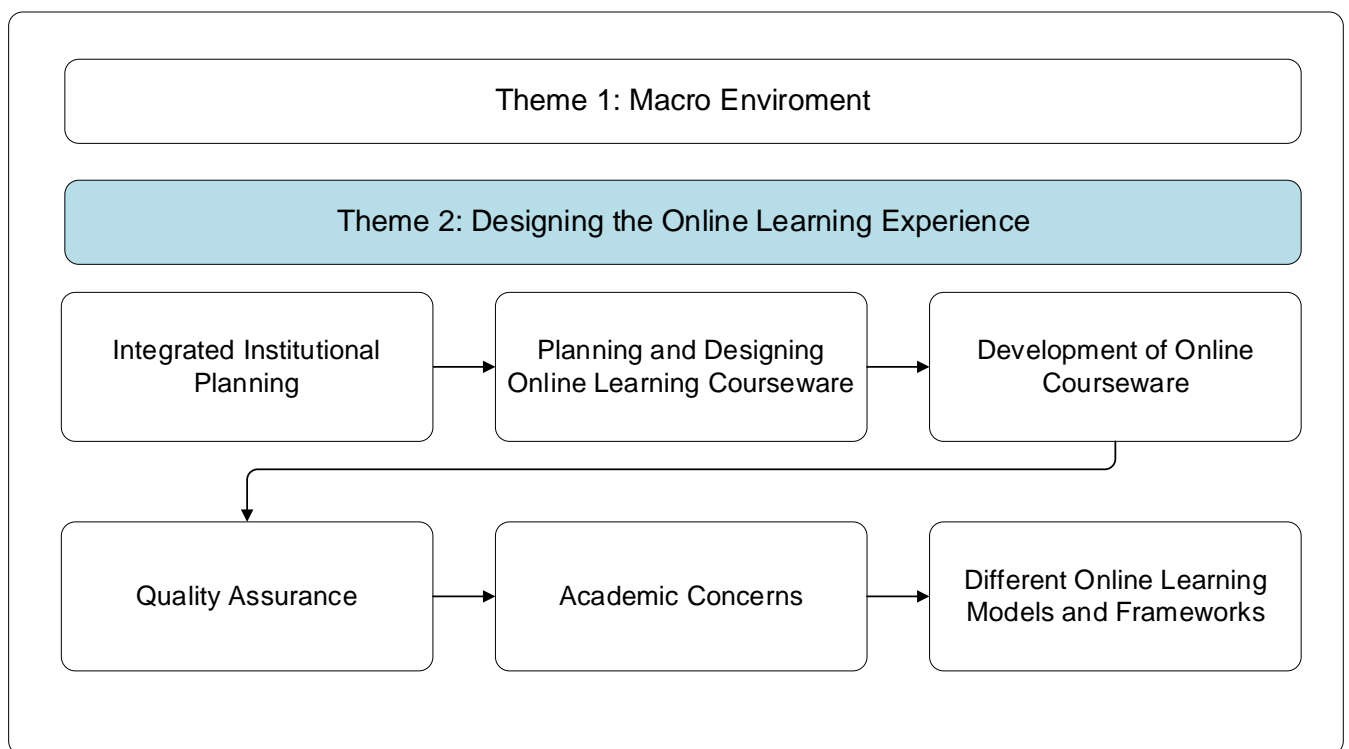


Diagram 3.3: Elements of Theme 2: Designing the Online Learning Experience

3.6.1 Integrated Institutional Planning

The first element under Theme 2, is integrated institutional planning. According to the analysis of the literature, Higher Education institutions need to consider developing a comprehensive integrated plan when implementing or expanding online learning (Andrade & Alden-Rivers, 2019; Theresiawati et al., 2020; Zimmerman et al., 2020). This comprehensive plan should include

elements such as developing the curriculum and curriculum guidelines(Sun & Chen, 2016); professional academic development; instructional design; design formative and summative course assignments (Sun & Chen, 2016); learning technologies (Andrade & Alden-Rivers, 2019); Student support (Andrade & Alden-Rivers, 2019; Salama et al., 2015) quality assurance (Zimmerman et al., 2020); and online course delivery evaluation (Sun & Chen, 2016; Trespalacios and Perkins, 2016; Zimmerman et al., 2020).

The important steps in compiling a comprehensive plan, according to Sun and Chen (2016), are to identify, obtain and utilise the required resources, project the sequence of activities, and structure timelines as these will enhance the quality of the online courses.

As part of a comprehensive plan institutions should ensure that there is a well-crafted ICT institutional plan and a specific online learning ICT plan (D'Agustino, 2012). [See 3.10.1 Information Technology: Introduction and Planning] and an extensive internal marketing and communication plan (Andrade & Alden-Rivers, 2019).

3.6.2 Planning and Designing Online Learning Courseware

The second element under Theme 2 is planning and designing online learning courseware and has three sub sections:

- 1) Role of the academic and teams;
- 2) The need to identify a required pedagogy;
- 3) Ensure that the standards that are in place adhere to quality assurance.

Course design, according to Zimmerman et al. (2020), is the instructional blueprint of an online course and is the course shell from which an academic introduces teaching and learning. According to Lola et al. (2021), online and face-to-face educational programmes share the same content, but presentation, interaction, and organisation may differ:

The basic didactic principles of Distance learning are basically the same as for any other education, but the principles of organizing online learning are different, they are specific to online learning, as they are determined by the specifics of the form, the

capabilities of the Internet information environment, its services (chat rooms, forums, mail, video conferences).
(Lola et al., 2021: 6460)

The characteristic of online teaching and learning are different, they are likely to be more collaborative as they may depend on expert instructional designers to use internet-driven modern technologies (Lola et al., 2021).

3.6.2.1 The role of the Academic and Teams

The scoping review reveals notable roles played by academics and teams when involved in online environments. Sun and Chen indicate that the academic 'indisputably play[s] a crucial role in online education' (Sun & Chen, 2016: 171).

Central in the literature concerning the role of academics in online learning is the perception that technology cannot replace the academics' role in teaching, assessing learning, and student support (Sun & Chen, 2016):

Presidents may dream visions and vice presidents may design plans, and deans and department heads may try to implement them, but without the support of the faculty members, nothing will change.

(Andrade et al., 2022: 3)

The analysed literature revealed that academics need to plan, design and develop online course content in alignment with high academic standards (Andrade & Alden-Rivers, 2019; D'Agustino, 2012; Sun & Chen, 2016; Theresiawati et al., 2020). In some cases, formal agreements are signed with the academics to design courses and perform related academic tasks (Andrade & Alden-Rivers, 2019) as 'these may delineate roles, expectations, intellectual property rights, review processes, timelines, and payment' (Andrade & Alden-Rivers, 2019: 7).

If students interact effectively in communities or other environments during the learning phase it may result in a change or shift of the roles of the academics into roles of 'coaches, resource-

advisors, and motivators' (Chootongchai & Songkram, 2018: 155) as the students will become the content developers.

Interestingly, the literature points to the need for online courses to be directly under the control of the academics as they need to design the structure of the course and how and when it is delivered (Andrade et al., 2022; Sun & Chen, 2016; Theresiawati et al., 2020).

Taking the role of the academic in mind, another central theme that emerged in the analysis of the literature was the fact that online courseware design should take place using a team approach and as not an isolated activity, and where the team follows a specific process within a broader curriculum and learning environment framework (Andrade & Alden-Rivers, 2019; Andrade et al., 2022; D'Agustino 2012; McGuinness & Fulton, 2019; Varonis, 2014). In addition to the team approach, Varonis (2014) adds the need to expand support services. D'Agustino (2012) indicates that the team composition should consist of the following members: subject (academic) matter expert; instructional designer, and a media specialist. D'Agustino (2012) further explains that the academic is the subject matter expert and should focus on the course objective and outcomes, whereas the instructional designer and media specialist roles need further discussion [see 3.6.3 Development of Online Courseware, 3.6.3.2 Content].

3.6.2.2 Pedagogy

As already mentioned in this chapter [see 3.6.2 Planning and Designing Online Learning Courseware], the decision to adopt and implement high quality online courses at universities requires an appropriate pedagogical approach (Ossiannilsson & Landgren, 2012; Daud & Farrah, 2013; McConnell, 2018), and according to Santally et al. (2020), the effective and appropriate use of ICT in service of pedagogy, can increase the effectiveness of pedagogical strategies.

Choosing an appropriate pedagogy, one which will have an impact on online learning, requires knowledge of materials development, required skills, and the acquisition of a specific learning management system that will be selected to support the online learning platform (McConnell, 2018). During the design and delivery of a course the academic should maintain a balance between pedagogy and technology, according to Sun and Chen (2016), although D'Agustino

(2012) argues differently, and suggests that the focus should be on the pedagogy instead of technology.

Multiple learning theories and frameworks such as objectivism/behaviourism, cognitivism, constructivism, and connectivism, are covered by quality standards (Varonis, 2014). A well-known and frequently applied example is Garrison, Anderson & Archer's Community of Inquiry learning framework (CoI) which is grounded in collaborative constructivism, and identifies the key elements for instructional design and meaningful learning as social presence, cognitive presence, and teaching presence (Sun & Chen, 2016; Ke, 2010; Trespalacios & Perkins, 2016). Educational online learning communities should be social in nature, and the online learning environment should consist of an online learning community promoting social presence, interactions, and collaboration and relationships between the academic and students, and between students themselves (D'Agustino, 2012; Northcote et al., 2019; Sun & Chen, 2016).

Social presence can be fostered in online classroom communities where students commit to obligations and goals, and create a community of caring, sharing and belonging (Trespalacios & Perkins, 2016). Personalised engagement and participation in online educational environments improves the students' overall satisfaction and learning experience (Trespalacios & Perkins, 2016; Stefanovic et al., 2011; Ossiannilsson & Landgren, 2012).

Andrade et al. (2022) and Sun and Chen (2016) explain that Laurillard's Conversational Framework (Laurillard, 1999) assists the course developer to ensure active participation of students through online instruction. The framework uses different forms of communication and interactive activities embedding the pedagogical strategies in online interaction through discussion, adaptation, reflection through introductions, debating new ideas and concepts, collaborative group projects, sharing personal experiences, and using various multi-media tools (Andrade, 2022; Sun & Chen, 2016; Trespalacios & Perkins; 2016).

3.6.2.3 Standards

The demand for online course offerings and the development of these courses is increasing, and the quality concerns of administrators and colleges have motivated the development of standardised online quality standards (Srinivasa et al., 2012; Varonis, 2014). Course standards

are used as a blueprint for designing and enhancing all online courses and programmes in order to avoid varying levels of quality (Srinivasa et al., 2012).

Sudarwati (2018) indicate that standards are determined by criteria. Santally et al. (2020) argue that quality is about the process, while standards relate to the intended outcomes and actual achievement. The standards document, and policies help assure that programme goals and outcomes are being met (Srinivasa et al., 2012). This leads to a generic definition of quality assurance in the context of higher education which is to ensure the contribution of educational process (quality) to the attainment of a defined standard (Santally et al., 2020).

The development and implementation of minimum standards for online learning provides a baseline for high-quality courses that is consistent and reliable (Andrade et al., 2022; Institute for Higher Education Policy, 2000; Srinivasa et al., 2012). Standards provide online learning mechanisms for instructional designers to implement instructional design principles and sound pedagogy (Srinivasa et al., 2012). Such minimum standards not only cater for quality but also guide academics on how to improve beyond the minimum standards, and assist the institution in assessing academic compliance and incentivising excellence:

Regulators and accrediting bodies have raised some concerns about online education, compared to on-ground face-to-face education. One of the biggest concerns resides in the quality of online instructions.

Salama et al., 2015: 26)

Quality assurance and standards criteria for online instruction differ across the disciplines, and HE online courses and programmes might require their own standards to meet the needs of multiple stakeholders (Salama et al., 2015; Srinivasa et al., 2012; Zimmerman et al., 2020). As online course quality systems emerged, rubrics and checklists became available to measure quality standards (Srinivasa et al., 2012).

Quality Matters (QM), according to Varonis (2014), is one of the most in-demand systems in the US (www.qualitymatters.org). Institutions can use already developed online learning standards and rubrics which can either be adapted or customised or used as is. Salama et al. (2015) explain that Quality Matters (QM), was developed in Maryland over a three-year period by a

consortium of Institutions of Higher Education with a federal government grant sponsor. Quality Matters (QM) is a quality online course design model and is used as best practice and principles when designing online and blended courses. According to Salama et al. (2015) the underlying principles of Quality Matters are: 1) all courses to eventually meet standards (continuous); 2) research literature and national standards on instructional design principles (centred); 3) college/academics-driven analytical and collegial peer review process (collegial). The rubric consists of 43 specific review standards which can be grouped into eight general standards of course quality. The eight general standards include: 1) course overview and introduction; 2) learning objectives (competencies); 3) assessment and measurement; 4) instructional materials; 5) course activities and student interaction; 6) course technology; 7) student support; and (8) accessibility and usability (Varonis, 2014; Salama et al., 2015; Srinivasa et al., 2012).

3.6.3 Development of the Online Courseware

This is the third element that arose from Theme 2 (designing the online learning experience) is the development of online courseware. The following sub sections will be discussed in detail: 3.6.3.1 curricular aspects; 3.6.3.2 content; 3.6.3.3 course delivery; 3.6.3.4 learning tasks; 3.6.3.5 interaction; 3.6.3.6 assessment; 3.6.3.7 student support; and 3.6.3.8 user experience, satisfaction, and readiness (Andrade et al., 2022).

3.6.3.1 Curricular Aspects

One of the internationally accepted responsibilities for college academics according to Sun and Chen (2016) and Andrade and Alden-Rivers (2019) is to develop the curriculum and to make key decisions on aspects of flexible learning. Sun and Chen (2016) rank the setting up and development of curriculum as one of the top priorities. According to Salama et al. (2015), online learning curricula should be consistent, logical, coherent, cohesive, should be similar and comparable between institutions, and the offerings should be especially thorough and carefully developed as compared to traditional instructional programmes. Ross (2012) states that the overall objective is to generate quality curriculum products and positive learning experiences through technological empowerment. Universities should rework their curriculum/syllabi to be flexible, integrate various online learning media and platforms, and ensure that the quality study material corresponds with the curriculum and the available electronic media (Sudarwati, 2018).

In addition, the developed curricula and guidelines, according to Sun and Chen (2016), enable academics to use contemporary technologies in their courseware.

The College/academic body needs to ensure that it has control over the curriculum content and delivery, and is responsible for the sign off of initial course proposals, (Salama et al., 2015). Universities must also adjust their academic calendars to be in line with the quality curriculum outcomes which should be reached through virtual platforms (Andrade et al., 2022; Ossiannilsson & Landgren, 2012; Ross, 2012; Sudarwati, 2018; Sun & Chen, 2016). When designing curricula the learning objectives and outcomes should be defined (Ossiannilsson & Landgren, 2012) and the design team should ensure that the learning objectives and outcomes are reached. Chaeruman, Wibawa and Syahrial (2020) argue that besides defining the learning objectives, a critical factor in online learning course design is that the content should be organised and mapped in such a way that related topics and subtopics are grouped to address the predefined learning outcomes.

3.6.3.2 Content

D'Agustino (2012) explains that the development of online courses and/or the conversion of traditional face-to-face courses to an online environment are both challenging and need an emergent process. When online courseware is designed and developed, both Sun and Chen (2016) and Sudarwati (2018) highlight the need for student characteristics to be considered and to use different online instructional methods to cater for their diverse needs. D'Agustino (2012) argues that course design processes should continuously consider students' technology skills, multiple learning styles, and favourite communication preferences. Sudarwati (2018) indicates that this online course material should be developed by experts, while Theresiawati et al. (2020) emphasise the knowledge and understanding of the materials in their respective fields. Sudarwati (2018), and Chaeruman, Wibawa and Syahrial (2020) add that online material should be accessible to students while online learning implementation should adhere to the institution's ethical codes and regulations. D'Agustino (2012) explains that after choosing the course materials and instructional methods, academics will organise the content, assessments and resources using chunking and scaffolding techniques (the release of content and/or information in parts during specific times). The academic needs to build PowerPoint lecture notes into the course as additional material, and the academic should also consider setting up spaces for

reflecting personal perceptions and insights, and possibly add mini-lectures (Sun & Chen, 2016). When engaged in course design, the academic should consider catering for interaction through the facilitation of group and class activities. In addition, required assignments should have schedules and timelines, and students should receive guidelines and strategies to enable them to properly use the tools and technologies related to the online course (Sun & Chen, 2016). Online learning requires dedication as indicates that,

ninety percentage is employed in E learning consisting, providing the materials, discussion section between the lecturer and the students, students' tasks, feedback from peers and teachers from the tasks. In these teaching and learning circumstances, building dialogue in schoology between lecturer and the students can be taught.

(Sudarwati, 2018: 271)

In some cases the institution may convert face-to-face courses into online courses and D'Agustino (2012) explains that one of the steps in the conversion of course materials into online learning material is to do rapid prototyping whereby the students provide feedback on the modules shared with them and suggest improvements and or revisions.

Online course design and the application of different learning media both have a direct impact on the quality of learning and improved student interaction (Sudarwati, 2018; Zimmerman et al., 2020). Expertise and support according to from the instructional design team is a growing trend in ensuring a high-quality online learning course content. However, they also acknowledge that this increases the cost of the material development drastically (Andrade & Alden-Rivers, 2019).

3.6.3.3 Course Delivery

There are two delivery modes of online learning, synchronous (real-time) and asynchronous (when required). Both synchronous and asynchronous learning need to take place so as to enable a meaningful learning experience for the students (Chaeruman, Wibawa & Syahrial, 2020; Trespalacios & Perkins, 2016). Asynchronous online learning allows the student to interact independently with courseware anytime and anywhere online and encourages technology-facilitated self-directed learning since no human interaction is needed (Sinclair et al., 2015). McConnell (2018) promotes the idea of autonomous students and student learning. However,

students' ability to adapt to self-management and self-study in online learning contexts is still a challenge, as many students experience a high academic dependency culture which limits student autonomy.

D'Agustino (2012) indicates that academics and instructional designers should decide on and deliver course material through an array of different user-friendly methods and multimedia materials to cover the content. The instructional designer ensures alignment between the learning objectives and the appropriate educational technologies needed for the course design (web/LMS design and structure). The media specialist ensures alignment between the learning outcomes and appropriate forms of media to support the learning outcomes, which may include video and audio recording and slide-show presentation applications (D'Agustino, 2012).

Different multimedia can be supplemented with interactive mini-lectures and/or meet and discuss sessions to foster critical thinking and to address the variety of learning styles (Sarder, 2014). In a study conducted by Sarder (2014), making use of multiple delivery methods and increasing student interactivity had a positive impact on student success and enhanced the knowledge of how to use the multimedia technology.

Academics need to include a variety of online methods to ensure that all learning styles are catered for. In most learning management systems (LMS), the following tools can be used: discussion forum threads and conferencing discussion with experts (Theresiawati et al., 2020; Trespalacios & Perkins, 2016), group work, e-portfolios, assignments, supplementary videos and podcasts, articles to cater for auditive and visual learning styles (Theresiawati et al., 2020).

Online courses according to Abuhassna et al. (2020) may be designed to connect with social networks and experts. Sarder (2014) proposes a few techniques to ensure interactivity in an online classroom such as using inclusive language '(us' and 'we')', and building a connection with the students through posting welcome notes and introducing yourself as the virtual academic. Sarder (2014) further denotes that interactivity with students should portray a positive attitude using a clear voice and being honest in meetings and emails, setting and communicating online office hours for meetings and/or discussions on a weekly basis, and creating an online presence through a blog, Twitter or a website.

3.6.3.4 Learning Tasks

McGuinness and Fulton (2019) highlight learning tasks as a critical component of the course material. They also suggest that the purpose and context of these learning tasks should be well explained to the students through role-play activities, tutorial participation, and quizzes. Using different learning resources will expose the students to different viewpoints in multiple formats. With these learning tasks, academics are encouraged to assist students to relate their own experiences and consider the input from peers on the subject matter through group work, discussions, assignments, and social media platforms.

McGuinness and Fulton (2019) indicate that the learning environment should allow the students to make their own choices and decisions when engaging with different tasks throughout the learning process. They further explain that students should also be able to reflect, articulate and share what they have learned and then share the new ideas and knowledge they acquired with others after they have reflected on their learning.

3.6.3.5 Interaction

The academics are responsible for ensuring that different interaction and mentoring interventions are embedded into the course module as this has an influence on the programme's success and reputation (Andrade et al., 2022; Sun & Chen, 2016; Theresiawati et al., 2020). As explained by Wolf et al., (2019), higher levels of student engagement can be accomplished through careful planning and implementation during the course design and implementation cycles. Academics also play an important role in facilitating the course through direct instruction, interaction, and providing feedback to the students' questions and inquiries (Sinclair et al., 2015; Sun & Chen, 2016; Theresiawati et al., 2020).

The most important academic role, according to D'Agustino (2012), is to ensure a high degree of student interactivity and participation through designing and implementing learning activities that result in participation and engagement with the learning modules.

Also of importance, and apart from interaction with the learning modules, the academic needs to design and develop course material that will enhance effective online instruction, interaction, and

communication between the academic and the students individually or in groups (Andrade & Alden-Rivers, 2019; Sun & Chen 2016; Theresiawati et al., 2020). Numerous research reports, according to Sarder (2014), have indicated that distance education completion rates are very low owing to a high dropout rate, and, while there are many causative factors as to why this phenomenon exists, lack of interaction may be a major cause.

Lastly, interaction between the students is enhanced by academics who play a vital interactive and communicative role with students through discussions (Abuhassna et al., 2020). The interactivity between the academic and the student, not only improves the knowledge and user experience of the student but student satisfaction and success (Abuhassna et al., 2020; D'Agustino, 2012; Sinclair et al., 2015; Stefanovic et al., 2011). This accords with Moore's three student interactions for effective learning: student/teacher, student/courseware, and student/student interaction (Abuhassna et al., 2020; Sudarwati, 2018). Student satisfaction is also enhanced when students are helped to apply, remember, understand, and analyse the learning concepts during interaction (Abuhassna et al., 2020).

According to Sinclair et al. (2015), user experience and knowledge outcomes improve if instructional designers include interactive elements in their course content to facilitate communication between students and academics. Northcote et al. (2019), indicate that online learning is associated with meaningful communications through online communication tools. With online learning, academics need to rely on non-visual cues during teleconferencing and discussion sessions and therefore good interaction skills are needed (Abuhassna et al., 2020). According to D'Agustino (2012), the different instructional interaction strategies are direct-, indirect instruction: experiential learning, and independent study, which will be discussed later. Examples of direct instruction are lectures, questions, and demonstrations, and examples of indirect instruction are case studies and problem-solving tasks.

A decrease in online communication often results in poor student learning outcomes. Other reasons include different levels of knowledge and acceptance (Awang et al., 2018), skills and experience, and the lack of quality interactive course content (Stefanovic et al., 2011; Theresiawati et al., 2020). Proper management of course design and delivery should ensure that members of the workforce and systems are in place and that all relevant stakeholders receive effective training. This will go some way to ensure the sustainability of online courses (Blewitt et al., 2020).

3.6.3.6 Assessment

Sarder (2014) argues that assessment and measurement are part of the QM standards, which underlines their importance. Sarder notes that the learning objectives and the assessments should align with each other, and the integration of the course content, learning objectives, instructional design, student interaction and technology used all need to align, in turn, with the assessments. Academics need to apply online standards, implement evaluation processes, and allow students to evaluate in turn (Andrade et al., 2022). The student needs to be able to prove that they mastered the course content learning goals in order to achieve the desired outcomes (Andrade & Alden-Rivers, 2019; Sarder, 2014). An assessment plan ensures integration with the newest technology, and this suggests that organisational structures, policies, student characteristics and access should all be discussed by an advisory group sharing their ideas during the planning stage to ensure quality outcomes are reached (Andrade & Alden-Rivers, 2019). During the online course planning and design phase it is important to ensure that the learning activities and the assessment tasks are in alignment with each other and that the feedback mechanisms are in place to enhance student engagement (D'Agustino, 2012; Northcote et al., 2019).

D'Agustino (2012) identifies two categories of assessments, summative assessment and formative assessment, and recommends that purpose, validity, fairness, reliability, significance and efficiency should be used as criteria when developing assessments. These criteria are now briefly mentioned for mutual understanding: 1) Purpose: to ensure what needs to be evaluated about student learning; 2) Validity: evaluate what intends to be measured; 3) Fairness: the assessment needs to evaluate the learning objectives; 4) Reliability: the evaluation should be applicable across the student population; 5) Significance: the evaluation of content and skills; and 6) Efficiency: evaluation method should be consistent with the required time and other conditions.

Course content and the assessments, according to D'Agustino (2012), should be user-friendly and packaged into modules so that they are presented in a structured way to the students. Northcote et al., (2019) suggests increasing the formative assessments fairly early in the course as this ensures that expectations from students and teachers are met. Further criteria are to ensure that students' achievements and capabilities are fairly assessed (Theresiawati et al.,

2020), and to be careful that students do not plagiarise (Ossiannilsson & Landgren, 2012). In this regard, programmes, such as Turnitin, that detect possibly plagiarism should be implemented (Ossiannilsson & Landgren, 2012). It is also important to ensure that library services and e-resources are available to students (Ossiannilsson & Landgren, 2012).

Learning designers should take care to collect pertinent information relating to students that have enrolled in online courses at the institution as this will influence the assessment methods and will also support and acknowledge the diversity of the student population (Andrade & Alden-Rivers, 2019; D'Agustino, 2012). In such cases, academics should use different assessment strategies to accommodate student learning. Stefanovic et al. (2011) agree with Andrade and Alden-Rivers (2019) and D'Agustino (2012) by adding that the recognition of diversity has a positive influence on student satisfaction: applying different assessment methods creates the impression that there is a connection between the academic and the students (Stefanovic et al., 2011). Examples of different assessment methods are computer-based assessments, e-portfolios (Ossiannilsson & Landgren, 2012; Stefanovic et al., 2011), and online cooperative learning (McConnel, 2018; Northcote et al., 2019).

3.6.3.7 Student Support

Andrade and Alden-Rivers (2019) refer to first-time entrants to higher education, specifically those who do not benefit from modalities that provide access, noting they may lack cultural capital and need more support to gain the knowledge and skills to be prepared for their studies and to be successful. Andrade and Alden-Rivers (2019) further indicate that courseware should intentionally be designed in such a way as to provide the embedded support for these students. There are various innovative ways to support students, for example, by creating short video tutorials to explain what the course expectations are, by providing online tutorial links, by orientating students in the use of the learning management system, and by providing technical support through various strategies, for example, face-to-face walk-in, telephone and/or call centres, electronic mail and social media live chats (Andrade & Alden-Rivers, 2019). Abuhassna et al. (2020) reveal in a Malaysian study that student demographics (background, gender, study level and financial income), internet competence and efficiency, and computer skills lead to the students' level of readiness towards online learning platforms. Abuhassna et al. (2020) indicate that the students' background is a crucial element not only during the design phase but also

during the implementation process, as the students' readiness and willingness to accept and adapt to different online learning platforms by using them will lead to improving their overall academic achievement and satisfaction. Previous studies indicate that qualified academics, appropriate infrastructure, accessibility, facilities, and support for students all enhance students' readiness to use a learning management system as an educational tool (Abuhassna et al., 2020; Stefanovic et al., 2011). Institutions must analyse the student enrolment data as to who may be at risk, track their success, implement effective support structures, and address the needs of those who are not familiar with higher education (Andrade & Alden-Rivers, 2019). There is not much information on tracking student behaviour but Andrade and Alden-Rivers (2019) refer to student success, and this will be discussed later in this chapter in more detail. Boticario et al., (2012) refers to a system available to students that can indicate their accessibility needs and provide feedback on how the system behaves (system behaviour). Andrade et al. (2022), however, refer to quality assurance standards for the inclusion of a system that can assist students with technical support and provide information on student behaviour.

Salama et al. (2015) indicate that the institution is responsible for providing support with the institutional infrastructure; online tutoring access (academic); the help desk (technical); online library access and registration support. Lastly, a proper orientation programme for students with regards to online learning has a positive impact on the success of online learning implementation (Abuhassna et al., 2020; Salama et al., 2015). Student support should be facilitated through course design by academics using technology to provide self-regulated, active knowledge (McConnell, 2018).

There is little evidence that the challenges pertaining to the implementation of digital literacies were addressed at scale in ways that improved outcomes for disadvantaged students, according to a study by Sudarwati (2018).

McGuinness and Fulton (2019) aver that the design and development of e-tutorials, as part of student support, should be in line with best practices, and that the purpose of e-tutorials is to assist cognitive support through scholarly engagement and interaction. Therefore, administrators and technologists should support students with access to resources and global networks in the development of students' knowledge (McConnell, 2018). The design, content, and usability of e-tutorials, as a support strategy, affects the engagement of students, so the

access for students to e-tutorials should be easy, and can be accomplished through a Virtual Learning Environment, for example, Blackboard (McGuinness & Fulton, 2019). The structured design of e-tutorials is linked to the course content at key points in the curriculum (McGuinness & Fulton, 2019). According to McGuinness and Fulton (2019), researchers have identified the several critical success factors for e-tutorials: clear learning outcomes, teamwork on content and design, easy and clear navigation to e-tutorials, length of e-tutorials, evaluation of learning, and consultation with students engaging with the e-tutorials.

According to Salama et al. (2015), online models are used to solve limited physical classrooms or large student class size challenges by breaking the group into smaller student discussion groups and allowing students to interact online. The researchers suggest a standard/norm of 60 students per face-to-face class and smaller online discussion groups of 13 students in a group.

In conclusion, many institutions are still failing to support students with accessibility and individual preferences when dealing with educational and administrative procedures despite all efforts and legislation available to drive towards student-centred approaches (Boticario et al., 2012).

3.6.3.8 User Experiences, Satisfaction and Readiness

From the analysis of the literature, various elements of the user experience came to the fore, such as, elements of the student experience, satisfaction and readiness that need to be considered when designing an online experience.

Many factors, such as the infrastructure, quality of support systems, quality of content and assessment, and peer support networks, may influence the e-learning experience. In fact, planning and designing e-learning courses is a complex task that includes many factors.

(Stefanovic et al., 2011: 2)

A study by Abuhassna et al. (2020) reveals an important association between student satisfaction and students' experience. Stefanovic et al. (2011) indicate several factors that impact on student satisfaction. These are response timeliness from academics, online learning course quality, (Theresiawati et al., 2020) ease of use, flexibility, and different assessment methods. The

academic therefore needs to choose media and systems that are easy to use (Theresiawati et al., 2020). When universities plan, implement and evaluate online learning models, the student satisfaction is positively affected by their background, experience, collaborations, interactions, and autonomy (Abuhassna et al., 2020).

Increasingly, universities globally are dealing with a diverse range of students, so it is important to ensure equitable access to higher education and learn how to deal with high student registrations effectively. Thus, when deciding on the technology, it is important to consider whether these students will have easy access to the appropriate technology. Vulnerable and/or disadvantaged students are mostly deprived from access to the internet (Karataş & Tuncer, 2020; Theresiawati et al., 2020) and even though some students have access to technology, they nevertheless need relevant skills to use the technology (McConnel, 2018; D'Agustino, 2012). These skills entail technology skills, generic skills such as time management, and study skills (D'Agustino, 2012). Student language proficiency levels and skills levels need to be taken into consideration when deciding on which medium is to be used (Karataş & Tuncer, 2020). Later in this chapter, under Theme 6: The role of Information and Communication Technology (ICT) in the implementation of online learning, the researcher will address this issue in more detail.

A study in Indonesia by Theresiawati et al. (2020) suggest that the quality of the LMS has a major influence on student satisfaction, and that other factors are academic support, interaction and the learning environment.

According to studies, user satisfaction is one of the most important factors affecting how well a system is adopted (Stefanovic et al., 2011). 'Satisfaction' is defined as the degree to which a student is content with their choice to use an online learning system, as well as with its dependability, responsiveness, and willingness to be used repeatedly (Theresiawati et al., 2020). Because of this, online services should be evaluated in accordance with the following criteria: ease of use, user-friendly structure, layout and appearance, linkage, and content (Theresiawati et al., 2020). Students should portray a behavioural intention to continuously use and recommend online learning services and products to other users (Theresiawati et al., 2020).

3.6.4 Quality Assurance

The fourth element that arises from Theme 2 (designing the online learning experience) is quality assurance. This section will discuss how 9.4.1 Quality assurance and management; thereof play a vital role in the design of and delivery of online courses. This section will also discuss the 9.4.2 Quality assurance best practices and defining standards; and 9.4.3 Quality assurance procedures and variables.

3.6.4.1 Quality Assurance and Management

According to Fernandes et al. (2020), the concept of quality originally stems from industry and quality management which aims to direct the focus in organisations by:

improving procedures, encouraging team motivation through participation in evaluation and decision-making, and implementing organizational changes based on facts.

(Fernandes et al., 2020: 2)

These authors further elaborate that quality management uses facts as a baseline to implement organisational changes, and that quality programmes can be improved through the action of flowcharts, data analysis, stakeholder interaction, well-structured management systems which include stakeholder competencies, training, and career plans.

Andrade and Alden-Rivers, (2019) denote the twenty-first century online learning education, is about improving the quality and diversity of educational opportunities and not about reaching more students. Zimmerman et al. (2020) agree, and add that institutions need continuously to verify the quality of their online courses on an ongoing basis as online learning is growing rapidly and students can choose where they would prefer studying.

3.6.4.2 Quality Assurance, best Practices and Defining Standards

Zimmerman et al. (2020) report that for more than the last two decades, educational institutions have developed, evaluated, and researched quality assurance best practice and standards for online/distance education. The academics as the main stakeholders need to be part of course evaluation (Andrade et al., 2022; Stefanovic et al., 2011) [also see 3.6.2.3 Standards].

Higher Education institutions need to also evaluate and verify their course offerings against inter-institutional standards of quality, and communicate the status of their online quality to prospective students. The Covid-19 pandemic forced institutions to move quickly towards having their resources, processes, and systems in place to deal with and improve quality online courses (Zimmerman et al., 2020).

Zimmerman et al. (2020) state that previously developed quality standards do not ensure appropriate application or measurements and institutions should be able to indicate how standards and processes are implemented. The authors claim that as part of quality assurance, policies and guidelines should determine how far online learning methods are included in course modules, and ascertain the feasibility in using new technologies, and developing new educational methods and approaches. Moreover, concepts such as teaching efficiency and learning effectiveness, flexibility, and equity in education, should be taken in consideration when quality management is applied.

Communication forms an integral part of quality assurance management. Salama et al. (2015) argue that a communication policy with communication guidelines should form part of the Quality Management online course design standards. Communication will be discussed later in this chapter as befits its importance to this topic.

3.6.4.3 Quality Assurance Procedures and Variables

Andrade et al. (2022) conducted a study which revealed that quality evaluation procedures are lacking in many institutions. Varonis (2014) argue that quality assurance with specific reference to Quality Matter can improve learning outcomes through academic buy-in, practising, validating, and sharing best practice in online course design, by maintaining a focus on design rather than content, and enabling degree completion through acknowledged quality courses. Universities need to decide whether they will use an already developed quality management system, for example, Quality Matters or OLC Quality Scorecard Suite, or develop their own quality management system to evaluate if standards are met (Andrade et al., 2022). The developed systems already consist of the quality assurance variables and processes. If considering designing a quality management system or using an existing system Zimmerman et al. (2020)

suggest the institution's quality assurance management variables for online learning designing processes/protocols should consist of:

- 1) institutional-level professional development by the academic course developer on online course design standards;
- 2) communication of quality standards to the college/academics;
- 3) application of quality standards during the course design phase;
- 4) participation in internal course reviews and publish the outcome of the official inter-institutional peer review of a course;
- 5) assisting academics to design courseware that meets the standards;
- 6) online quality assurance strategy should be inclusive of internal reviews.

Peer review is an example of a quality assurance evaluation strategy which focuses on internal and external reviews. Peer review offers multiple benefits (Andrade & Alden-Rivers, 2019; Varonis, 2014; Zimmerman et al., 2020). The collaborative and inter-institutional peer review process according to Varonis (2014), gains credibility when institutions accept or adjust developed rubrics which meet course design standards, and submit their courses for review evaluation (informal or formal).

3.6.5 Academic Concerns

An important fifth element that emerged from Theme 2 (designing the online learning experience) is academic concerns, and the analysis showed that one of the main concerns from academics is the quality of online courses (Srinivasa et al., 2012; Santally et al., 2020; Salama et al., 2015). Course quality concerns may be addressed by applying different strategies, according to Andrade et al. (2022), for example, by moving away from single-authored courses and using content-authoring teams. Peer reviewing the content will also enhance the quality standards (Andrade et al., 2022; Varonis, 2014; Zimmerman et al., 2020). These two initiatives, however, raise another concern, namely, that academics may fear the loss of autonomy and academic freedom.

The quality of an online learning programme is a concern as it requires specific knowledge and skills from both students and academics (Abuhassna et al., 2020; Boticario et al., 2012;

D'Agustino, 2012). Therefore, if students and academics are not properly trained and orientated, preference for face-to-face education will prevail in some quarters (Abuhassna et al., 2020).

A significant contribution from Northcote's study in 2019 indicates that academics new to the online learning environment and pedagogy face the same barriers as novice students. They feel disconnected, remain opposed to forced interaction, and/or find it difficult to build meaningful online learning relationships. Northcote's study also reveals that without the required institutional support, academics may lack the necessary understanding of online learning which assists in choosing the appropriate teaching methods. There is, however, no research stipulating the most effective types of institutional support and strategies when introducing or expanding online offerings (Andrade et al., 2022).

The involvement of college/academic members is crucial to the online learning initiative which cannot succeed without them. Working in a team and including technology experts in the team to assist the academic with the required competence, motivation, and confidence to prepare their online courses, can then help to facilitate change (Andrade & Alden-Rivers, 2019).

Several scholars record a concern from academics that online learning increases their workload (Andrade et al., 2022; Awang et al., 2018; D'Agustino, 2012; Sun & Chen, 2016), possibly because preparation time for online courses is much more extensive than with traditional courses, and, possibly also because class size differences mean that more time is needed for preparation, assessment and engaging with students individually (Andrade et al., 2022; Keengwe and Kidd, 2010; Sun & Chen, 2016). The extensive and continuous communication that is required for online teaching and learning is labour and time intensive causing academics to reduce the number of assignments given to students. Andrade et al. (2022) refer to examples illustrating that teaching the same class size online in comparison with a face-to-face class increased workload by 14% or more (Andrade et al., 2022). Online learning course materials need to be continuously updated, particularly videos and other media. Timeous grading feedback is required for large online enrolments (Andrade et al., 2022; Sarder, 2014; Sun & Chen, 2016). Therefore, time management according to Andrade et al. (2022) is essential, and academics should plan double the time for online course preparation and teaching compared to face-to-face teaching. However, as the case of the Signature Courses shows, academic workload may be decreased through the implementation of teaching assistants (Sun & Chen, 2016).

Administrators, too, experience extra workload when writing reports to management and other stakeholders on what occurred in the teaching and learning process (Awang et al., 2018).

Andrade et al. (2022) indicate that lack of institutional support and limited leadership expertise can lead to resistance and even the failure of some online learning initiatives. In a study in 2018 by Andrade et al. (2022), academics were concerned about the negative impact the online format would have on their academic evaluations, since research has shown that the teaching via the traditional on-ground format receives higher student ratings. As a result, academics may be reluctant to accept an online teaching assignment if it is optional. The authors conclude that academics are able to work faster and smarter after mastering multiple technologies, attaining new skills, applying online standards such as Quality Matters, applying multiple course refinements on the course sites, and gaining experience in online teaching.

Many academics and students fear that the personal contact and interaction between them will decrease as the course enrolments and modules increase (Sarder, 2014; D'Agustino 2012) [see discussion 3.6.2.2 Pedagogy]. A significant contribution by Northcote et al. (2019) indicates that academics new to online pedagogy face similar challenges as novice students, and may feel disconnected, struggle with the absence of visual cues, and experience difficulty in creating a feedback loop that enhances interactivity and enables the establishment of relationships.

3.6.6 Different Online Learning Models and Frameworks

The sixth element that emerged under Theme 2 (designing the online learning experience) is different online learning models and frameworks. As previously indicated [see 3.4.2.2 Deductive Coding and Analysis Process], the researcher used a deductive search term 'model' which resulted in 17 models and six frameworks (a total of 28 articles). The table below indicates the different models and frameworks identified through the corpus of the scoping review, after which follows a short description of the models and frameworks most relevant to this study. Given that all these articles had an online component, the researcher then determined that 14 articles had a direct link to higher education (HE). The other articles were grouped under models which can be linked to change models, resource models, evaluation, and implementation models, which are not necessarily applicable to higher education. The table below provides a summary of the models and frameworks found from the articles.

Table 3.4: Summary of all models and frameworks

Table: Summary of all models and frameworks		
Article	Author	e-LEARNING Models/Framework referred to in the article
Empirical study of student satisfaction in e-learning system environment	Stefanovic et al. (2011)	Integrated model Technology acceptance model (TAM) and the Expectation and confirmation model
A Professional Learning Program for Novice Online Teachers Using Threshold Concepts	Maria Northcote, Peter Kilgour, and Daniel Reynaud (2019)	Laurillard’s Conversational Framework: Quality for Online Learning
Developing a framework for sustainable growth of flexible learning opportunities, Andrade and Alden-Rivers (2019)	Andrade and Alden-Rivers (2019)	Higher Education Academy’s (HEA’s) flexible learning Framework
Enabling continuous improvement in online teaching and learning through e-learning capability and maturity assessment University of Mauritius (UoM)	Santally et al. (2020)	e-Learning Maturity Model (eMM)
		Hybrid model
		Person-Centred Model
		Soar 2 model
E-learning in Chinese higher education: the view from inside	David McConnell (2018)	‘Lecture plus Online Work’ Model
From transformative outcome based education to blended learning	Valerie Ross (2012)	User-Learner Centred Design Model (ULCD)

Quality in e-learning – a conceptual framework based on experiences from three international benchmarking project	E. Ossiannilsson and L. Landgren (2012)	The e-Learning quality Model Quality in online learning – a Conceptual Framework
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After developing and analysing the above table with the different models and frameworks found in the corpus of the scoping review, the most relevant to this study are briefly discussed below.

3.6.6.1 Integrated Model

The first model identified through the deductive analysis of the corpus is the Integrated model. According to Stefanovic et al. (2011), the four-dimension integrated model has an impact on student satisfaction. The four dimensions of the model consist of: ‘instructor dimension, course dimension, technology dimension and environmental dimension’ (Stefanovic et al., 2011: 1152).

3.6.6.2 Laurillard’s Conversational Framework: quality for Online Learning

Laurillard’s Conversational Framework, was developed in 1993 and outlined the different online pedagogical strategies that are required for online learning using different forms of media and which require appropriate training before implementing them in an online teaching and learning environment (Laurillard, 2002). Northcote et al. (2019) explain that Laurillard’s Conversational Framework provides an all-encompassing map for the design of online learning concepts, and defines students as active participants always grappling with new concepts as they participate and learn how to learn in the online environment. According to Northcote et al. (2019), academics are required to teach differently and design the course differently so that students can engage through discussions, adaptation, interaction, and reflection using multiple media. According to Northcote et al. (2019), the intense constructive involvement and interaction of both student and academic are required to create an effective online community. However, they need to have the resources, methods, and technologies to achieve this objective.

3.6.6.3 Higher Education Academy’s (HEA’s) Flexible Learning Framework

The third Higher Education Academy's (HEA's) Framework was developed, according to Andrade and Alden-Rivers (2019), to support flexible learning in higher education 'Flexible learning in this context encompassed online learning, blended learning, competency-based education, and open educational resources' (Andrade & Alden-Rivers, 2019: 1).

Andrade and Alden-Rivers (2019) further indicate that these modalities need to address the growth in student numbers, the limited space within universities, and access/inclusion, as the aim is to provide educational opportunities to more, and more diverse, students. The Office for Teaching and Learning (OTL), according to Andrade and Alden-Rivers (2019), studied Gordon's 2014 pedagogical model with the student as main stakeholder having a choice regarding the mode, pace and place of the learning. The authors confirm that the OTL has the student as the main stakeholder in mind, and developed the framework primarily according to the student's goals, but also in relation to the educational needs of the discipline. The following elements form part of the flexible learning framework implementation: 1) vision; 2) instructional design; 3) institutional expertise; 4) policy and infrastructure; 5) analytics; 6) quality assurance; 7) strategic campaigns; 8) student success; 9) academic development and recognition; 10) shared governance; and 11) shared understanding. These inter-related dimensions represent an overarching approach for permanent organisational change and sustainable growth through various important institutional systems and structures.

Andrade and Alden-Rivers (2019) further mention that the Higher Education Academy's (HEA's) Flexible Learning Framework elements play a major role in the management of flexible learning but only because institutional leaders and the guiding team followed the process that evolved during the development of the framework. The framework focus on (1) the role of organisational structure and resources; (2) developing a shared understanding in terms of human resources and political frames; (3) alignment with the institutional vision and mission; (4) and the need for integrated systems and structures.

3.6.6.4 e-Maturity Model

The fourth and most descriptive model for online learning evaluation processes, according to Santally et al. (2020), is the e-Learning Maturity Model (eMM). 'The eMMs assess the institution's

ability in five main 'process' areas: learning, development, support, evaluation and organization' (Santally et al., 2020: 1690).

The e-Learning Maturity Model (eMM) assesses the following five main 'process' areas to determine the levels of conformability in an institution: learning, development, support, evaluation, and organisation, against the five process dimensions: delivery, planning, definition, management, and optimisation. Each process area and dimension are then scored against the following pre-defined levels: initial, repeatable, defined, managed or capable, and optimizing. Santally et al. (2020) indicate that the eMM assessment instruments can be used to identify good practices in online learning. The following table is an example of the application of an e-Learning Maturity Model. Where the learning level conformability would be that delivery, planning, definition, and management are repeatable, and optimizing is capable. The evaluation process area indicates "initial" (see red text in Table 3.5: below) and needs improvement under the dimensions delivery, management and optimisation. Under the process area of Organisation the dimension planning needs improvement. The process area of organisation indicates "Optimising" (see green text in Table 3.5: below) under the delivery and management dimensions and no improvements are required.

Table 3.5: The e-learning Maturity Model (eMM) process areas and dimensions

Process area	Dimensions				
	Delivery	Planning	Definition	Management	Optimisation
Learning	Repeatable	Repeatable	Repeatable	Repeatable	Capable
Development	Repeatable	Repeatable	Repeatable	Repeatable	Repeatable
Support	Defined	Defined	Defined	Repeatable	Defined
Evaluation	Initial	Defined	Defined	Initial	Initial
Organisation	Optimising	Initial	Defined	Optimising	Capable

3.6.6.5 Hybrid Model

The fifth model identified through this deductive analysis is the hybrid model. After analysing the constructs of five different evaluation models and quality frameworks, Santally et al. (2020) proposed a hybrid Model. According to Santally et al. (2020) the hybrid model resulted from the eMM model and used: ‘user satisfaction, teaching effectiveness, academic achievement and cost-effectiveness’ (Santally et al., 2020: 1691)

Digital transformation according to Santally et al. (2020) is not only about ‘simply introducing e-learning’ (Santally et al., 2020: 1705) but it is much wider as it requires,

resilience of key systems such as technological infrastructure, instructional delivery, student information systems, accessibility and support, information management and analytics, documentation processes and evaluation mechanisms.

(Santally et al., 2020: 1705)

3.6.6.6 Person-centred Model

A person-centred paradigm focuses on: ‘Learner analysis with an emphasis on the learners interests, personal ability, and prior knowledge of a given topic’ (D’Agustino, 2012:148).

According to this paradigm, learning goals and objectives should be developed based on students' interests and abilities through a sequence of topics and interests, and the learner's knowledge and interests should be integrated into the learning material. The person-centred model should create a non-competitive setting to stimulate cooperative learning, implement individualised self-evaluation, and to allow the learner use multiple resources to enhance learning (D'Agustino, 2012).

3.6.6.7 Soar2 Model

The seventh model found in this deductive analysis is the SOAR2 model (D'Agustino 2012), which is aimed to provide an effective framework for the creation of online courseware. The SOAR2 model consists of a two-phase, eight-step process as key components for successful course conversion or design. The two phases consist of the identification phase and the design phase. Phase 1, the identification phase encourages the design team to identify the S=trategies, O=bjectives, A=ssesment and R=esources (SOAR) to design a course that results in students gaining the desired knowledge, skills and experience.

Phase 2, the design phase focuses on S=elect, O=rganise, A=dapt, and R=eflect on the Strategies, Objectives, Assessments and Resources which will be implemented when the course is taught. The different instructional strategies consist of direct, indirect, and interactive instruction as well as experiential learning and independent study (D'Agustino, 2012), and the learning objectives should have measurable verbs to be able to measure performance, and should focus on different learning domains: 'These include addressing the cognitive domains of affective, psychomotor and cognitive as needed' (D'Agustino, 2012:148). Both summative and formative assessments are applied, and the following criteria are recommended when developing assessments: 1) Purpose: ensure what student learning needs to be evaluated; 2) Validity: evaluate what was planned to be measured; 3) Fairness: the assessment needs to evaluate the learning objectives; 4) Reliability: the evaluation should be applicable across the student population; 5) Significance: the evaluation of content and skills; and 6) Efficiency: evaluation method should be consistent with the required time and other conditions.

Finally, the model identifies a third phase, which is the implementation phase, where the course is taught.

3.6.6.8 Lecture plus Online Work Model

McConnell (2018) indicates that online learning models in universities in China are complex, as the culture of teaching is rigid. For example, the method dominates the lecture, the teacher is seen as the sole expert sharing knowledge, and the end of course assessment is a majorly important basis of judgement about learning outcomes. The researchers indicate that most Chinese universities implement the Lecture Plus Online Work Model which is applied in hybrid, online and blended ODL institutions. The fundamental tenet of this model is based on the 'teacher giving a face-to-face lecture on theoretical or conceptual issues followed by "homework", carried out by students in an online learning platform' (McConnell, 2018:1040). This 'homework' occurs online and may involve groupwork in which the student takes part in discussions and group projects. This gives the students the opportunity to ask questions of the academic. According to McConnell (2018), this model supports large student class sizes while allowing interaction amongst smaller student discussion groups in which students can interact with each other. It is a useful model when there are limited spaces for classrooms and/or too many students to fit the norm of 60 students per face-to-face class or 13 students for a small online discussion.

3.6.6.9 User-Student Centred Design (ULCD)

The ninth framework/model that emerged in this deductive analysis was developed by Ross and is called the User-Student Centred Design (ULCD) model (Ross, 2012). Outcomes-Based Education (OBE) embraces the philosophy that one should first determine the end goal in learning (what is it that a student should be able to know and do at the end of the learning journey) (Ross, 2012). The 'exit outcomes' are determined by the end goal, and OBE works backwards, putting in place the strategies, resources, processes, and objectives/goals to achieve the predetermined end goals. Ross (2012) argues that through technology empowerment the overall objective to produce quality curriculum products and a positive learning experience can be reached. The ULCD Model framework consists of an input process and an outcome process, where 'input,' also known as 'transformative subject matter and expert teams,' includes academics and instructional designers, and 'outcome', describes changes in what students know and can do after the course. According to Ross (2012), the ULCD Model was built on fundamental quality assurance principles with the notion that quality input will result in quality output.

The ULCD model uses a human-centred design, which includes understanding the user's tasks and requirements, enabling user involvement, allocating functional responsibilities between users and technology, iterating on design solutions, and using multidisciplinary designs (Ross, 2012).

3.6.6.10 Quality in e-Learning – a Conceptual Framework

The tenth framework called the Quality in e-learning Conceptual Framework was introduced by Lund University, and emanated from a comparison and adaptation exercise using online learning quality models between 2009 – 2010 which identified 29 critical success factors. These critical success factors' could be seen as the foundation for an emerging contextual framework for quality in e-learning in higher education '(Ossiannilsson & Landgren, 2012: 49).

There are 29 critical success factors identified for online learning in the First Dual-Mode Distance Learning Benchmarking Club: 1) strategic management (formerly management style); 2) market research; 3) reliability; 4) accessibility; 5) benchmarking; 6) computer-based assessment; 7) eco-sustainability; 8) employability; 9) e-portfolios; 10) information literacy of students; 11) integration; 12) learning material (formerly learning objects); 13) library services e-resources; 14) organisational learning; 15) pedagogy; 16) personalisation (taken from e-xcellence project); 17) plagiarism (formerly plagiarism avoidance); 18) quality assurance; 19) staff recognition and rewards; 20) widening participation; 21) constructive alignment; 22) democratic processes; 23) flexibility; 24) legal security; 25) inter-activeness; 26) participation; 27) productivity; 28) services; staff and students; and 29) transparency.

3.7 THEME 3: MANAGING THE IMPLEMENTATION PROCESS

The scoping review also provided evidence that managing the implementation process requires some variables to be in place to ensure successful implementation. In this section the following sub sections will be discussed as per diagram below Theme 3: Managing the implementation process starting with 3.7.1 decisions during different processes and phases; 3.7.2 professional development and collaboration; 3.7.3 change management; 3.7.4 communication; 3.7.5 culture; 3.7.6 stakeholders and interdependencies; and 3.7.7 institutional monitoring.

“YOU ARE NOW HERE”. The reader is in Theme 3: Managing the implementation process’.

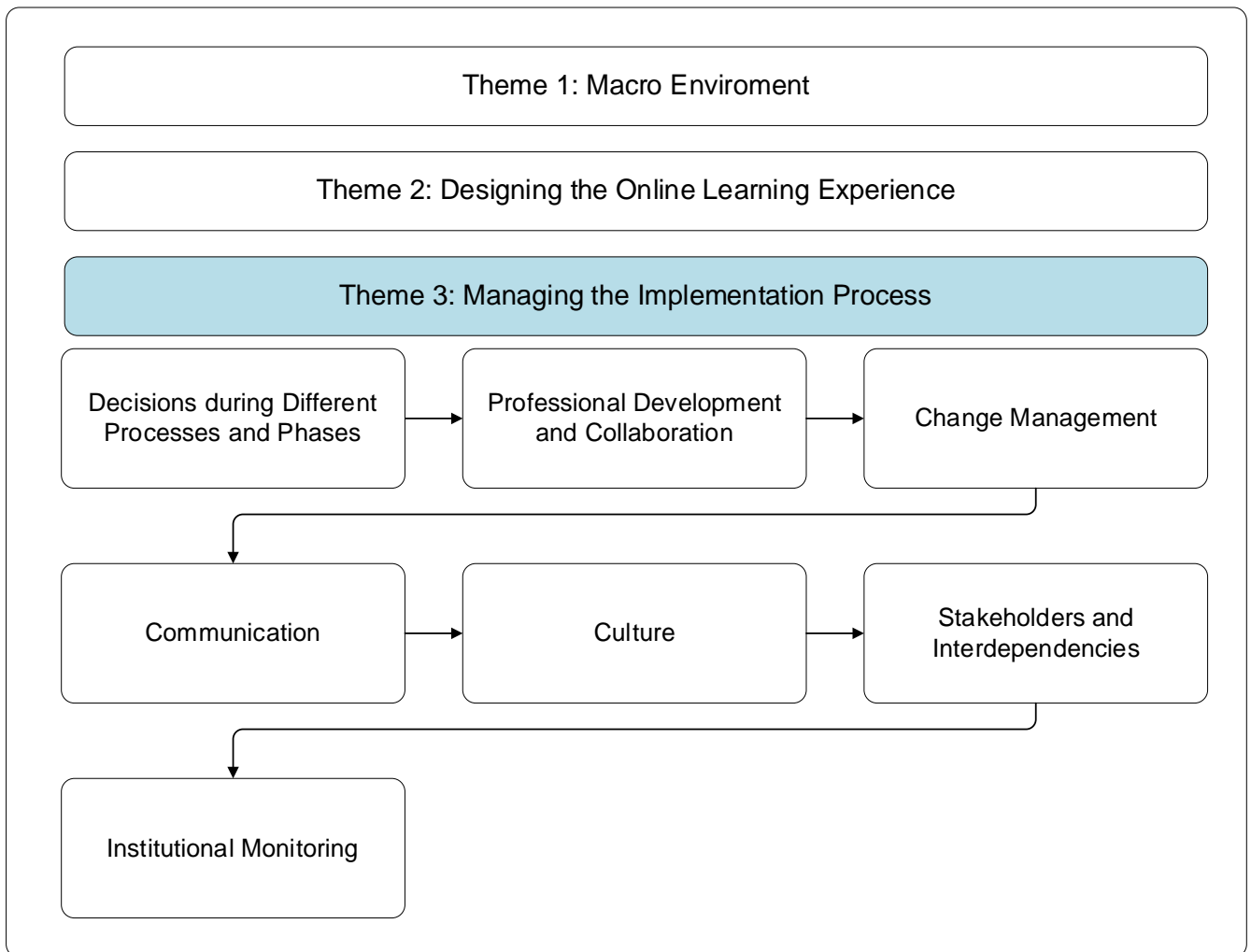


Diagram 3.4: Elements of Theme 3: Managing the implementation process

3.7.1 Decisions during different Processes and Phases

An important first element that emerged from Theme 3 (managing the implementation process) is decisions during different processes and phases, which are discussed below. During the online learning process there are numerous decisions that need to be taken by various stakeholders, at different levels, and in multiple stages of the process. Decisions therefore are not a once-off and do not entail a linear process but continue as or when the need arises. Decisions take place from the conceptualisation process of online course models and cascade down to inform the design, implementation, and evaluation processes. After decisions have been made, certain principles and standards then guide the design process towards success:

'Additionally, the design process and the careful consideration of different design decisions have an impact on the quality of the instruction' (Karataş & Tuncer, 2020: 3).

Decisions can be taken individually or as part of a team, however, shared governance addresses decisions on the selection of the team members for the different teams, decisions on how regularly they will be meeting to support and advise each other and decisions on how and when the progress should be reported (Andrade & Alden-Rivers, 2019). Decision making, according to Santally et al. (2020), is part of effective quality assurance systems:

Quality management encompasses protocols and guidelines in decision-making and in the evaluation of processes and treatment flowcharts, data analysis and health indicators, and addresses improvement in the interaction between different health professionals.

(Fernandes et al., 2020:1)

Therefore, to ensure reaching the institutional goals and achieving improvements, transparent decision-making processes should be followed which involve staff and key stakeholders, and they should have clearly defined roles and responsibilities. Despite significant implementation investment installation costs, it is possible that staff and students are not using the online learning system to its full potential. Therefore, low usage may be a sign that the online model is failing, and as the effectiveness of an information system depends on its use, judgments regarding its survival will be necessary (Awang et al., 2018). Hierarchical decision making still takes place within many departments, and these silos stifle coordination. Therefore, leaders need to work more in collaboration with each other (Andrade & Alden-Rivers, 2019):

Unlike (educational) researchers, who can remain perpetually equivocal about the status and sufficiency of what is known through research, teachers and designers must make decisions, usually on the basis of fragmentary, heterogeneous and uncertain knowledge.

(Zimmerman et al., 2020: 156)

There are different sub sections that form part of 3.8.1 decisions during different processes and phases. These are: 3.8.1.1 Decisions informing strategy; 3.8.1.2 Decisions informing the design

of the courses; 3.8.1.3 Decisions informing professional development; and 3.8.1.4 Decisions informing digital infrastructure and systems. These will now be discussed.

3.7.1.1 Decisions Informing Strategy

Decisions, according to Fernandes et al. (2020), are an integral part of strategic management and thinking through participatory planning, commitment, and leadership. The importance of involvement of executive management in strategic decision making cannot be underestimated (Annamalai & Ramayah, 2013; Daud & Farrah, 2013). Andrade and Alden-Rivers (2019) endorse this view and explain that change in Higher Education, or in any organisation, is not a simple matter, but requires decisions on a vision, plan, structure, and strategy. Apart from human competence, resource allocation, planning, and institutional culture, strategic decision making is one of the major variables influencing the improvement of online learning capability (Santally et al., 2020). As noted by Stefanovic et al. (2011), MIT implemented both face-to-face and online models, and was 'trying to convince other institutions about the strategic significance of e-learning' (Stefanovic et al., 2011: 1153).

Collecting, analysing and making use of data should inform every step of online learning implementation – from the decisions that need to be taken prior to online course designs to the production and quality assurance of prototypes. Santally et al. (2020) indicate that future decision making can improve if data on learning styles, student needs and expectations, at-risk students, interaction, and collaboration between students and teachers and other users are available. They further argue that planning and designing are complex processes as they comprise many factors. Group decisions, according to Alammery, Sheard and Carbone (2015), allow for the presence of systemic thinkers that provide alternatives for different decisions when compared to decisions taken by individuals. Group consultation and involvement allow users to identify and understand the interdependencies amongst alternatives and the decisions or recommendations taken.

3.7.1.2 Decisions Informing the Design of the Courses

Course quality, according to Zimmerman et al. (2020), depends on a proper design process and the careful consideration of different design decisions pertaining to pedagogy, assessment and

student support. The course development is a time consuming task and should involve academics as core stakeholders, irrespective of their years of service and experience in online teaching (Andrade et al., 2022; Daud & Farrah, 2013). Academics' prior experience, assumptions and beliefs influence their decisions on the way they teach, how they design their courses, and how they prepare for formative and summative assessment (McConnell, 2018; Blewitt et al., 2020). According to Zimmerman et al. (2020), academics and designers often need to make decisions 'on the basis of fragmentary, heterogeneous and uncertain knowledge' (Zimmerman et al., 2020: 156), tight timelines, and pressures to deliver course material, tasks and assessments. Despite these they need to fulfil their moral obligation to always act in the best interest of students. Zimmerman et al. (2020) further indicate that owing to the Covid-19 pandemic, a rapid approach to course implementation and delivery has been adopted, and carefully designed implementation processes have been absent in most cases in these emergency shifts. Zimmerman et al. (2020) indicate that design decisions have a direct impact on the quality of the instruction. They further state that strategic data-informed understanding and actionable knowledge are needed to make certain decisions. Decisions during course design need to be taken about course deadlines, tasks, material assessments and course designers (Zimmerman et al., 2020). Academic and instructional technology employees can work together to design the selection process for the tool that best satisfies the demands of the academic and the students (Russell, Meyer & Mishoe, 2009). Instructional technology personnel can help with the implementation process, and with the evaluation of the tool after implementation (Russell, Meyer & Mishoe, 2009).

3.7.1.3 Decisions Informing Professional Development

The scoping review found that decisions to provide professional learning support for novice and experienced academics is quite straightforward, according to Northcote et al. (2019), however, decisions regarding the nature and content of such professional development and training are not always as clear:

Alongside the relatively straightforward decision to provide professional learning support for novice and experienced online educators within universities, decisions about the nature and content of such support are not always as clear cut.

(Northcote et al., 2019: 336)

There are also specific development needs that some academics, such as second language teachers, may have in designing and implementing online courses (Zimmerman et al., 2020). The literature also pointed to the fact that the planning and structuring of training courses can be improved through future decision making if data on the interaction and collaboration between students and teachers and other users are available to administrators (Santally et al., 2020).

3.7.1.4 Decisions Informing Digital Infrastructure and System

Online learning programmes have the potential to enhance and improve students' learning experiences, their satisfaction, abilities and learning outcomes (Sarder, 2014; Stefanovic et al., 2011). The decision to use an online learning platform strengthens students' learning experiences and has a positive impact on the students' academic satisfaction and achievement (Awang et al., 2018). The decisions taken impact on student satisfaction which refers not only to using online learning systems but also to the need for systems to be reliable and responsive (Theresiawati et al., 2020). Student satisfaction leads to future intentions to use the system or to continue using the system (Theresiawati et al., 2020). Service quality has no direct bearing on online learning student satisfaction; however, variables of significant online student satisfaction include: 1) confirmation of the academics' expertise, reliability, and respect for confidentiality; 2) demonstration of understanding and sympathy towards the student; 3) prompt support; and 4) assurance that the content on the website is reliable Theresiawati et al., (2020).

Apart from using data to inform decisions, the contribution of each participant in online learning projects during the design, planning, implementation, and evaluation stages enhances the effectiveness and use of ICT and strengthens interaction between stakeholders to solve pedagogical problems (Lola et al., 2021; Santally et al., 2020). The academics need to make the final decision, according to Awang et al., (2018), to either continue or stop using technology due to low usage.

Decisions on the quality of infrastructure, support systems, content, and assessment impact on the online learning experience (Stefanovic et al., 2011) and integrated systems and structures are important building blocks for sustainable online learning models (Andrade & Alden-Rivers,

2019). Academics and students are not in the same place or time and e-learning practitioners consider 'e-learning systems to be a valuable knowledge sharing and transfer tool' (Stefanovic et al., 2011: 1153).

Santally et al's indicates the need to develop a systems structure to integrate student information systems and to ensure the information on the system is available to students and disabled students (Santally et al., 2020).

3.7.2 Professional Development and Collaboration

The second element under Themes 2 and 3 refers to professional development for multiple stakeholders on different levels and in different areas. Continuous professional development ensures the successful implementation of online learning (Sinclair et al., 2015). The following discussion will indicate what kind of training is required, who should receive training, and when they should receive it (Sun & Chen; 2016). According to Sun and Chen (2016), all stakeholders who form part of planning and implementing online learning models should receive training. The support and training of staff, according to Andrade et al. (2020), will assist academics in effective course design and teaching, yet it may not impact on student ratings.

Andrade et al. (2020) indicate that there are different training needs for academics such as technology and technology skills training, pedagogy revision, instructional design training, and the appropriate use of learning management applications and tools. One of the most important focus areas is to train academics (especially novice academics) on how to use different online pedagogies to design online courses, and to provide appropriate online instructions (Andrade, et al., 2022; McConnell, 2018; Northcote et al., 2019; Sun & Chen, 2016; Songkram, 2017) [also see 3.6.2.2 Pedagogy]. Such professional development is more likely to result in effective interactive online content tasks, curriculum development, assessment, delivery methods and strategies to enhance student collaboration (Andrade, et al., 2022; Daud & Farrah, 2013; Sun & Chen, 2016), and helps to set high course standards and expectations (Andrade, et al., 2022; Sun & Chen, 2016), and teach academics how to adjust to the online environment. The training should prepare academics to become certified quality reviewers in quality assurance course design process and procedures (Andrade et al., 2022; Zimmerman et al., 2020), but should also

include technology and technical support training to improve courseware instruction and online applications (Andrade et al., 2022; Daud & Farrah, 2013).

Required technology training should also encourage academics to choose relevant technologies which are appropriate and applicable to the specific online teaching environment, to effectively use online system and course software, and to know who to call when certain technology problems arise in order to resolve them (Andrade et al., 2022; Annamalai & Ramayah, 2013; Awang et al., 2018; Sudarwati, 2018; Sun & Chen 2016). Finally, the training should include instructional design applications in the learning management systems (Andrade et al., 2022; Daud & Farrah, 2013). It has been found that technology and LMS training for academics positively influenced their teaching online and participation rate (Andrade et al., 2022; Daud & Farrah, 2013). Technical training may consist from elementary task such as downloading materials into a specific infrastructure and learning management system, or software training on how to work with learning management systems, for example, discussion forums, announcements, providing links to other resources, quizzes, marking online, as well as digital computer skills, and ICT integration in the course and language development training (Awang et al., 2018; Daud & Farrah, 2013, Sun & Chen, 2016).

Training is especially important since most studies on online model implementations indicate the existence of challenges around technology as a result of inadequate training and inadequate technical support from institutions (Abuhassna et al., 2020; Sun & Chen, 2016).

Not all academics teach in their mother tongue. According to Karataş and Tuncer (2020), for second-language academics to be effective teachers they need to be competent in core knowledge dimensions such 'as theories of teaching, teaching skills, communication skills and language proficiency, subject matter knowledge, pedagogical reasoning and decision making, and contextual knowledge' (Karataş and Tuncer, 2020: 4), as well as experience, understanding and awareness of the field.

Online learning students at distance education institutions usually demonstrate academic writing and reading skills (Daud & Farrah 2013; Karataş & Tuncer, 2020), but their speaking skills may be disadvantaged stemming from a lack of face-to-face interaction (Karataş & Tuncer, 2020). Interaction is critical in facilitating concise and clear speaking skills, and can be encouraged by using teleconferencing thus preparing the way for communications skills to be used later in the

modern workplace (Abuhassna et al., 2020). Karataş and Tuncer, (2020) also mention the importance of listening skills which can be enhanced by student participation in webinars. Listening skills are also needed when uploading and listening to videos; note-taking skills are facilitated as students make summaries for learning.

Northcote et al. (2019) recommend that time should be provided for practising online skills with the support of an experienced academic. The instructional design team in Northcote et al's study used a wide selection of guest speakers, workshops offered by external experts, and specific online conferences to improve their professional skills, as well as development activities which resulted in motivated staff who shared their skills with peers (Andrade & Alden-Rivers, 2019; Northcote et al., 2019).

In general, effective preparation for change requires professional development for crucial role players like academics and instructional designers as well as ensuring staff recognition and rewards (Andrade & Alden-Rivers, 2019; McConnel, 2018; Ossiannilsson & Landgren, 2012; Theresiawati et al., 2020).

3.7.3 Change Management

The third element that merged from Theme 3 (managing the implementation process) refers to change management as a requirement for successful implementation of online learning. Academics are fearing the loss of academic autonomy and freedom, when they need to change and develop their module courseware in a team approach which may result in resistance to change, and negative feelings towards online learning (Andrade & Alden-Rivers, 2019; D'Agustino, 2012). Resistance and negative feeling can, however, be resolved through college/academic support, training, and/or the use of certified stakeholders in the college to assist with quality matters such as the development of standards and the application thereof to ensure the standards are met (Andrade et al., 2022; Boticario et al., 2012; Salama et al., 2015). When the relevant stakeholders cannot adjust or adapt to online learning, according to Annamalai and Ramayah (2013), this influences the implementation thereof which may result in project implementation failures. According to Andrade et al. (2022), the OTL team refer to two models to ensure lasting change and effective utilisation of organisational resources: the Kotter and Cohen (2002) change model, and Bolman and Deal's (2017) theory-based human resource

framework. In the Kotter and Cohen model (2002) there are important steps to follow to ensure lasting change. The eight steps are as follows: create a sense of change urgency, and put a team in place that will drive the change; develop a strategic vision and initiatives, and communicate rigorously to get the required buy-in from stakeholders; remove the barriers that stifle change; actively works towards short-term milestones or wins; make sure changes are lasting. Although some of these steps were already mentioned in Themes 1 and 2, they need to be reiterated over the remaining themes as they are integral in online learning design, development and implementation.

In addition, Andrade et al. (2022) advice to apply the Bolman and Deal's theory-based human resource framework (2017) as it provides insights and point the way to lasting change. The Bolman and Deal's (2017) framework could be viewed through four frames the structural-, human resources-, political- and symbolic frame. According to Andrade et al. (2022) the structural frame consists of policies, rules, and reporting lines. Human resources focus on people, motivation, rewards, and training. Political elements can be conflict and power bases; and symbolic elements include the vision, purpose, meaning, and recognition. This theory-based framework provides a comprehensive view of what is involved in implementing an effective and flexible learning change initiative.

As the academics are the main stakeholders, they need to have a positive attitude towards online learning. According to Abuhassna et al. (2020) prior knowledge, the necessary skills, and an informed background about online learning and platforms make significant differences to how students and academics adapt to online learning. According to Theresiawati et al. (2020), acceptance, adoption and usage indicators of eLearning models by academic staff are influenced strongly by ease of use, compatibility, and trustworthiness. Theresiawati et al. (2020) also state that simplicity, inclusive of ease-of-use, promotes the adoption and acceptance of technology. A study in Malaysia by Awang et al. (2018), shows that technology acceptance by academics plays a significant role in the continuation of integration of technology in the classroom environment. These academics, however, viewed content and pedagogical experience as more important than technology acceptance. Sinclair et al. (2015) indicates that the students who were brought up with technology, the so-called millennials or digital natives, are now expecting the delivery of online education to offer augmented usability and convenience. Theresiawati et al. (2020) indicate that academics are more likely to adopt online learning if there are favourable variables

to support it within the organisation more generally, a finding that was supported in a study by Anwas in 2000.

3.7.4 Communication

The fourth element that merged from Theme 3 (managing the implementation process) refers to communication. Communication plays a significant role in effective implementation as the overall online vision should be communicated to all stakeholders for the buy-in and sharing of information for online teaching and learning strategies and goals, and the related strategic plan should be communicated to all stakeholders (Andrade & Alden-Rivers, 2019). Different communication strategies may be used to create awareness, for example, strategic campaigns, presentations to the deans and other stakeholders, workshops, and different communication platforms such as emails, websites, brochures, flyers, online bulletin boards, internal and external media releases, etc. (Andrade & Alden-Rivers, 2019). The interdepartmental communication plan, according to Annamalai and Ramayah (2013), needs to be comprehensive, and should include the rationale for the initiative, business process management, applicable software modules, and change management strategies.

Apart from institutional communication, Sun and Chen (2016) specifically provides examples for communication during online classrooms using social media chat rooms, instant messaging, and texting, to reach students, among other methods such as emails, conferencing, working together, Dropbox and Google Drive, Facebook, and Twitter, etc. Another form of communication, according to Annamalai and Ramayah (2013), is regular feedback through reporting to all stakeholders. Zimmerman et al. (2020) also highlight the importance of institutional communication during internal peer reviews as part of an online quality assurance strategy, and note the need to continuously communicate quality standards to the academics and assist them to design courses that meet institutional and inter-institutional standards.

Salama et al. (2015) indicate that policies, inclusive of communication policies and procedures, should be visible to students, and communication guidelines should include: timelines for responding to emails; discussion forum participation; online meetings; and assignment feedback.

3.7.5 Culture

The role of culture emerged from the analysis of the literature as the fifth element under Theme 3 (Managing the implementation process). In the analysis that follows, national culture, and the institutional culture that is required for online learning models are discussed.

National Culture is a critical success factor for online learning. Abuhassna et al. (2020) specifically mention prior research which reveals that culture plays a prominent role in implementation challenges, and in students' acceptance of online learning as a teaching and learning mode. Abuhassna's study on the readiness and willingness of students to use and adjust to online learning environments reveals that there are national cultural differences which impact on online learning. These authors note that in addition to resistance towards the idea online learning, other implementation challenges are insufficiently qualified academics, lack of infrastructure, and resources such as Learning Management System (LMS) platforms and other educational tools.

The national cultural difference between western and developing countries, according to Annamalai and Ramayah (2013), may reflect in for example systems design or developed content as it may vary due to different business principles or practices. Annamalai and Ramayah (2013) further indicate that other factors affecting culture during the Enterprise Resource Planning (ERP) implementation in developing countries include:

economic status and growth, infrastructure, government regulation, low IT maturity, small-firm size, and lack of process management and BPR experience.

(Annamalai & Ramayah, 2013: 575)

McConnel (2018), Theresiawati et al. (2020), and Annamalai and Ramayah, (2013) agree that factors such as infrastructure, access, government regulation, and the level of IT maturity all have an impact on implementation.

Institutional culture, according to Annamalai and Ramayah (2013), is influenced by values, beliefs and traditions which affect relations, policy developments, business systems and principles. They further indicate that shared goals and trust between the process owners, managers, staff and all partners and stakeholders are key factors to successful implementation of systems. According to Ossiannilsson and Landgren, (2012), it is necessary to target a number

of groups as change agents in order to bring about the cultural shifts necessary for the adoption of the online learning vision and models. Students, academics, and functional departments within institutions, such as administration, as well as government and public society outside of institutions, are the drivers of cultural change. It is necessary to constantly increase awareness, promote willingness to change, and encourage cultural change (Ossiannilsson & Landgren, 2012). Institutional culture, which is affected by a variety of factors, can significantly determine how successfully online learning is implemented. A study that was done in India on the implementation of ERP systems revealed that: 'adapting the implementation to the existing cultural style was one important cause of project implementation failures' (Annamalai & Ramayah, 2013: 575).

Therefore, a culture that values innovation, quality assurance, and critical reflection, according to Andrade and Alden-Rivers (2019), may be more likely to succeed in implementation of online resources. A student culture of autonomous, independent, and self-directed students is required when planning institutional online learning (Andrade & Alden-Rivers, 2019).

Zimmerman et al. (2020) state that special attention should be paid to course design support by providing quality management training on course design and creating a quality assurance culture along with positive perceptions towards online learning course design. Varonis (2014) discusses the culture of quality in a context where Quality Matters (QM) and peer review practices are used during course design, which offer multiple benefits for institutions, colleges, academics and for students. According to Varonis (2014), these benefits include the creation of a culture of innovation and best practices that can be 'more accessible, more affordable, and more successful for students' (Varonis, 2014: 228).

Another approach, according to McConnell (2018), is a culture of critical reflection. Such a culture occurs where universities which implemented online learning models create an opportunity for academics to share common practices and challenges and examine their own conceptions. As with the academics, the students also embrace prior cultural experiences and beliefs on their learning journey. Academics should design the courseware in such a way that the students need to adapt to change by interrogating their conceptions of teaching and the way they approach learning (Blewitt et al., 2020; McConnell, 2018).

3.7.6 Stakeholders and Interdependencies

The stakeholders and interdependencies emerged from the analysis of the literature as the sixth element under Theme 3 (Managing the implementation process). Online learning implementation teams should be balanced, according to Annamalai and Ramayah (2013) who propose using a combination of internal staff and external specialists to train, support and motivate all the functional members to acquire the knowledge and technical skills required [also see 3.6.2.1 The role of the Academic and Teams]. In addition, Ossiannilsson and Landgren's study in 2012 predicted revolutionary changes for the future as new paradigms of globalisation, learning collaboration, and networking take distance education and access into consideration.

Boticario et al., (2012) discusses several kinds of stakeholders who are involved in the delivery of services in the implementation of online learning. These are:

- 1) academics who produce materials and use the course tools to test accessibility before it is offered to students; students, who are enabled to express their accessibility needs through the system as well as to provide their feedback on the system's behaviour;
- 2) disability officers, who support students by assessing their needs, and serve as a liaison between students and other professionals to address any problems caused by inaccessibility of activities or materials;
- 3) instructional designers, who work on the adaptation of materials, in co-ordination with academics; and librarians providing support with e-resources, tagging and management of learning materials in electronic repositories (Boticario et al., 2012). According to Annamalai and Ramayah (2013), in the Enterprise Resource Planning (ERP) study the project team which was responsible for ensuring successful implementation consisted of
- 4) executive management and management, as well as management consultants. In addition, the project team established a functional team to ensure successful implementation, and the functional teams were represented by IT personnel, IT consultants, the ERP vendor, hardware vendors and staff (Annamalai & Ramayah, 2013).

The interdependencies between functional units and interdepartmental cooperation emerged from the literature analysis. During the scoping review and the data analysis, the researcher found sufficient literature on team approaches, and collaboration across functional units, but there was scant data on interdependencies, barring one article 'Developing a framework for sustainable growth of flexible learning opportunities', that was relevant to this study, and Andrade and Alden-Rivers (2019), who touch on interdependencies in their study. A collaborative approach between academics, specialists, management, and other partners/stakeholders is an important part of the online learning vision to influence the direction of the institution (Andrade & Alden-Rivers, 2019). In addition, the college/academics, as a major stakeholder, need to be part of the shared vision of building supporting partnerships across the university to address communication and coordination. Andrade and Alden-Rivers (2019) recommend the involvement of college/academics to minimise coordination challenges helps build partnerships within the university, and addresses political importance and conflict issues as well. Units that are responsible for online courses should be grouped together, according to Andrade and Alden-Rivers (2019). Examples of such units are the development and managerial unit, instructional design and technology support units, academics (internally) to teach online courses, student support units, a training unit offering effective teaching events and workshops, and a unit offering training and support for technology in teaching and learning (Andrade & Alden-Rivers (2019).

Interdepartmental cooperation and communication amongst departments in the institution is critical (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013) in creating an understanding and receiving implementation approvals between the project teams. The communications team provides feedback to the whole institution on the goals, progress, and results at all stages of implementation. Communication enables acceptance of the implementation of the initiative (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013).

3.7.7 Institutional Monitoring

The seventh element under Theme 3 (Managing the implementation process), refers to institutional monitoring and consists of certain variables that will be discussed under the following topics: Monitoring effectiveness of online teaching, and Monitoring effectiveness of the implementation.

There are many factors, monitoring the effectiveness of online teaching such as interactivity through multiple delivery methods (Sarder, 2014), that have a direct or indirect impact on student success, but for this study the monitoring of effective teaching is linked to specific mechanisms to monitor online student progress, and tracking student success and behaviour to provide feedback to students either per groups or individually (Andrade & Alden-Rivers, 2019). Student success and quality in Higher Education must be central to the development and implementation of online modules and should specifically focus on new entrants (Andrade & Alden-Rivers, 2019). Effective quality assurance systems should, according to Santally et al. (2020), be personally unbiased, have clear role definition, have responsibilities and procedures in place, be open and transparent and inclusive, involving staff and main stakeholders. Santally et al. (2020) refer to the planning, development, process, and product evaluation (PDPP) methodology, which is a developed online learning course evaluation tool using the 26 evaluation items for quality assurance.

Monitoring the effectiveness of the implementation progress, according to Annamalai and Ramayah (2013), is mainly the responsibility of Executive Management, who should continuously provide clear direction, and resolve any issues related to the project. They should be willing to allow for mindset changes, and accept that much learning and mentoring has to be done at all levels. Annamalai and Ramayah (2013) further argue that business goals and objectives are actioned with executive management involvement in terms of planning and decision making, and tracking the status of the project's progress. Project tracking ensures that the project implementation is monitored against project time and budget, and involves working closely with the project sponsors. Salama et al. (2015) refer to 'evaluation and sustainability for online offerings' (2015: 26).

Project tracking is dependent on the functional and technological skills of the team in co-responsibility with the project manager to track the project from the start up to the end according to goals/objectives and time schedules (Annamalai & Ramayah, 2013). Project tracking and reporting systems assist with identifying accountability and regular updating of the project phases (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013). With the institutional culture acting as a moderator, the rigorous approach of continuous assessment of the current status, and monitoring intended outcomes over time (Santally et al., 2020), enables continuous improvement in online teaching and learning (Annamalai & Ramayah, 2013).

Monitoring implementation can be done through different methods. Awang et al. (2018) refer to a Malaysian study where they needed to decide whether they were going to continue using virtual learning through analysis of quantitative data. In another study referred to by Awang et al. (2018), the implementation was monitored through working in teams, scheduling regular meetings, and providing feedback reports (Andrade & Alden-Rivers, 2019). Another strategy was to introduce new reporting processes and publish a flexible student support report, answer questions, and ensure concerns were addressed and outcomes monitored, which again ensures accountability (Andrade & Alden-Rivers, 2019). Updating the project phases regularly assists management and team members to track the implementation process effectively (Annamalai & Ramayah, 2013).

3.8 THEME 4: THE ROLE OF EXECUTIVE MANAGEMENT AND FUNCTIONAL MANAGEMENT IN ENSURING EFFECTIVE IMPLEMENTATION PROCESSES

This theme provides more insight into 3.8.1 executive management and 3.8.2 functional management focus in the implementation process of online learning models and will be discussed in this sequence.

3.8.1 Executive Management Focus

Executive management is accountable for online learning innovations, and needs to ensure that the required resources are in place, the restructuring of functional units takes place, the alignment of reporting lines is clear, a reward or incentive scheme is approved to incentivise staff and demonstrate appreciation from executive management, and that risks are identified and resolved on a continuous basis. Executive management needs to work as a team and provide and receive support to the managers. These managers, however, need to ensure that their own areas of responsibilities are attended to. For example, they need to create partnerships, develop and align policies, promote shared governance, and provide support during the implementation process.

Executive management focus under Theme 4 arising from the analysis of the literature refers to three subsections 3.9.1.1 the role of executive management followed by 3.9.1.2, Re-engineering and Restructuring and 3.9.1.3 Resources.

3.8.1.1 The Role of Executive Management

In any organisation, the leadership needs to know the macro-environment as well as the dynamics of their own institution. In the realm of higher education, they need to make decisions on the online learning model they will choose for their institution. The role of executive management is to provide institutional strategic leadership which involves directing the vision, mission and medium- to long-term strategic plans (Andrade & Alden-Rivers, 2019; Ossiannilsson & Landgren, 2012; Salama et al., 2015). They should ensure that strategic plans are in place, that accountable decisions are taken, and that the design of the online learning model and the implementation thereof are effective throughout the project (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013). A critical success factor requires executive management's involvement to provide the strategic goals and objectives as well as the timeframe for the achievements (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013; Theresiawati et al., 2020).

The strategic plan [also referred to as the comprehensive plan: see section 3.6.1 Integrated Institutional Planning], defines the specific goals and accountability, and needs to be widely consulted for inputs from across the institution. After finalisation the strategic plan should be widely communicated to all stakeholders (Andrade & Alden-Rivers, 2019; Ossiannilsson & Landgren, 2012). Continuous monitoring according to set goals reached within timelines is needed for feedback to project sponsors and to ensure projects are completed on time (Annamalai & Ramayah, 2013; Andrade & Alden-Rivers, 2019) [also see 3.7.7 Institutional Monitoring]. In addition, there is a need to ensure the sustainability and eco-sustainability of the project (see Ossiannilsson and Landren, 2012). As already mentioned, long-term involvement and support from leadership are especially necessary when large investments/costs and funding sources are needed for a project (Annamalai & Ramayah, 2013; Theresiawati et al., 2020). Leadership is also involved in risk identification and mitigation as a critical success factor when designing online learning (Annamalai & Ramayah, 2013). In this context, adopting a new reporting system to help with accountability and ongoing project phase updates is beneficial (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013).

Executive management needs to ensure that both human and technology resources, amongst others, are in place (Annamalai & Ramayah, 2013; Theresiawati et al., 2020). It follows, then, that identifying the responsible team members (Annamalai & Ramayah, 2013) and department chairs will help to prioritise online development. In addition, it is important to identify the highest enrolment courses for online design to ensure maximum impact in the institution (Andrade & Alden-Rivers, 2019). As already mentioned in this study, [see sections 3.7.1.1 Decisions Informing Strategy and 3.7.7 Institutional Monitoring], the role of executive management in the implementation of online courses is vital and the success of the implementation depends on executive management's involvement in decision-making and governance throughout the different phases of the project (Andrade & Alden-Rivers, 2019).

Executive management needs to ensure that the necessary market research and benchmarking take place (Ossiannilsson & Landgren, 2012), and that the institutional image is protected during the process. For example, appropriate branding for online initiatives will protect institutional reputation and credibility (Theresiawati et al., 2020). In addition, executive management needs to ensure that institutional change management processes are in place across the institution. The steps in change management include ensuring that by taking the institutional culture into consideration all stakeholders adopt the online learning model; that a general awareness around online teaching and learning is current in the institution; and that every attempt is made to support a readiness to alter institutional culture and diversity (Ossiannilsson & Landgren, 2012).

3.8.1.2 Re-Engineering and Restructuring

The second element under Theme 4 refers to the need for restructuring certain units. A critical success factor for the design of online learning is re-engineering business processes. This implies that organisational requirements and business processes be compatible and aligned, restructured, and re-engineered, using constructive alignment methodologies (Annamalai & Ramayah, 2013; Ossiannilsson & Landgren, 2012; Theresiawati et al., 2020). With the adjustments and realignment of the business processes in place, the next step is to align and integrate the required systems and establish the cross-functional teams. According to Annamalai and Ramayah (2013), integrated cross-functional enterprise systems work as a strategic strategy to exchange information resources (for instance, material management, production planning, finance and control, sales, and distribution). Cross-functional teams make online learning

models more efficient and effective while ensuring that business processes and strategic goals are met.

When development and implementation of online learning models take place, it is important to create a space in the organisational/institutional structure that can entail restructuring certain units and adopting new reporting lines and processes according to institutional mission as this will ensure greater accountability (Andrade & Alden-Rivers, 2019; Salama et al., 2015). It may be necessary to develop a structural frame and then to identify activities which needed to take place in sequence prior to the start of implementation for example appoint a strategic project leader and demonstrated the institution's commitment to ensure all strategic planning and implementation took place (Andrade & Alden-Rivers, 2019). Of equal importance is to make all stakeholders aware of the changes across the institution (Andrade & Alden-Rivers, 2019).

3.8.1.3 Resources

The third element executive management needs to focus on is Resource planning during the design phase requires some decision making as resources need to be allocated to implement the online model successfully, For instance, when the institution decides on which courses will be implemented online resources need to allocated accordingly (Santally et al., 2020; McGuinness and Fulton, 2019; Zimmerman et al., 2020). In most instances, the university administration will perceive online learning as a more efficient use and application of resources (Andrade et al., 2022). One of the most common reasons institutions make use of instructional designers when designing the content is because of their expertise and knowledge (Andrade et al., 2022; Boticario et al., 2012).

As mentioned in the previous section and elsewhere in this chapter, the workload of academics [see 3.6.5 Academic Concerns] poses a challenge when online learning is introduced. Northcote et al. (2019) propose that tutoring staff, as additional resources, be appointed to relieve the academics from these workload challenges. Other resources needed for effective online learning are a well-resourced, consistent and reliable technical infrastructure particularly when institutional and local infrastructure is not accessible or is unstable and/or not well maintained (McConnel 2018; Theresiawati et al., 2020). Exchanging resources, according to Trespalacios and Perkins (2016), impacts positively on developing students' sense of community (SOC) in

online learning. Salama et al. (2015) show how through the establishment of a technology resource centre the instructional designers and academics were trained in technology to assist with courseware design and development. Awang et al. (2018) indicate the need for a Virtual Learning Environment (VLE) which is a computer-based environment with open systems, to allow students and staff access to multiple resources. These resources should be accessible anytime and anywhere, as noted by Chaeruman, Wibawa and Syahrial, (2020), and additional social networking components can assist with the sharing thereof (Abuhassna et al., 2020). Management needs to ensure that the required ICT infrastructure and systems are in place, and should also support the online model [see 3.10 Theme 6: The Role of Information and Communication Technology (ICT) in Implementation of Online Learning].

3.8.2 Functional Management Focus

Management needs to be aware of the decisions they need to take as online course development influences institutional policies, partnerships, shared governance, and risk management. Therefore, all levels of management need to look at the organisational and pedagogical perspectives which include online learning accessibility, flexibility, personalised instructiveness, staff productivity, as well as the demands and rights of the students to ensure successful online learning implementation (Ossiannilsson & Landgren, 2012).

According to Andrade and Alden-Rivers (2019), management uses multiple analytical resources to plan and base their decisions on. These include quantitative and qualitative reports to collate information on statistics, successes, challenges, and trends, and to provide information about students at-risk, student characteristics, their learning pathways, and their needs and expectations (Santally et al., 2020). Some best practices with online course design and development note the need to analyse the organisation, the content, and student needs, and use analytics to develop student profiles [see also 3.5.3 Changes in the Student Demographics/Profiles and Support]. Other best practices include defining the learning and performance goals, selecting appropriate instructional strategies, applying appropriate learning theories and models, and applying effective design practices (D'Agustino, 2012).

The second element under Theme 4 arising from the analysis of the literature refers to the 3.8.2 functional management focus and can be further refined by considering 3.8.2.1 institutional policies and partnerships, and 3.8.2.2 shared governance and risk management.

3.8.2.1 Institutional Policies and Partnerships

The literature consulted had indicated the importance of policies to guide the effective implementation of online learning (Andrade & Alden-Rivers, 2019; D'Agustino, 2012; Salama et al., 2015; Santally et al., 2020; Sudarwati, 2018; Sun & Chen, 2016). Policies related to online teaching and learning, according to D'Agustino (2012), are part of the characteristics of an institution. When institutions design online learning course models, specific policies should be in place. For example, teaching and learning policies should guide academics in accessing and using appropriate technologies such as desktop computers, laptops, mobile phones, tablets and the internet (Sun & Chen, 2016). Policies relating to assessment should be reviewed and updated according to Northcote et al., (2019), and should incorporate students' needs and expectations. Quality assurance policies should guide academics in deciding to what extent online learning methods should be included in course modules. Academics also need to judge whether to adopt new technologies and whether developing new educational methods and approaches is appropriate. Concepts such as teaching efficiency and learning effectiveness or equity in education should be taken into consideration when quality management is applied (Santally et al., 2020; Theresiawati et al., 2020). Institutional compensation and reward policies for online implementors, including academics, needs to be considered (Andrade & Alden-Rivers, 2019; Sudarwati, 2018). An example of such is a credit-hour policy to account for the time spent on a task to improve the quality of online learning. Salama et al. (2015) highlight the importance of a communication policy inclusive of communication guidelines to ensure quality online course design. In addition to deciding which policies are required, institutions should also create an awareness of policies and ensure that they are visible and communicated to stakeholders such as staff and students (Salama et al., 2015).

In addition to policies, other documents may also need to be examined such as curriculum development expectations, teaching and learning standards, tenure and promotion requirements, recruitment and appointment documents, and contracts which all need to be aligned with policies (Andrade & Alden-Rivers, 2019). Formal agreements such as contracts

with academic staff and other stakeholders to design or redesign courses will provide clear roles on deliverables such as expectations, timelines, and review processes (Andrade & Alden-Rivers 2019) [also see 3.6.2.1 The role of the Academic and Teams] as well as intellectual property rights, (Andrade & Alden-Rivers, 2019; D'Agustino, 2012; Salama et al., 2015).

Policies have many benefits, as Andrade and Alden-Rivers (2019) indicate, to enhance teaching and learning and to make lasting changes. The university has to define what online learning means to them and then realign this with institutional policies and processes/procedures. Policies are therefore a structural element assisting in removing barriers, according to Andrade and Alden-Rivers (2019), and relate both to online teaching and learning and academic management aspects.

In support of this point, D'Agustino (2012) indicates the importance of understanding policies and applying them judiciously.

3.8.2.2 Shared Governance and Risk Management

Shared governance takes place through the selection of different teams, according to Andrade and Alden-Rivers (2019), and through scheduling regular meetings to provide advice, direction, and progress reports. Andrade et al. (2020) further suggest that advisory group teams (members with expertise) for each key theme/function play an important part in the promotion of change, gaining trust and confidence which, in return, supports the buy-in of online learning strategies and implementation. Shared governance through advisory group teams enhances academic involvement and expertise, and can assist in building coalitions to gain support across the university, and also address challenges and conflict (Andrade & Alden-Rivers, 2019). Salama et al. (2015) refer to the establishment of a college/academic body to work with administrators to ensure that academics control course quality and approvals [also see 3.7.6 Stakeholders and Interdependencies].

As academics are responsible for the online course, most of the quality aspects of the course structure such as content, assessments, teaching and learning interaction through different technology tools, and media are under their control and implementation should take place according to the regulations of the institutions (Andrade et al., 2022; Lola et al., 2021) as it has

a direct impact on course quality, perceptions, reputation, and success. Therefore, it is advisable to incorporate online learning aspects into the institution's governance systems (Salama et al., 2015). Another strategy to address shared governance is through quality assurance processes and quality standards, and through peer-review exercises in the institution. All stakeholders who participate in the implementation of the institution's strategy need to adhere to the existing regulations and ethical codes developed by the institution (Lola et al., 2021; Sudarwati, 2018).

The identified literature did not reveal significant data on risks, barring Annamalai and Ramayah (2013) who indicate that management is responsible for identifying and mitigating risks.

3.9 THEME 5: THE ROLE OF BUDGETING AND COSTING

The fifth main theme emerging from the analysis of literature refers to the role of budgeting and costing, since financial support is needed to deliver quality online courses (Andrade & Alden-Rivers, 2019; Daud & Farrah, 2013). In 2016, Sun and Chen proposed that future research should be done on the cost effectiveness of online courses. The literature is clear that project implementation needs to be within budget and on time (Annamalai & Ramayah, 2013). However, Vaganova et al., (2018) indicates that one of the advantages of online learning is that profitability can increase as it attracts unlimited students provided that there is limited direct academic-student engagement. Online interaction is costly and time consuming for the academic who therefore needs to choose media that are cost effective according to Andrade and Alden-Rivers, (2019). Leadership and team members' involvement is required on a continuous basis during implementation to ensure that 'cost and work schedules can be monitored effectively' (Annamalai & Ramayah, 2013: 559). Following this, there are questions the IT department needs to answer in terms of current versus new systems and the cost implication thereof, for example, as D'Agustino (2012) cautions, institutions need to give attention to system costs in relation to other systems and technology access and use. The implementation of online learning requires particular expenditures such as the procurement of the infrastructure, internet, maintenance and licenses (Awang et al., 2018; Theresiawati et al., 2020). Therefore, if the students do not participate on the online learning platform the cost escalates and sustainability is a concern (Awang et al., 2018). In addition, Annamalai and Ramayah's study in 2013 reports that institutions should avoid implementation failures as these have a negative impact on the project goals, costs, time schedules, and results in the dissatisfaction of users. In sum, as online learning

is proving to be essential for Higher Education institutions, such institutions will compete with each other as they need to be financially sustainable (Andrade & Alden-Rivers, 2019; Awang et al., 2018; Ossiannilsson & Landgren, 2012; Salama et al., 2015; Stefanovic et al., 2011).

3.10 THEME 6: THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN THE IMPLEMENTATION OF ONLINE LEARNING

The sixth main theme arising from the analysis of the literature refers to the role of ICT in the implementation of online learning. This section will focus on the following aspects that influence successful implementation; information technology introduction and planning; the impact of ICT on instructional design; information and communication infrastructure and quality systems; and technology challenges.

“YOU ARE NOW HERE”. The reader is in Theme 6: The role of information and communication Technology (ICT) in implementation of online learning as per diagram below and will discuss four elements 3.10.1 Information Technology: Introduction and Planning, 3.10.2 The impact of ICT on Instructional design, 3.10.3 Information and communication Infrastructure and Quality systems and 3.10.4 Technology Challenges.

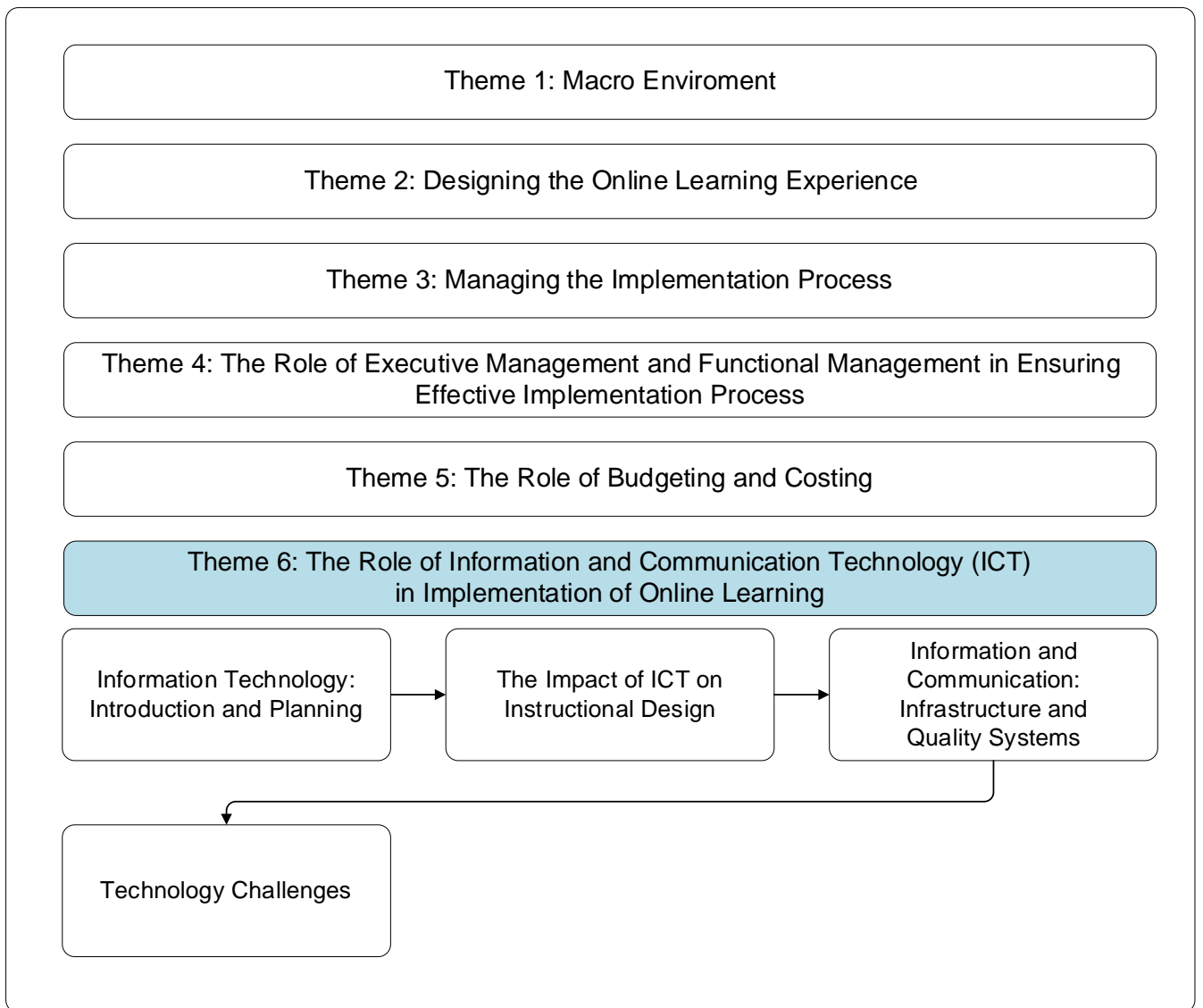


Diagram 3.5: Elements of Theme 6: The role of information and communication Technology (ICT) in implementation of online learning

3.10.1 Information Technology: Introduction and Planning

One of the many reasons why distance education institutions implement online learning solutions, as was discussed in 3.5.2 [see Massification and Academic Integrity of Online Offerings], is to increase access through student registrations and enrolments. Online learning solutions were noted by Sarder (2014) as a modern educational and transformative paradigm that has been made possible and supported by current technologies (McConnell, 2018; Theresiawati et al., 2020). According to Abuhassna et al. (2020), contemporary technologies are crucial in delivering a complete online learning experience that is comparable to a face-to-face session.

An effective institutional teaching and learning strategic ICT plan that specifically addresses online learning, and an IT advisory committee to aid in implementing goals, are both integral to the process of online teaching and learning (Santally et al., 2020). Prior to creating the ICT plan, several crucial and reflective questions must be addressed because they will help determine the best strategies, techniques, media, and software to employ (Lola et al., 2021). The questions are:

- 1) Where are the students located physically, do they have access to technology, and are they able to use it? (D'Agustino, 2012)
- 2) What pedagogical approach will be used? For instance, is there a requirement for interaction between the academic and the student, or between the student and the content? (D'Agustino, 2012).
- 3) What sort of assistance will be given to the students, such as videos, podcasts, blogs, etc.? (Theresiawati et al., 2020).
- 4) How often and in what manner will the students need to be evaluated? (D'Agustino, 2012).
- 5) Will the students use additional resources, and if so, how and where will they do so? (Lola et al., 2021).

'Digital transformation encompasses more than simply introducing e-learning' (Santally et al., 2020: 1705). These authors explain that a suite of tools can be used by institutions as a guide to be implementing online learning. The suite of tools was developed after identifying the key systems and investigating their flexibility, for example, student information systems, instructional delivery systems, infrastructure, accessibility and support, document processes, evaluation systems, information management and data analytics. Theresiawati et al. (2020), state that the design of the web learning system and access to the course content both need proper planning for implementation.

3.10.2 The impact of ICT on Instructional Design

The second sub-theme under Theme 6 refers to the impact of ICT on instructional design. [Instructional design has been discussed in various sections in detail under Theme 2: Designing the online learning experience].

Course design and the use of innovative information and communication technologies as modes of instruction to support teaching and learning in the education field have had the potential to change what, how, where, and when we learn, and even whom we learn with. The implementation of educational projects in the information and communication environment includes not only the application of new ICTs by students and teachers but also the strengthening of interaction between them by means of the digital world (Santally et al., 2020, Lola et al., 2021). Online learning requires technology support during the curriculum and course/module content development phase, and the knowledge/skill development phase. The content is delivered through technology for example internet and teleconferencing. The maintenance services include for example content upgrades and technical support (Sudarwati, 2018). Good course design and course delivery according to Salama et al. (2015) create a better learning experience for the students and a better teaching experience for the academics. Songkram (2017) indicates that the course design should incorporate the technology used for instruction and support, and D'Agustino (2012) explicitly adds the need to develop the technology skills of all the users. The instructional designers should assist academics in creating well-integrated courses on networked technology platforms [see learning management systems 3.10.3 Information and Communication Infrastructure and Quality Systems]. Course design should take into account different effective multi-media methods to cover and deliver the content, but should steer clear of using many text screens, or in-depth long video and audio, and lengthy slideshows (D'Agustino, 2012). Other multi-media examples that instructional designers may deliberate over are visuals, animations, simulations, or games (Chaeruman, Wibawa & Syahrial, 2020; D'Agustino, 2012). The instructional design should focus on 'creating shorter e-tutorials' (McGuinness & Fulton, 2019: 7) as it is advisable for the students' attention span and it limits technical challenges such as up-and downloading time, anticipates software glitches, and makes editing easier (McGuinness & Fulton, 2019). A VoiceThread is an emergent technology to improve students' sense of community in online learning environments (Trespacios & Perkins, 2016).

Andrade and Alden-Rivers (2019) explain that the most important flexible learning elements that need to be in place prior to the development of the online framework is to acquire technology

platforms, and to provide technology support and learning technologies for instructional designers and course developers. Abuhassna et al. (2020) assert that online learning platforms are well-suited for a less hierarchical approach to education, catering to the learning needs of individuals who do not acquire knowledge in a sequential or comprehensive fashion. Abuhassna et al. (2020) believe that online learning platforms enhance autonomous learning. Online learning platforms should support alternative online assessments, and students should be able to demonstrate their learning in different creative and collaborative ways such as e-portfolios, media-based expressions, discussion forums, online posts, essays, quizzes and examinations (D'Agustino, 2012).

Academics, according to Wolf et al. (2019), can use live platforms in learning management systems to create discussions, debates, and other interesting topical discussions to motivate students to interact, and they can use approaches to learning to hear all students equally and not limit themselves to the easier, less substantive interactions. Chaeruman, Wibawa and Syahrial (2020) indicate that learning interaction and student participation can be enhanced if the link between content, pedagogy and technology can be established. Theresiawati et al. (2020), indicate that two of the variables that lead to significant e-students' satisfaction is reliable content on the website and prompt support. Student support, according to McConnell (2018), should be facilitated through course design by academics using technology to help nurture self-regulated, active producers of knowledge.

3.10.3 Information and Communication Infrastructure and Quality Systems

The role and impact of information technology architecture and infrastructure on the implementation of online learning emerged as the third sub-theme under Theme 6. Online learning requires up-to date ICT infrastructure, capacity, and skills, as well as good quality connectivity to the internet (Ossiannilsson & Landgren, 2012; Stefanovic et al., 2011; Theresiawati et al., 2020). Because students may reject the concept of online learning (Stefanovic et al., 2011) institutions need to focus on technology and internet quality, and the technology requirements. Sprightly/quick technology advancement and empowerment are essential for technology transformation (Ross, 2012; Stefanovic et al., 2011; Sun & Chen, 2016). The quality of technology and internet speed significantly influence how satisfied online students are (Stefanovic et al., 2011). The research's findings show that poor technology with a slow

response time or frequent technical issues would definitely deter students from enrolling in online courses in e-learning environments (Stefanovic et al., 2011).

The online learning system consists of information such as quality content material that is up to date, relevant, assessable (Theresiawati et al., 2020; Ossiannilsson & Landgren, 2012) available, easy to find and easy to use. Because of this, the learning management system that houses the website's content should be created with dependability, responsiveness, usability and legal security in mind (Theresiawati et al., 2020; Ossiannilsson & Landgren, 2012). Student satisfaction is determined by the timeous access and availability of relevant information. Andrade et al. (2022) argue that most institutions are responsible for providing standards for the course design and for providing the technology for online courses [see 3.6.2.3 Standards]. As indicated in this study, there are numerous quality assurance systems available such as Quality Matters. One of the eight general standards in Quality Matters relates to course technology, and these standards test whether the course tool is aligned with the learning objectives, promotes interactivity, protects the students 'privacy/confidentiality, and ensures that the tools are up to date, (Andrade & Alden-Rivers, 2019; Salama et al., 2015; Varonis, 2014; Zimmerman et al., 2020).

The infrastructure should support the online learning environment and, according to Boticario et al. (2012), a service-oriented IT architecture should be established when multiple computerised systems need to connect to one another to share and/or exchange information, such as when using Web Services for Remote Portlets (WSRP) as a standard networking protocol. Boticario et al. (2012) support an open service-oriented approach to provide accessible interaction to students, and suggest that this should be in line with the present cloud-computing methodologies that can be integrated into current and future learning management systems. The information technology architecture should also ensure the adoption of a user-centred assessment strategy since it involves the end user during the development, production, and evaluation stages (Boticario, et al., 2012). To handle multimedia streaming data in parallel, the majority of online learning systems are built in high-speed network environments where software and hardware are better than those used in non-e-learning environments (Stefanovic et al., 2011).

Technology infrastructure requirements for online learning include access for academics to the intranet, internet, and to a technology platform to practise with different media and to develop

course material, to provide network availability through required infrastructure and technology, and to ensure the availability and readiness of hardware, software, and computer laboratories (Sudarwati, 2018). Online platforms, according to Sinclair et al. (2015), need to support the two modes of online learning, synchronous (real-time) and asynchronous (when required).

There are technology corporations that facilitate a suite of tools and supporting models to assist academics with the implementation of online learning (Lola et al., 2021; Santally et al., 2020). Learning management systems should allow for the integration of remote tools (D'Agustino, 2012; Karataş & Tuncer, 2020; (Srinivasan et al., 2012). One of the critical success factors of a teaching and learning Information Technology system, mentioned by Boticario et al. (2012), is to ensure the online learning platform easily allows for the uploading and editing of artefacts such as content, graphs, lesson plans, teaching practice audio and videos (Boticario et al., 2012). to the need for testing programmes and systems. As it is the academics 'responsibility to design quality courses, according to Salama et al. (2015), they should set out enough time before a course goes 'live' for reviewing and testing the course content: 'This should ensure that technical problems are eliminated from the course prior to a student interacting with the course materials and activities' (Salama et al., 2015: 26).

Salama et al. (2015) agree with McConnell but add that reviewing and testing the course before students interact with the course materials and activities will ensure that technical problems are eliminated before implementation, will allow the student to have a positive learning experience, and be intellectually stimulated.

3.10.4 Technology Challenges

The fourth sub-theme emerging from the literature analysis is the frequent challenges experienced by users when applying technology to online learning systems. Some of the major factors that lead to low utilisation of online models are poor infrastructure and lack of appropriate facilities (Awang et al., 2018; McConnell, 2018). Most universities in developing contexts, according to McConnell (2018), still experience technological infrastructure challenges, and access to computers is still problematic when compared to Western countries. Sun and Chen (2016) explain that academics experience challenges with high student ratios in on line classes and do not have sufficient workload relief, resources, technology support and education

professional development. Andrade et al. (2022) support this finding and explain that the additional time needed to teach online has not been fully addressed by institutions.

Santally et al., (2020) observes that the key challenge facing universities innovating with technology is the execution of the change when applying and integrating Information and Communications Technologies (ICTs). The design and implementation of intelligent tutoring are not well understood and addressed by academics (Sudarwati, 2018). Many technological challenges are experienced during the implementation of e-tutorials, according to McGuinness and Fulton (2019), such as browser incompatibility, uneven sound quality, and general internet connection issues, which disrupt learning.

3.11 CONCEPTUAL FRAMEWORK: ONLINE LEARNING IMPLEMENTATION PROCESS

Zawacki-Richter and Jung (2023: 201) categorise open, distance, and digital education (ODDE) research according to three broad levels:

- 1) Macro level: distance education systems and theories (the global system level)
- 2) Meso level: management, organisation, and technology (the level of educational institutions)
- 3) Micro level: teaching and learning in distance education (the individual learner and teacher level).

The conceptual framework for this study also differentiates between three main levels (macro, meso and micro) and will be discussed accordingly. The conceptual framework includes international trends within HE in the macro level and is in line with Zawacki-Richter and Jung (2023) who situate access, equity and global perspectives, and trends within the macro level. According to the present framework constructed to outline the online learning implementation process, the researcher discusses global trends, and identifies the growing need for and growth of distance education internationally. Vaganova et al., (2018), Sarder, (2014) and Stefanovic et al. (2011) agree that there is a growing demand for distance and online learning, and indicate that universities are expanding their course offerings, and are competing with other universities by implementing quality courses using modern technology. Massification and expansion are

covered in Theme 1: Macro Environment, [see 3.5.2 Massification and Academic Integrity of Online Offerings] but in the South African context the main focus is to ensure equity through providing access for under-privileged students, and to include those students who cannot access education through traditional face-to-face institutions, for whatever reason (D'Agustino, 2012; Andrade & Alden-Rivers, 2019; Karataş & Tuncer, 2020; Theresiawati et al., 2020). The other burning global trend that reflects in this conceptual framework is the quality of online learning services in tertiary education, as mentioned by Salama et al. (2015), Santally et al. (2020), Theresiawati et al. (2020) who all underline the importance of governance bodies to ensure that quality is regulated. The changing profiles and demographics of students are used to assist with decision making, as explained by Boticario et al., (2012), who recall the different elements of student profiles apart from age and ethnicity, for example, student preferences, learning styles, goals and competencies, qualifications, certificates obtained by students, and their psychological wellbeing. Another global trend is students' access to technology and the internet, and how distance education changes as different technologies become available to enhance teaching and learning. Lastly, we note the impact of Covid-19 on distance education, and the way advances in technology support institutions to ensure that teaching and learning proceed, albeit in different ways.

Zawacki-Richter and Jung (2023) suggest that the meso level consists of leadership, institutional perspectives, innovation and change, costs and benefits, educational technology, professional development, support for academics and students, and quality assurance (Zawacki-Richter & Jung, 2023). The second level in this study, the meso level, is in line with Zawacki-Richter and Jung (2023) as it indicates the involvement of leadership in strategic planning and resource allocation to ensure that supporting systems are in place for online learning implementation processes. This study's conceptual framework highlights the importance of leadership, both executive management and functional managers, being active in this level as they need to ensure that roles and responsibilities are clearly defined. Executive management should focus on institutional data analysis, long term support, and decisions, and needs to ensure that reengineering and restructuring take place so that functional managers can easily execute their tasks. Stakeholders and partnerships need to be in place. Functional managers ensure that institutional policies, shared governance, and risk management are in place to facilitate smooth operations and alignments. The conceptual framework for this study aligns with Zawacki-Richter and Jung (2023) but indicates that the certain tasks occur in both the meso and the micro levels.

These tasks are professional development, digital infrastructure, change management, communication, institutional and national culture, stakeholder dependencies, and institutional monitoring, which consists of monitoring the effectiveness of teaching. In order to ensure successful implementation, monitoring of its effectiveness needs to be done consistently.

Zawacki-Richter and Jung (2023) refer to the micro level as consisting of learner characteristics, plus instructional design, interaction, and communication in the learning environment and communities. This level, according to Zawacki-Richter and Jung (2023), focuses on teaching and learning (students, academics, the media, and the technology used in the courseware design and the assessment). This is in line with the third level of the conceptual framework for this study, as the micro level focuses mainly on designing the online learning experience which involves effective institutional planning to ensure that implementation plans are in place. Such a design includes the planning and design of the online courseware from the curriculum, the course context, the course standards (curricular aspects, pedagogy, course context and content, delivery, learning tasks, interaction, student support and user experiences, satisfaction, and readiness).

The conceptual framework embeds information and communication technology (ICT) in all three levels, as it is integrated throughout. ICT planning starts from a macro environment as technology trends impact on the implementation of online learning models. The institution needs to ensure that quality systems are in place by testing programmes and systems, including procurement, access to infrastructure (computers/internet/data/wi-fi, learning management system). Conversely, it is important to factor in the ways in which the online learning model impacts on ICT by way of its instructional design and technology challenges.

Quality assurance plays a crucial role in the implementation of the Signature Courses, and it needs to be integrated in the macro, meso and micro levels. Different strategies and techniques can be used to ensure that quality takes place. Quality can, for example, include peer review, self-reflection, or the use of quality tools such as Quality Matters. The quality process involves quality courseware, quality training, quality standards, and quality systems and policies to support the strategies and tools.

Below is a diagram illustrating the Conceptual Framework:

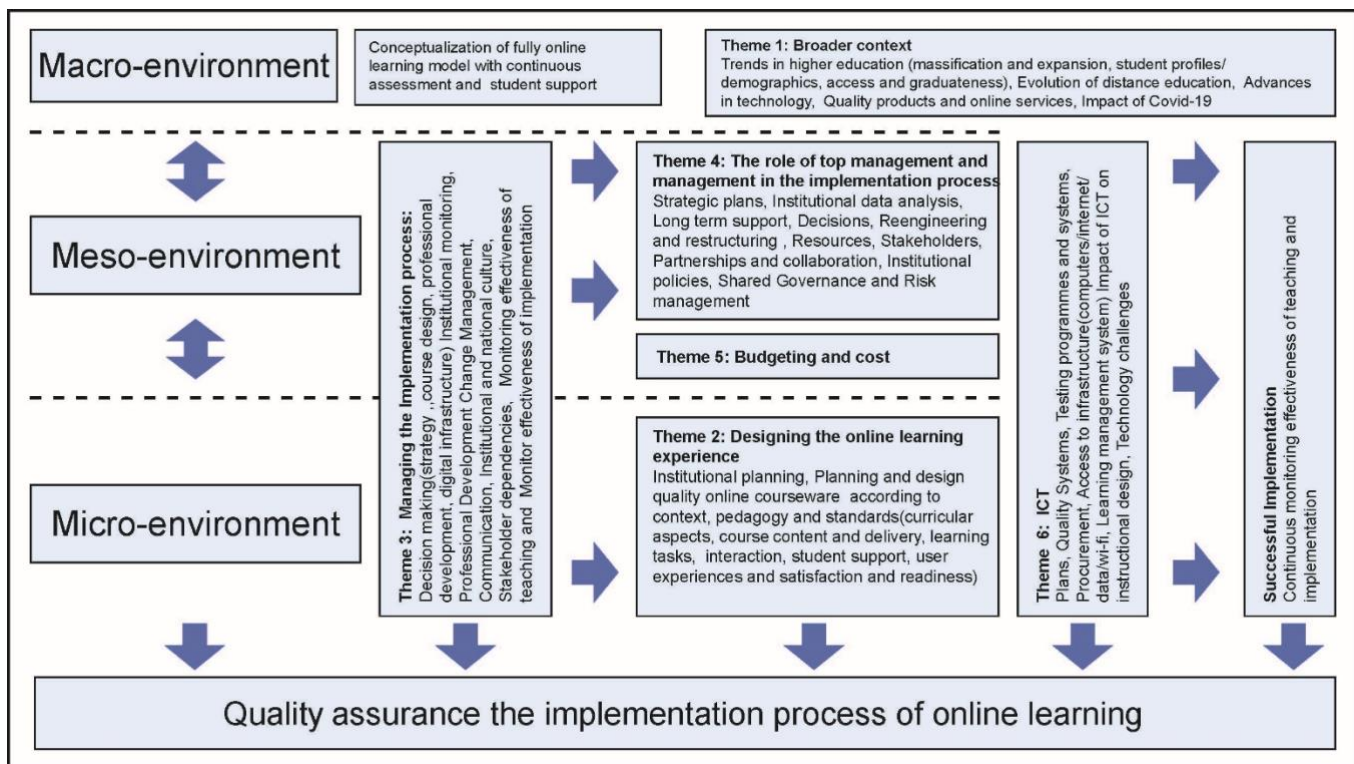


Diagram 3.6: Conceptual Framework: Online Learning Implementation Process

3.12 SUMMARY

In this chapter, the researcher has conducted a literature review on the selected articles done through a scoping review process using Scopus as the main database. After organising the selected articles on ATLAS.ti, the researcher coded the articles inductively and deductively (Fereday & Muir-Cochrane, 2006). After the inductive and deductive coding, the researcher generated groupings and sub-codes, and thereafter grouped the codes into super groups (categories). The process was member-checked by a fellow researcher. Discrepancies were discussed and resolved. The synthesis of results presented six themes. After completing a thorough scoping review of the literature, a conceptual framework was developed to convey the online learning implementation process. Chapter 4 will discuss the research design and methodology decided on for this study.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

The main sections of the chapter are illustrated in the diagram below.

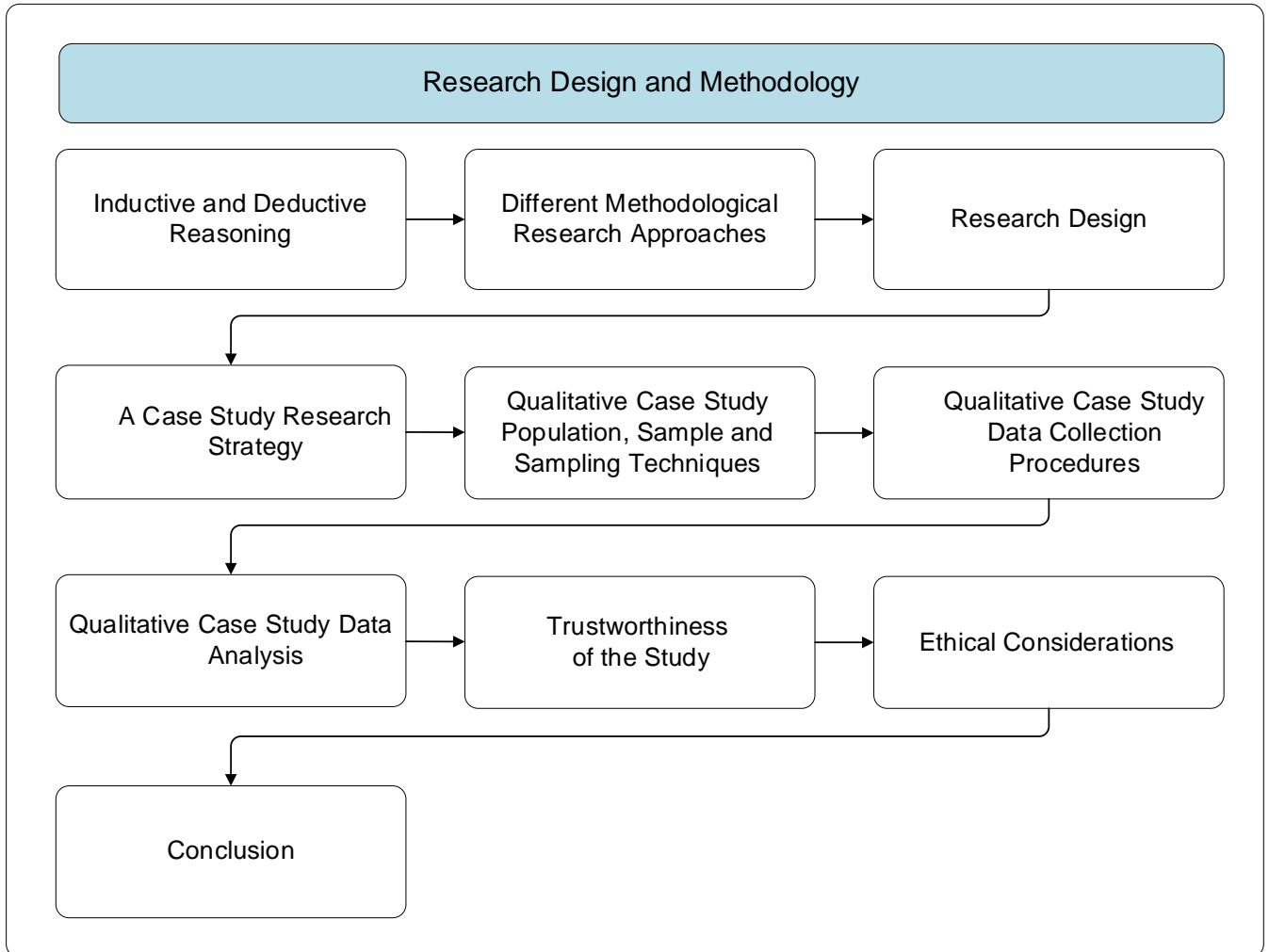


Diagram 4.1: Research Design and Methodology

4.1 INTRODUCTION

In Chapter 3 the researcher undertook a literature review on the selected articles, conference papers and books through a systematic scoping review process using Scopus as the main database. Six themes emerged from both inductive and deductive analysis process and was descriptively recorded by the researcher. After completing the literature review in Chapter 3, as well as an online learning implementation conceptual framework, the rest of the research process was ready to unfold.

In this chapter the researcher will provide a 'roadmap' of how the researcher found evidence to answer the research questions. The research aim and objectives are clearly stated. The research for this thesis is based on a philosophical viewpoint and research paradigm which will be discussed in this chapter as well as the specific research method that will be used and the research approach or design that will be followed (Creswell & Creswell, 2018; McMillan & Schumacher, 2001; Ngulube, 2019; Nieuwenhuis, 2007b; Mouton, 2002; Rossman & Rallis, 2012; Saunders et al., 2019).

The researcher will explain why certain paradigms and methodological approaches were selected for this study. The researcher will briefly discuss and motivate why the case study strategy was considered and how the pragmatic research paradigm influenced this choice. The research procedures will be discussed including the ways in which the population, sampling and sampling size were determined, the techniques used to collect the data, and the analysis of the data.

The trustworthiness of the study will be discussed under five sub-elements credibility, dependability, conformability, authenticity, and transferability. Ethical considerations for this study will be provided.

The introduction will discuss the following sections, research aims and objectives, the different research philosophies and paradigms, pragmatism as paradigm, positivist and lastly the philosophy and paradigm underpinning this study.

4.1.1 Research Aim and Objectives

The aim of this research was to develop a framework for the implementation process of online learning in the Global South using the Signature Courses at Unisa as a case study. The conceptualisation of the Signature Courses was in 2009, when there was a conference where the first discussions took place, however the design, development and implementation took place from 2011 - 2013 and the stabilisation and subsequent changes and improvements took place up to the 2015 [see Chapter 1; 1.7 The Aim of the Study and Chapter 2]. This the Signature Courses project took place during a period of five years (2011 to 2015). The research methodology will outline the research process that was followed to gather evidence from this period to assist in the formulation of a framework.

The overall objective for this study is to evaluate the implementation *process* of the Signature Courses at Unisa and will be focused on the following objectives:

Objective 1: Explore the key design elements of the Signature Courses implementation process.

Objective 2: Identify the variables/elements that played a role in each of the implementation stages.

Objective 3: Identify the interdependencies between the different functional areas in the implementation stages.

Objective 4: Document the different implementation decisions that shaped the implementation process.

Keeping these objectives in mind, the first step to this roadmap is to discuss the research paradigm and to explain how the philosophy and the paradigm (ontology, epistemology and axiology) form part of the theoretical lens of this study which aims to evaluate the implementation *process* of the Signature Courses at Unisa with specific reference to the design elements, decisions, variables and interdependencies.

The following section will discuss the different research philosophies and paradigms, and how these paradigms integrate with the approach the researcher followed.

4.1.2 Different Research Philosophies and Paradigms

Philosophical or foundational assumptions are rooted in paradigms, also referred to as worldviews or theoretical lenses (Creswell & Creswell, 2018; Ngulube, 2019; Saunders, Lewis & Thornhill, 2019). Saunders, Lewis and Thornhill (2019) state that all research contributes to knowledge creation defining philosophy as a 'systems of beliefs and assumptions about the development of knowledge' (Saunders et al., 2019: 159).

The term 'research philosophies' refers to systems of beliefs and assumptions about the development of knowledge. This means that your research philosophy contains important assumptions about the way in which you view the world. These assumptions shape all aspects of your research projects.

Saunders et al. (2019) further state that beliefs and assumptions from philosophical viewpoints which can be encompassed by the distinction between what is true (epistemology) and what is believed to be true (ontology).

Multiple research philosophies were used to create the theoretical base for management and business which belong in a cluster of disciplines including social sciences, natural sciences, applied sciences and human sciences (Saunders et al., 2019).

All philosophies consist of assumptions and are rooted in paradigms. These assumptions fall within a range or continuum between extreme objectivism and extreme subjectivism. Objectivism focuses on hard or concrete facts whereas subjectivism refers to personal perceptions, feelings or opinions (Saunders et al., 2019). Epistemology refers to the ways in which the researcher creates or builds knowledge. Ontology is concerned with the manner in which the researcher defines what she/he believes to be true. Lastly, axiology indicates whether the researcher added value to the research and contributed to ethical practices (Saunders et al., 2019).

The most dominant philosophical world-views that guide ontological and epistemological assumptions in a research study are labelled as positivist, interpretivist, and pragmatist (Saunders et al., 2019; Creswell & Creswell, 2018). The two most frequent paradigms used in research according to Ngulube (2019) are the positivist and the interpretivist epistemologies.

The positivist paradigm is normally associated with quantitative research, the interpretivist paradigm with qualitative research, and the pragmatist paradigm with mixed method research (Rossman & Rallis, 2012; Rossman and Wilson, 1985; Saunders et al., 2019; Ngulube 2019; Creswell & Creswell, 2018). Quantitative research in the social sciences dominated the research arena until the middle of the 20th century according to John and Daniel Creswell (2018), thereafter qualitative research increased with mixed methods following. Table 4.1 below gives a schematic narrative on philosophical assumptions as discussed:

Table 4.1 Approaches to Philosophical Assumptions: Adapted from Saunders et al.,(2019)

Types of assumptions	Continuum Objective Subjective		
	The nature of reality		
Ontology	<p>Positivism The objectivist posits that there is one true reality that exists independently of attitudes or beliefs.</p>	<p>Interpretivism The subjectivist believes that role and status exist in name only since they believe in multiple realities, meanings, processes and chaos. Interpretivism is nested in social constructivism. Through social interaction with different cultures and languages multiple meanings are collected and interpretations follow to make sense of these meanings.</p>	<p>Pragmatism The pragmatist believes that significance comes from the ideas of an external complex and rich, reality . Reality is the practical result emanating from different processes, experiences and practices.</p>

		Applicable to different processes, experiences, and practices.	
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	Assumptions about knowledge		
Epistemology	<p>Positivism</p> <p>The objectivist believes in facts and numbers and is linked to the natural sciences. (positivist stance). There is only one reality, view, or opinion.</p>	<p>Interpretivism</p> <p>The subjectivist believes in opinions and is linked to the human sciences. (interpretive stance). There is more than one view, multiple views/ opinions. When theories and concepts are too simplistic researchers focus on narration of stories, the perceptions of the participants, and the researcher's interpretation of stories. This results in new understandings and world-views.</p>	<p>Pragmatism</p> <p>The pragmatist pays attention to relevant problems and practices. Strives to obtain in a specific context the practical meaning of knowledge. Successful action is empowered by knowledge and 'true' theories. Pragmatism contributes to future practices by solving problems.</p>
	<p>Nature of reality of values and ethics.</p> <p>Are values playing a role in the research?</p> <p>What role do values play in research and how do we deal these values?</p>		

<p>Axiology</p>	<p>Positivism</p> <p>The objectivist is value free, looks only at facts/numbers.</p>	<p>Interpretivism</p> <p>The subjectivist is weighted towards research that contains values.</p> <p>The researcher forms part of what is researched and needs to be reflexive and subjective. The interpretations of the researcher are key to the research contribution.</p>	<p>Pragmatism</p> <p>Research that is value-driven.</p> <p>The researcher has certain doubts and beliefs and initiates and sustains the research.</p> <p>The researcher needs to be reflexive.</p>
<p>Typical Methods</p>	<p>Quantitative research is characterised as deductive reasoning. It is highly structured with large sample sizes, uses quantitative methods of analysis, numbers and facts, and a variety of data can be analysed.</p>	<p>Qualitative research is characterized as inductive reasoning. With small. It makes use of smaller sample sizes. It is an in-depth investigation and variety methods of analysis are applied and the data are interpreted.</p>	<p>A range of methods can be used, for example, mixed, multiple, qualitative, and quantitative methods.</p> <p>The main focus is on the research problem, and endeavouring to answer the research question/s.</p> <p>The emphasis and or focus is to find practical solutions and outcomes.</p>

The following section describes how the three paradigms link to the philosophies mentioned in the previous paragraph.

4.1.3 Pragmatism as Paradigm

Pragmatism is open to all realities and philosophies. It takes the objective and the subjectivist views and groups them together to obtain 'improvements' to the practice thus employing more than one way of data collection (Saunders et al., 2019): 'Pragmatist ontology, epistemology and axiology are focused on improving practice. Pragmatists adopt a wide range of research strategies, the choice of which is driven by the specific nature of their research problems' (Saunders et al., 2019: 160).

The researcher focuses on the research problem and research questions, and uses both quantitative and qualitative methodological approaches to understand the phenomena better, paying less attention to the method and more on answering the research questions (Ivankova, Creswell & Clark, 2007; Rossman & Rallis, 2012; Rossman & Wilson, 1985). The researcher focuses on the application of knowledge, on what works, and on solutions to problems (Patton, 1990). The truth is what is real and effective, and the focus is on the present moment of what works (Creswell & Creswell, 2018; Ivankova, Creswell & Clark, 2007).

Pragmatism provides the researcher with autonomy to select multiple research methods that best suit their needs, using different world-views and reflective theoretical lenses (Creswell & Creswell, 2018).

4.1.4 Interpretivism

The approach to qualitative research is the constructivist view combined with interpretivism focusing on the idea that humans have a free will to choose between various social influences and perceptions in a continuously changing environment: 'Social constructivists believe that individuals seek understanding of the world in which they live and work. Individuals develop subjective meaning of their experiences – meanings directed toward certain objects or activities' (Creswell & Creswell, 2018: 8).

The core idea of interpretivism is to work with subjective meanings that are already present in the social world, to identify their presence, to restructure them, to comprehend them, to avoid distorting them, and to use them as theoretical building blocks (Goldkuhl, 2012).

Researchers engage with participants through discussions (social interaction) such as interviews, use open-ended questions to gather as much information as possible from the participants, and then interpret this information to construct knowledge (Creswell & Creswell, 2018). These participants all have social, cultural, and historical views, perspectives and beliefs which may differ from other participants, and it is the role of the researcher to gather this information to understand the context and the complexity of the specific inquiry or phenomenon (Creswell & Creswell, 2018). When the researcher/social constructivist interprets information received from the participants the researcher him/herself also has to take note of their own experiences, cultures and background as it can impact on the interpretation of the information (Creswell & Creswell, 2018).

Social constructivism concerns itself with participants' own perceptions, their own experience, their own backgrounds, their history, their culture in the world they live and work in, and how we interpret this world. It asks the question: how do we construct knowledge? The process of qualitative research is largely inductive; the inquirer generates meaning from the data collected in the field.

With a qualitative approach, according to Creswell (2003), the inquirer normally asserts that the knowledge produced is based on constructivist viewpoints or participative perspectives through collaboration. With the aim of developing a theory or pattern, a constructivist viewpoint may contain many interpretations of human experiences as well as socially and historically created meanings.

4.1.5 Positivist

Positivism from an ontological perspective avers that there is only one single external reality which, from an epistemological view, can be scientifically measured (Wilkins, Neri & Lean, 2019; Saunders et al., 2019). Positivism within the context of research studies relates to the scientific

study of our social world. A philosophical attitude that data comprises the combined observed social realities and, by so doing, produces abstract, universal laws, which may be tested against collected data (St. Pierre, 2021). The researcher is separated, remains independent from the researched phenomenon, and adopts an objective attitude. These studies may comprise either qualitative or quantitative methods and they adhere to value-free research. The knowledge gleaned from adopting the positivist approach would exclude gaining knowledge through utilising different world-views, constructivism and indigenous-based scientific research methods (Braun & Clark, 2013).

4.1.6 The Philosophy and Paradigm underpinning this study

As indicated, the overarching research philosophy informing this study is Pragmatism. Although there is some tension between researchers on using pragmatism in a qualitative study there are however those who argue that pragmatism can be applied in a qualitative study (Goldkuhl, 2012; Kelly & Cordeiro, 2020). In this qualitative study pragmatism is the philosophy and is influenced by the need to provide practical relevance from the onset (Kelly & Cordero, 2020). Both pragmatism and interpretivism share some of the same characteristics, for example, to provide meaning through interaction. However there are differences between pragmatism and interpretivism (Goldkuhl, 2012; Padgett, 2017). 'Pragmatism is concerned with action and change and the interplay between knowledge and action' (Goldkuhl, 2012: 2).

Goldkuhl (2012) explains that qualitative researchers either embrace an interpretive or a pragmatist stance; an interpretivist is directed towards understanding and is commended for being interesting, whereas a pragmatist aims to build constructive knowledge that is valued for being useful. The epistemological value in pragmatism is that it focuses on practical understanding in a real world (Kelly & Cordeiro, 2020). In an organisational setting this is extremely valuable as practical understanding is entangled with knowledge production. As a result, numerous classical pragmatist theories have the ability to alter or improve present practices using learning and knowing rather than knowledge.

The researcher contributed to knowledge building through conducting semi-structured interviews and a pluralistic walkthrough focus group discussion with the participants in their natural setting

to explore their real-life experiences and perspectives on the implementation of the Signature Courses.

4.2 INDUCTIVE AND DEDUCTIVE REASONING

All research involves the use of theory which is part of either research design and/or forms part of the findings and conclusions. Saunders et al. (2019) describe the approach to theory development through inductive and deductive reasoning. The researcher is involved in theory testing (deductive) or theory building (inductive) which forms an integral part of how the researcher designs the research project (Saunders et al., 2019; Wilkins et al., 2019).

Inductive reasoning moves from specific observation to broad generalisation (Saunders et al., 2019). When open-ended data are collected, analysed, and interpreted to answer the research question/s, the objective of the researcher is to build themes from the collected data (Creswell, 2003). According to John and Daniel Creswell (2018), inductive data analysis continues from particular information to general themes, and the researcher makes sense of the data through interpretations (Creswell & Creswell, 2018). Inductive reasoning is more about theory development and not theory testing (Saunders et al., 2019; Wilkins et al., 2019). Inductive reasoning relates to qualitative studies (Saunders et al., 2019) and deductive reasoning is generally linked to quantitative studies as deductive reasoning aims to develop a theory or test an existing theory and moves from broad generalisation to specific observation (Saunders et al., 2019). Although these are the guiding principles of deductive and inductive reasoning, there are no set rules, and the literature indicates that one can apply deductive and inductive reasoning when doing research. Wilkins et al. (2019) point to the differences between two types of the generalisation:

with a difference being drawn between statistical generalisation, typical of quantitative studies where an inference is made from the sample to the population of reference, and analytical generalisation, or generalisable lessons learned or findings from qualitative studies.

(Wilkins et al., 2019: 3)

4.3 DIFFERENT METHODOLOGICAL RESEARCH APPROACHES

The following section will attend to the different methodological research approaches, namely quantitative, qualitative, mixed methods and multiple methods. Creswell and Creswell (2018)

warn researchers not to see quantitative and qualitative approaches in isolation or in contrast with each other but indicate that some studies tend to be more qualitative and other studies tend to be more quantitative.

4.3.1 A Quantitative Methodological Approach

Quantitative research is an approach for 'testing objective theories by examining the relationship among variables '(Creswell & Creswell, 2018: 41). Quantitative research typically uses statistical and numeracy data using certain techniques such as experiments and questionnaires to collect data and then analyses the data using statistical techniques (Creswell & Creswell, 2018).

Because the researcher engages in testing theories deductive reasoning will apply as they will deduce the final results from the statistical results and are on guard against bias. Because of these factual results, the findings from the study can be generalised and replicated (Creswell & Creswell, 2018).

The report written at the end of the study' has a set structure consisting of introduction, literature and theory, methods, results, and discussion '(Creswell & Creswell, 2018: 41).

4.3.2 A Qualitative Methodological Approach

Qualitative research focuses on understanding, exploring, and describing what a human being and or respondents understand about a particular topic, field, or phenomenon within a natural/naturalistic context or environment (Creswell & Creswell, 2018; Nieuwenhuis, 2007b). In addition, qualitative researcher should be able to see the world through the participants' eyes so that a particular subject, area, or phenomenon can be explained in terms of the significance that it holds for the participants, which tends toward inductive reasoning (Nieuwenhuis, 2007b; Ivankova, Creswell & Clark, 2007; Creswell & Creswell, 2018).

Qualitative research is a research process that involves the developing of research questions and collecting data in a natural environment from a participant to answer these questions. Thereafter inductive data analysis takes place where the researcher uses specific data to generate broad themes. The researcher then makes interpretations based on what they have

learned from the data while describing the complexity of events and providing a final research report (Creswell & Creswell, 2018; Wilkins et al., 2019).

Researchers who engage in qualitative research: 'honor an inductive style, a focus on individual meaning, and the importance of reporting the complexity of a situation' (Creswell & Creswell, 2018: 41).

A qualitative approach uses different inquiry strategies such as: 1) narratives, 2) phenomenology, 3) ethnographies, 4) grounded theory studies, and 5) case studies (Creswell & Creswell, 2018; Nieuwenhuis, 2007c). However, Nieuwenhuis (2007c) added 6) conceptual studies, 7) historical research and 8) action research. Ngulube (2019) added an additional research approach: 9) content analysis. Case studies as a research strategy will be discussed in detail [see 4.5 A Case Study Research Strategy].

4.3.3 A Mixed Methodological Approach

Mixed methods research methodology is the approach the researcher follows when using both quantitative and qualitative research techniques (Creswell, 2013; Creswell & Creswell, 2018; Ivankova, Creswell & Clark, 2007; Peters et al., 2014). There are several advantages in using mixed methods, for example, when working with challenging concepts the study can be made more valuable and/or better understood by combining qualitative and quantitative methodologies (Creswell, 2013). Another advantage, according to Peters et al. (2014) is that while mixed methods were not especially designed for implementation research, they do address typical implementation elements since they offer a useful means to comprehend various viewpoints, designs, and various types of outcomes (Peters et al., 2014).

Creswell and Creswell (2018) further indicate that qualitative and quantitative data provide the researcher with different types of information. For instance, qualitative data are open-ended and the respondent can share experiences or perceptions without boundaries, whereas quantitative data are close-ended and the respondent need only respond to a specific question. The challenge with applying mixed methods is that this method is time intensive because both qualitative and quantitative data sets need to be collected, analysed, interpreted, and research reports need to be written. Further, as indicated by Creswell and Creswell (2018), this method

is suited to the study of complex issues, for example, 'climate change, terrorism, conflict, societal disparities, healthcare, educational access, and poverty' (Ngulube, 2020: 426) which cannot be addressed by traditional research methods because of social and institutional unpredictability. Finally, it is important to explicitly define one's goals and the type of mixed methods research design that is employed (Ngulube, 2020).

4.3.4 A Multiple Methodological Approach

When researchers choose the multi-methods approach as their research design, they independently employ two or more data collection methods to address the research questions or support the hypotheses. The multi-methods approach may have separate studies using a combination of qualitative and quantitative research. Using the multi-methods design does increase the robustness of the results as findings can be enhanced via triangulation, where different sources of data results meet to produce congruency/agreement (Kaplan & Duchon, 1988; McMillan & Schumacher, 2001; Mouton, 2002). Multi methods, therefore, may provide the researcher with a robust set of analysis tools.

The difference between mixed methods and multi-methods are that with mixed methods quantitative and qualitative research are combined to achieve an in-depth knowledge and understanding of the problem (Creswell, 2013). Multi methods use different data collection methods, for example, document analysis, interviews and pluralistic walkthrough focus group discussion, which are then analysed separately and may not be integrated.

Table 4.2: Philosophy and Paradigm, Methodological Approach and Reasoning

Paradigm	Realist/ positivist	Constructivism interpretivism	Pluralism Pragmatism
Methodological Approach	Quantitative methods	Qualitative methods	Multiple Methods Mixed Methods

In this section the researcher described the different paradigms [see 4.1.2 Different Research Philosophies and Paradigms]; identified inductive and deductive reasoning as approaches to theory development; discussed the variance between inductive and deductive reasoning [see 4.2

Inductive and Deductive Reasoning]; and thereafter the three different research approaches were discussed [see 4.3 Different Methodological Research Approaches].

In summary, the research design forms an integral component when testing a theory, interpreting meaning, understanding more about a problem, and even when finding solutions to that problem (Saunders et al., 2019).

4.4 RESEARCH DESIGN

The following section will attend to what a research design is, the researcher will provide a few definitions to provide some insight on the research design. Thereafter some knowledge on what role does a research design have in a research study and lastly what influences the research design choices have will be shared.

4.4.1 What is Research Design?

The following different definitions from renowned scholars are displayed to assist in understanding what a research design entails.

Research design is defined as the plan the researcher will follow from the premise to answering the research question(s), the decision(s) and/or the choice(s) the researcher will make (Saunders et al., 2019). Other definitions include:

- 1) 'a plan for selecting subjects, research sites, and data collection procedures to answer the research question(s)' (McMillan & Schumacher, 2001: 166).
- 2) 'a route planner, it guides you how to reach your destination/end goal with your research and needs to be well planned and executed' (Mouton, 2002: 107).
- 3) 'a set of guidelines and instructions to be followed in addressing the research problem' (Mouton, 2002: 107).
- 4) 'a strategy which moves from the underlying philosophical assumptions to specifying the selection of respondents, the data gathering techniques to be used and the data analysis to be done' (Nieuwenhuis, 2007c: 70), and

- 5) 'the point of departure [which] serves as a blueprint for the entire research project' (Ngulube 2019: 87).

The researcher merged the views of Mouton (2002) and Nieuwenhuis (2007c) and opted for a working definition of research design as follows: Research design is a route planner which should be well-planned as it guides the researcher in using underlying philosophical assumptions to address the research problem/questions, with appropriately chosen strategies to identify and select participants, collect data through different methods, analyse the data, and present the findings in a well-described ethical manner.

Choosing an appropriate research design is very important in any study as the research design should address the research objectives and research questions, and provide adequate answers to the problem at hand. Creswell (2013) refers to the scope of a research design ranging from broad philosophical and theoretical perspectives to the quality and validation of a study.

The 'research onion', was developed by Saunders et al., (2019) and is very useful to follow as it provides a holistic picture of the choices the researcher makes during the research design see diagram below.

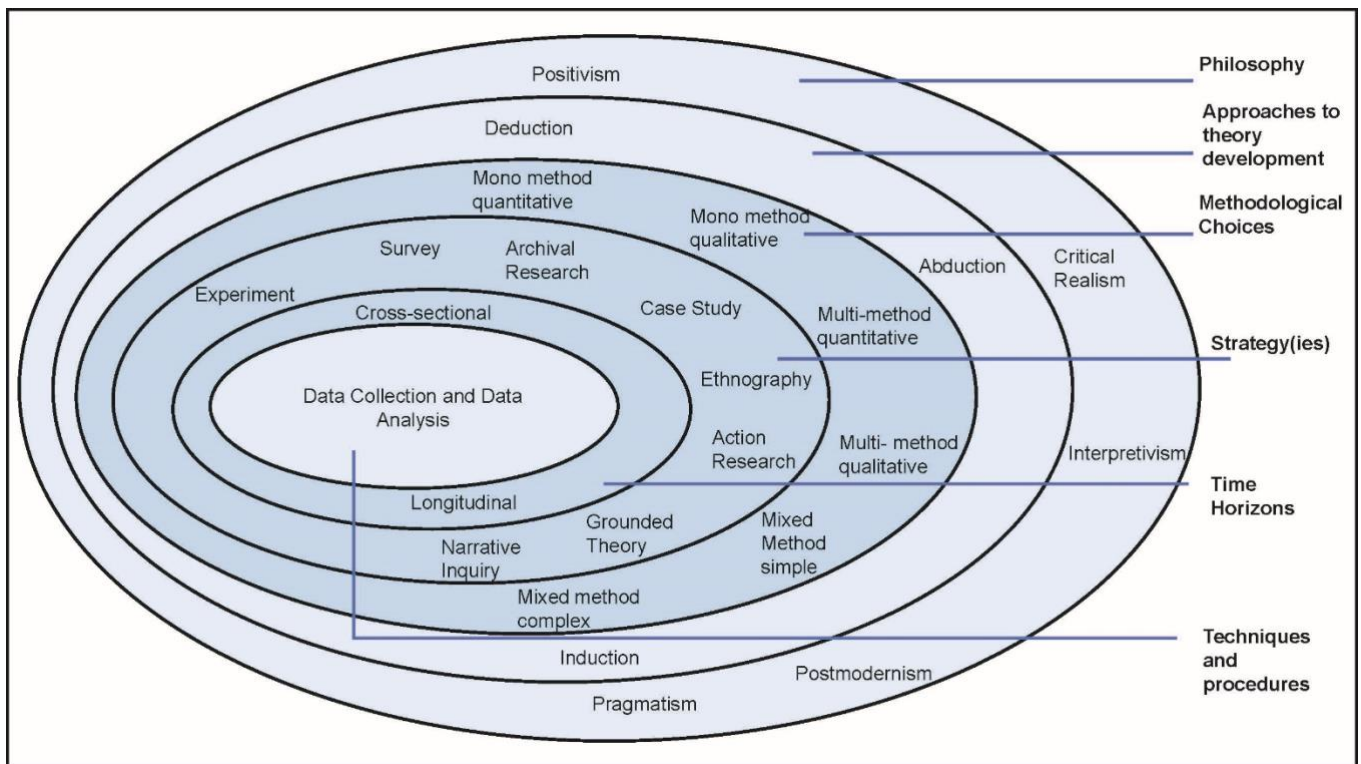


Diagram 4.2: Saunders Research Onion: Adapted from Saunders, Lewis and Thornhill (2019).

As indicated when the researcher wants to conduct research to contribute to the pool of knowledge and/or close a certain gap that may exist because there is no or insufficient information about a certain topic, the researcher needs to determine 'how' the researcher will go about finding the answers to the specific problem (Yin, 2009).

4.4.2 What Role does a Research Design have in a Research Study?

The research design/plan is a tool and a set of rules to guide the researcher to reach the end goal in mind Mouton (2002). The research plan/design assists the researcher to identify the resources needed during specific time frames and the sequence of events (McMillan & Schumacher, 2001; Rossman & Rallis, 2012). After identifying a particular problem, the researcher will perform some preliminary investigations (Yin, 2009). The ultimate end goal is to fill the gap or void and to address the problem or gap through answering certain questions (Yin, 2009). Thereafter the researcher develops the research goals that guide the researcher who has the ultimate goal in mind, and that is to address the research gap (Yin, 2009).

4.4.3 What Influences the Research Design Choices?

We live in a complex world. In order to prepare ourselves to adjust from an information world to a knowledge world we need to build knowledge in order to survive and in order to be competitive (Ivankova, Creswell & Clark, 2007). Through research, according to Ivankova, et al. (2007), we can change, build on essential knowledge, find answers to questions, understand the world we live in, and be competitive and successful. Ivankova, Creswell and Clark (2007) further indicate that when we do research, we want to 'improve' existing knowledge or fill a gap where new information is needed and, in this way, broaden the pool of knowledge. According to Ivankova et al. (2007) research is not only about doing research ourselves but also about evaluating research that others conduct.

In this project, the researcher wanted to find out from the diverse group of stakeholders who were involved with the Signature Courses implementation what they believe constituted the implementation of online courses; what, according to them, was needed to implement the Signature Courses; and what kind of support they needed. The researcher wanted to know from the Signature Courses stakeholders what they learned during the process and what they would have done differently. During the implementation process these individuals had their own beliefs and perceptions on how it evolved from the point when the idea was shared with them until the point of reflection when they had to look back and report on this project. Ideas on the impact of the design and the decisions taken regarding the implementation will only be able to come from

these stakeholders, as they were accountable and responsible for all the variables that were needed for the project.

The design further allowed the researcher to conduct interviews and focus group discussions with the stakeholders, in order to collate, analyse and summarise information to substantiate the hypothesis and eventually display this information as a research output. The design allows the researcher to gain more in-depth knowledge of the online learning field by employing research lenses. The researcher therefore gained knowledge herself by acquiring research skills and evaluating the input and feedback gained from this research in order to be able to descriptively capture the voices of the Signature Courses stakeholders through an explorative process (Yin, 2009). The process will enable the researcher to capture the story of the Signature Courses by using the knowledge offered by the stakeholders and the lessons they have learnt during the implementation process.

Dul and Hak (2008) indicate three main reasons why it is useful to consider using a case study:

- (a) when the topic is broad and highly complex, (b) when there is not a lot of theory available, and (c) when 'context' is very important. It is claimed that all three conditions hold for many topics in business research.

(Dul & Hak, 2008: 24)

For the purpose of this study the researcher chose a case study inquiry strategy as an interactive method to gain knowledge and understanding from the real practice as it happened in the Signature Courses (Nieuwenhuis, 2007b; Yin, 2009). The researcher identified the Signature Courses project as a case study to get answers to the research questions. When using a case study inquiry strategy, the researcher may choose from a collection of techniques on how to collect data, for example, document analysis, interviews and pluralistic walkthrough focus group discussion to answer the questions related to the implementation of online learning. The researcher will be able to map the implementation process and develop a framework from the data collection input. The participants will be able to respond based on what they experienced during the Signature Courses implementation and would be able explain why they implemented the Signature Courses the way they did and, indicate to the researcher how and what they did to ensure that it was successfully implemented (Yin, 2009). The lessons learned, the challenges

the participants encountered, and how they managed to resolve these challenges will add to existing literature on implementation studies and will provide a framework that can possibly prevent similar challenges in the future. The document analysis can be used to learn more about online learning and reinforce the lessons learnt, or it may substitute or corroborate (cross correlate) the input from the participants in the interviews and the focus groups. The following section will provide more detail on case study strategies. Below is a diagram that illustrates the research design followed by the researcher.

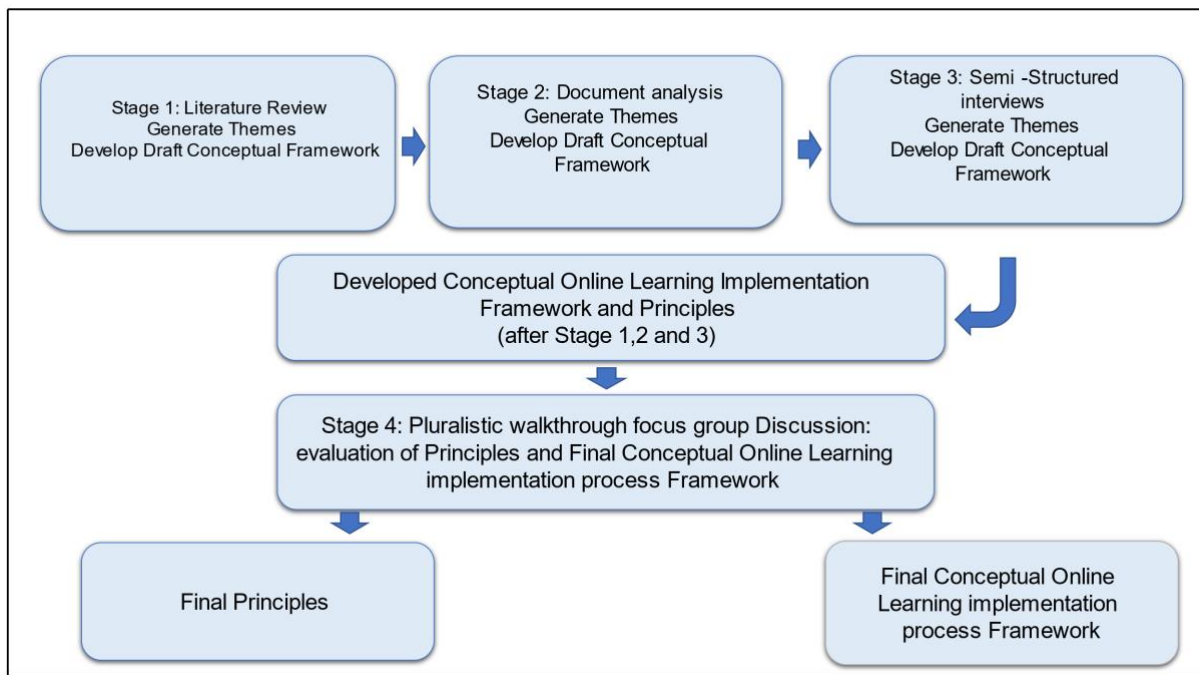


Diagram 4.3: Research Design

In this section, the researcher discussed the pragmatist philosophy and paradigm, inductive reasoning as a way to build knowledge, and the multi-method qualitative methodological approach which will allow the researcher to use multiple ways to collect and analyse data. What follows is a discussion of the case-study strategy of inquiry.

4.5 A CASE STUDY RESEARCH STRATEGY

This section will focus on providing information on a case study protocol, different case study designs, the design of this study namely a descriptive, explorative case study design, case study questions and lastly case study data collection techniques.

As indicated previously in this chapter [see 4.4.1 What is Research Design] there are rules and guidelines to follow during the research design/planning stage as well as strategies which can be linked to a qualitative approach which have been suggested by renowned scholars (Mouton, 2002; Yin, 2009).

Case-study research can be conducted in qualitative studies (Creswell & Creswell, 2018; Nieuwenhuis, 2007c; Ngulube, 2019). A case study protocol was proposed by Yin (2018) for numerous reasons:

- 1) It guides the researcher to be focused on the case study topic and the objectives or targets;
- 2) It assists the researcher with data collection procedures;
- 3) It assists to identify the participants and or audience for the case study;
- 4) It assists with the development of the questions;
- 5) It predicts certain case study problems that may arise, and
- 6) It provides guidance and support on the descriptive reporting.

Both Dul and Hak (2008) and Yin (2018) indicate that using a case-study protocol enhances the reliability of the case study. The case-study protocol discussion follows.

4.5.1 Case Study Protocol

The protocol according to Yin (2018) consists of four sections and will be discussed briefly:

Table 4.3: Case Study Protocol

Section A:	A practical example on how to implement Section A would be to draft an introduction letter and sent it to all identified participants/interviewees that are involved in the study. The letter should contain an overview of the case study and information such as the sponsor, rationale for the case study, the objectives, questions, background readings about the case study. This letter to be sent to two groups 1) steering committee and 2) Functional units [see Annexure 4.3 and Annexure 4.4].
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Section B:	This section should indicate the data collection procedure that the researcher plans to follow. This includes the data sources, for example, documents, interviews, and focus groups. The procedures that the researcher will put in place need to ensure that human subjects are protected. It should be spelled out how the credentials of the participants were presented to ensure confidentiality, and any other logistical activities, for example, reminders etc. [see Annexures 4.5: Consent form steering committee and the functional units, and 4.7 Consent form to the pluralistic walkthrough focus group discussion]. Also see the sections 4.6 Qualitative Case Study Population, Sample, and Sample Techniques, and 4.7 Qualitative Case Study Data Collection Procedures. Yin explains that written documents, historical records, interviews, observations, and other items are used to thoroughly characterise the case study and its contents, among other data sources (Yin 2009; Yin 2018).
Section C:	The specific research questions that the case study researcher must keep in mind when collecting the data from the documents and participants (potential sources of evidence when searching for information) [see Annexure 4.1 Research-, Steering committee-, and Functional Units Interview Questions]
Section D:	Data analysis, presentation of other documentation, bibliographical information [see 4.8 Qualitative Case Study Data Analysis and 4.3.2 A Qualitative Methodological Approach]

4.5.2 Different Case Study Designs

There are different case study designs. Yin (2009) indicates that the researcher must decide prior to any data collection which design (single or multiple) will answer the research question, and should differentiate between single and multiple case studies. Yin (2009) explains the two main case study designs as single case study and multiple case study (2009). The single case study is divided into two namely the 1) holistic: single unit of analysis case study and 2)

Embedded: multiple units of analysis case study. Both are single studies but the embedded case study has multiple units of analysis within the single case study.

Multiple case study is also divided into two types of design namely 1) holistic multiple case studies and 2) embedded multiple case studies. Multiple case studies refer to more than one case study and the multiple embedded case study as multiple units of analysis within the multiple case studies. Dul and Hak (2008) also identified two types of case study as a: 'single case study, a case study in which data from one instance is enough to achieve the research objective, and the comparative case study, a case study that requires data from two or more instances to achieve the research' (Dul & Hak, 2008: 4).

The researcher had to decide between a single case study design and a multiple case study design. The researcher decided on a single case study as the Signature Courses project was launched with six, later, seven modules and no comparisons are required, since the case study was able to answer all the research questions. The researcher wished to understand in depth the complex implementation of the SC project at Unisa as a single case phenomenon. The researcher needs to understand the important contextual information regarding the design, decisions, interdependencies, and variables through mapping the implementation process using the four questions as a guideline that directly relates to the implementation process (Yin, 2009). Some criticism against single case studies is that generalisation of the findings are a challenge (Nieuwenhuis, 2007c; Yin, 2009). Yin (2009) however argues that analytical generalisation is possible with single and multiple case studies.

Although SC is a single case the researcher will argue that the participants were exposed to all the modules during the implementation phase at all the different Colleges as they supported each other and provided feedback. The content of the modules may differ and that also ensure some diversity within the Signature Courses.

4.5.3 Descriptive, Explorative Case Study Design

Case study as a research inquiry is descriptive, exploratory, or explanatory. Exploratory design is where the researcher needs to explore a certain topic as there is no theoretical framework to assist. Similarly, if the researcher needs to collate information through qualitative techniques in

order to generate themes (Ivankova, Creswell & Clark, 2007; McMillan & Schumacher, 2001; Mouton, 2002). Many social scientists, according to Yin (2009), think that case studies can only be exploratory, histories and surveys can only be descriptive, and experiments can only be explanatory or casual inquiry. However, Yin (2009) advises following an inclusive and pluralistic view, indicating that every research method can be used for exploratory, descriptive, and explanatory research inquiry.

This qualitative research study will therefore make use of a sequential, explorative, descriptive case-study approach.

4.5.4 Case Study Questions

Case study researchers should have the ability to ask good questions, to interpret the answers, to be a good listener, and not be influenced by his/her own philosophies or ideas. She should be adaptive and flexible, see challenges as opportunities, have a firm grip of the issues studied, be unbiased, and be sensitive to opinions outside own belief system (Dul & Hak, 2008; Yin, 2009).

'How' and 'why' questions which do not call for the manipulation of behavioural occurrences but place emphasis on current events, are the best ones to utilise in case studies. It may be that the researcher might not have posed 'what', 'who', and 'where' queries (Yin, 2009; 2018).

The researcher will gain information to address the 'how' and 'why' questions of the implementation in an uncontrolled environment, and should focus on contemporary events (Yin, 2009; 2018). This will enable the researcher to gain knowledge from the actual implementation of the Signature Courses by conducting interviews with the steering committee and functional departments and units such as the academics within the colleges, professional and administrative support staff, and the teaching assistants. This study endeavours to display a range of interconnected interpretive variables to make the academic world visible in a different way.

Yin (2009) attests that theory development for case studies is possible however it needs to be stated through a simple purpose statement. It is essential that the purpose of the case study is

clearly defined in the design phase, for example, to develop or to test theory. The different case study data collection techniques will be discussed next.

4.5.5 Case Study Data Collection Techniques

There are different data collection techniques such as questionnaires, structured interviews, tests, structured observations, inventories, rating scales and unobtrusive measures (McMillan & Schumacher, 2001; Mouton, 2002; Yin 2018). In order to acquire data for this study, the researcher used a three-stage data collection method through sources and analyse related documents, conduct interviews, and conduct a pluralistic walkthrough focus group discussion. Stage 1 will not be discussed in this Chapter as it was already discussed in Chapter 3 which refers to the scoping review to find available literature in an attempt to answer all the research questions with the aim to develop a conceptual framework, also see Diagram 4.4 Qualitative Data Collection and Analysis).

4.5.5.1 Stage 2: Documents and Artefacts

Documents are written words/text or images, or records printed in the past without the researcher's involvement, and they may consist of:

... anecdotal notes, letters, diaries, and documents. Official documents include internal papers, communication to various publics, student and personal files, program descriptions, and institutional statistical data.

(McMillan & Schumacher, 2001: 42)

Data sources can consist of:

... published and unpublished documents, company reports, memoranda, agendas, administrative documents, letter, reports, email messages, faxes, newspaper articles, or any other document that is connected to the investigation.

(Nieuwenhuis, 2007c: 82)

These filed documents need to be retrieved from archives, repositories, or catalogues in libraries, and:

...permission must be obtained to work with the original texts.
(McMillan & Schumacher, 2001: 42)

Artefacts are also part of documents and consist of materials such as student artwork, and objects such as 'logos or mascots' (McMillan & Schumacher, 2001: 42).

According to Nieuwenhuis (2007c) there are specific document criteria such as primary or secondary source documents, or official or unofficial documents, the publication date of the documents, the purpose of the documents, how the documents, for example, relate to the study, the context, and the research methodology that was used in developing the document (empirical etc.).

4.5.5.2 Stage 3: Interviews

According to Rossman and Rallis (2012) the rationale for using interviews needs to be clear: 'To understand individual perspectives. To deepen understanding. To generate rich, descriptive data. To gather insights into participants 'thinking. To learn more about the context' (Rossman & Rallis, 2012: 176).

Nieuwenhuis (2007c) identifies three different types of interviews, open-ended, semi-structured, and structured interviews. Rossman and Rallis (2012) identify interviews as informal conversation interviews, interview guide approach, and standardised open-ended interviews (Rossman & Rallis, 2012).

Semi-structured interviews differ from open-ended interviews as they are more structured in offering probing questions to the participants to guide them in a certain direction to ensure that the researcher obtains the information required to address the research phenomena (Nieuwenhuis, 2007c). The researcher needs to create a two-way, semi-structured conversational environment where the questions allow for the participant to share their own perceptions and even provide solutions to some challenges, which indeed happened during the interviews with the participants (Nieuwenhuis, 2007c). The participant is allowed to probe and ask questions during the interview and can also go back after the interview if some information is not clear (Nieuwenhuis, 2007c). The researcher and the participant should feel comfortable in

sharing ideas, views, and experiences. The advantage of semi-structured interviews is that the feedback from the participants is used to verify data received from other sources, for example, document analysis or other literature studies (Nieuwenhuis, 2007c).

According to Nieuwenhuis (2007c), semi-structured interviews are used to corroborate with other data sources such as document analysis. Gerring (2007) indicates that one of the advantages of case study interviews is that the researcher receives in -depth information from participants which would not be the case when using surveys (Gerring, 2007; Rossman & Rallis, 2012).

The question always arises how many participants are needed to form part of the interviews and, according to Yin (2018), between 20-30 participants for an hour can provide enough data to form findings.

There are other tasks related to interviews, for example, the researcher needs to develop questions [and should check the interview schedules depending on the availability of the participants (Yin, 2018) [see 4.5.4 Case Study Questions, also see Annexures 4.1 and 4.2]. Other tasks include testing the interview format prior to the scheduled interviews, recording of the interviews, and transcriptions of interviews (Nieuwenhuis, 2007c; Rossman & Rallis, 2012; Yin, 2018).

4.5.5.3 Stage 4: Pluralistic Walkthrough Focus Group Discussion

The pluralistic walkthrough focus group discussion is a tool that can be used by a group of users to evaluate the usability of a system or framework in the early stages of the design so that the framework is successfully implemented (Riihiaho, 2002). The way the process unfolds is where the administrator presents the system or framework to a group of users and provides the users with a hard copy of the content (Riihiaho, 2002; Thorvald, Lindblom & Schmitz, 2015). The users need to be experienced and knowledgeable in the field and will be the users of the online learning framework. Through intense discussions and debates the users evaluate the framework according to its useability (Riihiaho, 2002; Thorvald, Lindblom & Schmitz, 2015). The administrator's role is to be available if there are any questions and/or uncertainty from the users (Riihiaho, 2002). The administrator may start off providing the easier task to do to get the users familiar with the setting, and can then move to more advanced, complicated tasks. One of the advantages of a pluralistic walkthrough focus group discussion is that the designer can put

him/herself in the shoes of the users which encourages involvement and an eagerness to listen, serving as a motivation to improve the framework (Riihiaho, 2002; Thorvald, Lindblom & Schmitz, 2015). Another advantage is that the participants representing interdisciplinary units with different competencies contribute to creative and collaborative design solutions (Thorvald, Lindblom & Schmitz, 2015). The participants of the pluralistic walkthrough focus group discussion may be required to complete a questionnaire to indicate how useable/easy to use or comprehensive the framework is (Thorvald, Lindblom & Schmitz, 2015). If this pluralistic walkthrough focus group discussion process takes place early in the design stages it allows the designer of the framework to adjust the framework according to the users' input and advice so that the users find it easy to work with the framework (Goldkuhl, 2012; Riihiaho, 2002). [See Chapter 3: Research Methodology and Design].

The next diagram displays the four different stages of the data collection and analysis.

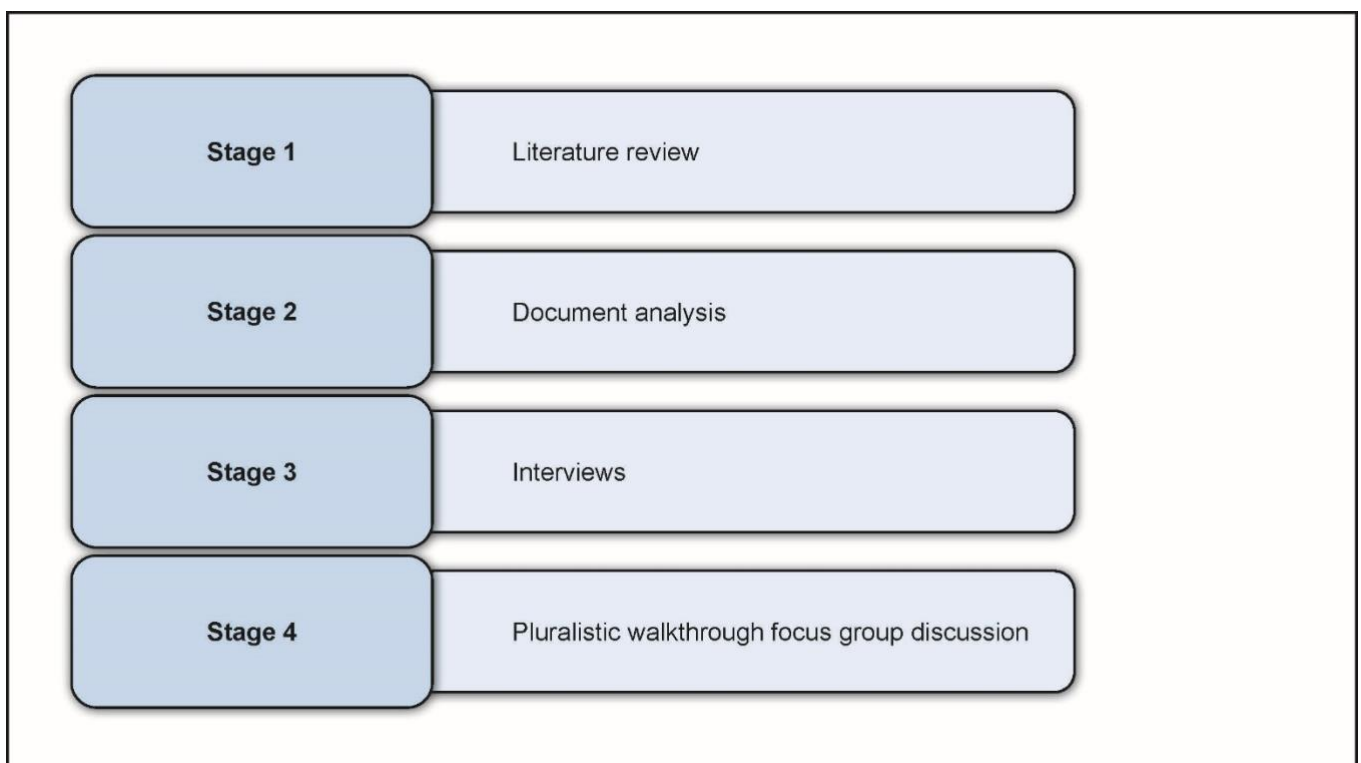


Diagram 4.4: Qualitative Data Collection and Analysis

Please take note that Stage 1, the Literature review, is not part of this chapter [see Chapter Three]. The data collection that will be discussed in this chapter will flow from Stage 2 (document

analysis), through to Stage 3 (semi-structured interviews) and hence to Stage 4 (pluralistic walkthrough focus group discussion).

Chapter 5 can be visited for more information on document analysis, Chapter 6 on semi-structured interviews and Chapter 7 on pluralistic walkthrough focus group discussion.

4.6 QUALITATIVE CASE STUDY POPULATION, SAMPLE AND SAMPLING TECHNIQUES

The following section will attend to population, sample, and sampling techniques for document analysis, for semi-structured interviews and for the pluralistic walkthrough focus group discussion. According to McMillan and Schumacher (2001), there are two types of sampling, namely, probability and non-probability sampling. With probability sampling there is always some kind of random sampling that takes place. Non-probability has a specific focus, purpose or criterion in mind. The proposed participants/subjects need to be accessible (Creswell & Creswell, 2018; Maree & Pieterse, 2007; McMillan & Schumacher, 2001).

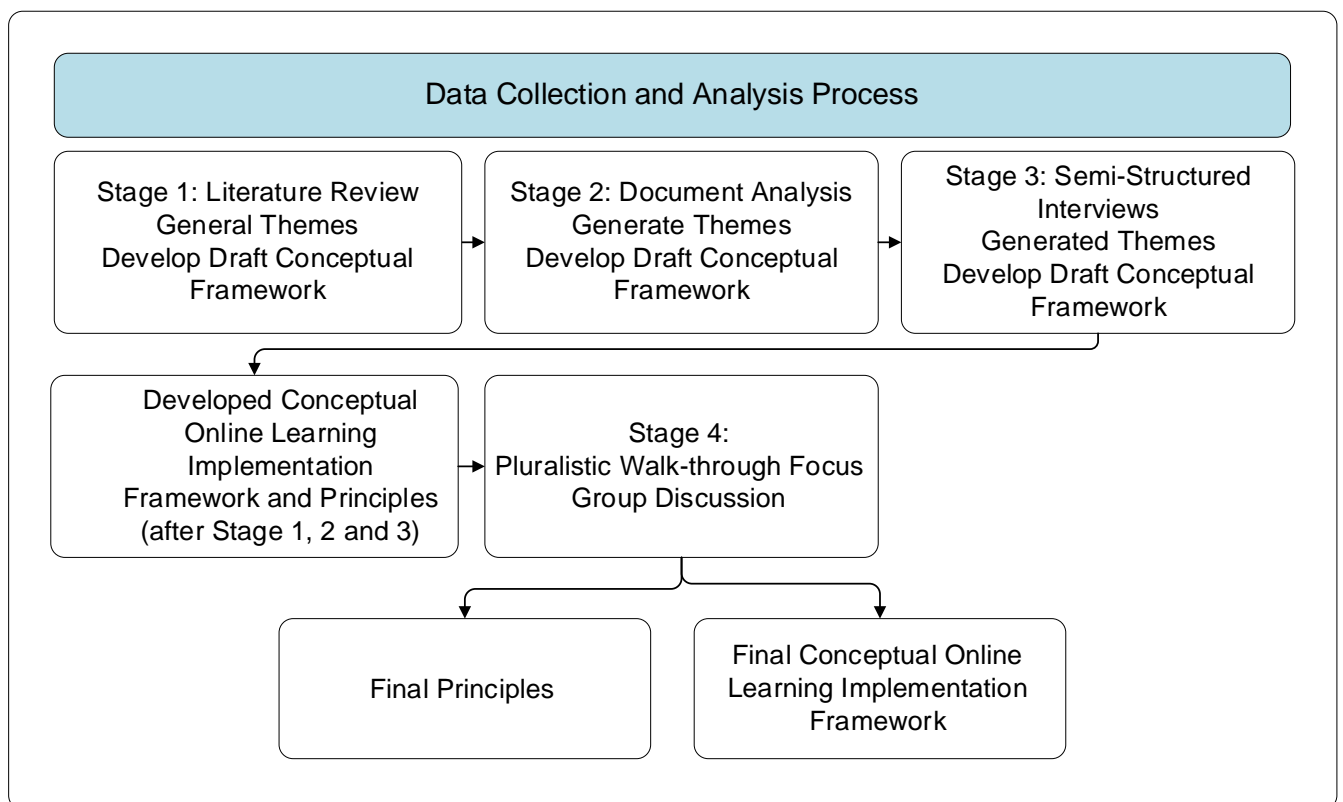


Diagram 4.5: Data Collection and Analysis Process

Probability sampling consists of simple random, systematic, stratified and cluster sampling. Convenience sampling, purposive sampling, snowball sampling and quota sampling are examples of non-probability sampling techniques (Maree & Pieterse, 2007).

A researcher will use non-probability sampling when there are time limitations during the research or when testing a measuring instrument. This kind of sampling is also used when preliminary studies are required before the researcher can develop a questionnaire, when there are financial constraints, or when it is not easy to find the population (Maree & Pieterse, 2007). Purposive sampling allows the researcher to use his/her own judgement on the size of the sample (Maree & Pieterse, 2007; McMillan & Schumacher, 2001).

The collected data should be able to provide valuable information and, at the end, should be able to answer the research questions (Maree & Pieterse, 2007; McMillan & Schumacher, 2001). The researcher therefore needs to ensure that the sample and sample size is justifiable. With qualitative research the following question often arises What is the correct number of participants to be interviewed? The ideal number of participants for an interview in qualitative research is open to debate. In an article by Baker and Edwards (2012) the authors use several participating researchers to offer a number that is considered acceptable. The responses gathered by Baker and Edwards (2012), range from 1 participant to 60 for a single case study. There can therefore be no designated number of interview participants, however the consensus seems to be that a justifiable sample size is when the researcher reaches saturation meaning that no new information is emerging from the data collection method, for example, interviews (Baker & Edwards, 2012). Another reason for justification, would be the 'inclusion of a particular case' (Baker & Edwards, 2012: 17). An example of such would occur when a specific person and/or organisation needed for an interview is difficult to locate. Lastly, practical technicalities may influence the sampling and sampling size, for example, the type of degree qualification (Masters or Doctoral), as well as the resources for example time and money available to collect data (Baker & Edwards, 2012).

Factors such as financial constraints may have an impact on the sample size. With exploratory research design the sample size can be small (Maree & Pieterse, 2007; McMillan &

Schumacher, 2001). Where the researcher uses any kind of random sampling the sample size is small in comparison with the population.

In this research project non-probability and purposive sampling were done for Stage 2 (document analysis), Stage 3 (semi-structured interviews, and Stage 4 (pluralistic walkthrough focus group discussion).

4.6.1 Stage 2: Document Analysis

The documents the researcher initially planned to include consisted of those dealing with the Signature Courses. These included: 1) the minutes and decision register; 2) minutes, progress reports, and workshop presentations; 3) Sections dealing with the Signature Courses in the minutes and decision register; 4) SC functional unit progress reports; 5) strategic plans and unit plans such as ICT; 6) plans and related implementation reports; 7) related Unisa policies; and 8) reports. There were documents identified that were not directly linked to the Signature Courses but may have had an impact on implementation, for example, the university's strategic plans and policies. The documents requested were in the time range from inception during 2009 up to December 2015.

All the documents that were initially planned for and requested were received and used. The documentation assisted the researcher to get a better understanding of the background to the Signature Courses, and assisted in answering the research questions, for example, the design, variables, interdependencies, and decisions before and during the implementation.

4.6.2 Stages 3 and 4: Population, Sampling and Sample Size for Semi-structured Interviews and the Pluralistic Walkthrough Focus Group Discussion

4.6.2.1 Stage 3: Signature Courses Project Steering Committee and Functional Units

There were five members in the original Steering Committee for the Signature Courses at Unisa. Three members were from Unisa, and the additional two members were from international

universities who assisted with the planning and document preparation. The Unisa members had the overall responsibility and accountability for the planning and implementation, and were part of the standardisation, initial planning, benchmarking with the US, development, and implementation, according to the vision and goals of the initiative. The researcher had semi-structured interviews with only two steering committee members as the third participant died a month before the interviews took place. See Table 4.4 Stage 3: Semi structured interviews Population and Sample Size

Table 4.4: Stage 3: Semi-Structured Interviews Steering Committee Population and Sample Size

Steering committee: Semi-Structured Interview Population and Sampling	
Population Size	Sample Size
<ul style="list-style-type: none"> Signature Courses Steering Committee consisted of 3 members in the historical Steering Committee within Unisa however one member passed on. 	<ul style="list-style-type: none"> All members in the Steering Committee Total of 2 Members

Table 4.5 below provides detail on the members that were part of the Signature Courses functional units for the semi-structured interviews, playing a crucial role during the development and implementation of the Signature Courses. The table also provides the sample sizes for the Semi-structured Interviews.

The researcher did not want to exclude any of the functional units that were part of the Signature Courses project, and here the inclusion and exclusion criteria assisted the researcher to ensure that deep rich information was collated from the participants (Baker et al., 2012). Accordingly, the sampling included all the role players that had a direct involvement with the Signature Courses, and the plan for the sample size was to have an interview with at least one member per functional unit.

The final sixteen participants were drawn from both the steering committee members and from the functional units that played a crucial role in the implementation of the Signature Courses.

Table 4.5: Stage 3: Semi-Structured Interviews Functional Units Population and Sample Size

Functional units: Semi-Structured Interview Population and Sampling	
<ul style="list-style-type: none"> • There were seven primary lecturers 	<ul style="list-style-type: none"> • Two primary Lecturers who were directly involved with the Signature courses
<ul style="list-style-type: none"> • There were seven Curriculum Development and Transformation (DCDT) 	<ul style="list-style-type: none"> • One Learning Development member from DCDT who was directly involved with the Signature courses
<ul style="list-style-type: none"> • Members from the Department of Instructional Support and Services (DISS) which consist of the following three units (Centre for Professional Development (CPD), Tuition Support and myUnisa Administration) 	<ul style="list-style-type: none"> • One member from CPD who was directly involved with the Signature courses
<ul style="list-style-type: none"> • One Members from Information Communications Technology Department (ICT) 	<ul style="list-style-type: none"> • One member from ICT who was directly involved with the Signature courses
<ul style="list-style-type: none"> • One member from Human Resources department (HRD) 	<ul style="list-style-type: none"> • One member from HRD who was directly involved with the Signature courses
<ul style="list-style-type: none"> • One member from Finance, Costing and Budgeting Department, 	<ul style="list-style-type: none"> • One member from Finance, Costing and Budgeting Department who was directly involved with the Signature courses
<ul style="list-style-type: none"> • One member from Department of Institutional Development (DIA) 	<ul style="list-style-type: none"> • One member from DIA who was directly involved with the Signature courses
<ul style="list-style-type: none"> • Two members, one member from Department Student Admission and Registration (DSAR) and one member from Department Student Assessment and Administration (DSAA). 	<ul style="list-style-type: none"> • One member from DSAA who was directly involved with the Signature Courses

<ul style="list-style-type: none"> One member from Study Material and Print Production (SMPD) 	<ul style="list-style-type: none"> One member from SMPD who was directly involved with the Signature Courses
<ul style="list-style-type: none"> Five members from the Regional Hubs 	<ul style="list-style-type: none"> One member from the Regional Hub who was directly involved with the Signature Courses (Technology Enhanced Coordinator)
<ul style="list-style-type: none"> Teaching assistants 	<ul style="list-style-type: none"> Two teaching assistants from the Colleges who were directly involved with the Signature Courses
<ul style="list-style-type: none"> Members from College Administrators 	<ul style="list-style-type: none"> One member from the College who was directly involved with the SCs
<ul style="list-style-type: none"> 32 Unisa permanent staff members 192 members (teaching assistants) 	<ul style="list-style-type: none"> A total of 14 members Total of two part time member initially
<ul style="list-style-type: none"> Total 224 (32+192) 	<ul style="list-style-type: none"> A total of 16 members (14+2) These members will be selected depending on availability)

Table 4.6 below provides detail on the members that were part the functional units, and other experts on online learning for the pluralistic walkthrough focus group discussion. The table below also provides the sample sizes for the pluralistic walkthrough focus group discussion. If the researcher determines inconsistency or a gap clarity is requested. The reader will notice that the steering committee is not part of the table below but that it consists of the functional units that were directly involved in the Signature Courses implementation. (Note: The pluralistic walkthrough focus group discussion invited staff currently employed by Unisa to establish the usability of the developed framework for future online implementations at Unisa. Not one of the Steering committee members of the Signature Courses are currently employed by Unisa).

Table 4.6: Stage 4: Pluralistic Walkthrough Focus Group Discussion Population and Sample Size

<p>Pluralistic Walkthrough Focus Group Discussion Sampling</p>

Population Size	Sample Size
<ul style="list-style-type: none"> There were seven primary lecturers 	<ul style="list-style-type: none"> Four Lecturers who were directly involved with online learning
<ul style="list-style-type: none"> There were seven Curriculum Development and Transformation (DCDT) 	<ul style="list-style-type: none"> Two Learning Development members from DCDT who were directly involved with online learning
<ul style="list-style-type: none"> Members from Instructional Support and Services (DISS) which consist of the (Centre for Professional Development (CPD), Tuition Support and myUnisa Administration) 	<ul style="list-style-type: none"> One member from DISS who was directly involved with online learning
<ul style="list-style-type: none"> Members from Information Communications Technology Department (ICT) 	<ul style="list-style-type: none"> One member from ICT who was directly involved with online learning
<ul style="list-style-type: none"> Members from Human Resources department (HRD) 	<ul style="list-style-type: none"> One member from HRD who was directly involved with online learning
<ul style="list-style-type: none"> Members from Finance, Costing and Budgeting Department, 	<ul style="list-style-type: none"> One member from Finance, Costing and Budgeting Department who was directly involved with online learning
<ul style="list-style-type: none"> Members from registration, assignment and examination DSAR and DSAA. 	<ul style="list-style-type: none"> Two members from DSAA who were directly involved with online learning
<ul style="list-style-type: none"> Study material and print production (SMPD) 	<ul style="list-style-type: none"> One member from SMPD who was directly involved with online learning
<ul style="list-style-type: none"> Members from the five Regional Hubs 	<ul style="list-style-type: none"> One member from the Regional HUB who was directly involved with online learning (Technology Enhanced coordinator)
<ul style="list-style-type: none"> Library 	<ul style="list-style-type: none"> One Librarian who was directly involved with

	online learning
<ul style="list-style-type: none"> • Research Expert 	<ul style="list-style-type: none"> • One Research Expert who was directly involved with online learning
<ul style="list-style-type: none"> • The members could not be quantified except for the five Regional Hubs 	<ul style="list-style-type: none"> • A total of 16 members

The inclusion criteria for the interviews and the pluralistic walkthrough focus group discussion included the age factor (participants should be between the age of 18-65¹ since 65 is the official retiring age) and all participants needed to be permanently employed. The interviews included the Steering committee and the functional units. The inclusion criteria applied to both the steering committee and the functional units members, they are included between the age 18-65 and permanently appointed prior to and during 2011-2015 regardless of their retirement or current employment status. All participants formed part of the inclusion criteria depending on availability. Teaching assistants were only appointed from 2013 onwards.

The exclusion criteria for the interviews and the pluralistic walkthrough focus group discussion were members who were not within the 18-65 range, and who were not permanently employed prior to and during the 2011 – 2015 period.

4.6.2.2 Inclusions and Exclusions for Semi-Structured Interviews

The inclusion and exclusion criteria for the steering committee will be discussed first in this section and thereafter the inclusion and exclusion criteria for the functional units.

The inclusion criteria for the staff members from the Steering Committee for the interviews were that they needed to have had direct involvement in the Signature Courses planning and

¹ The age restriction was prescribed by the Universities ethical clearance process

implementation during 2012 – 2015. The Steering Committee members for the interviews had to be in top management positions and thus decision makers, their specific knowledge or skills being senior management and academic knowledge. Their experience included distance education and online learning planning and implementation.

The exclusion criteria for the Steering Committee were participants who were not directly involved with the Signature Courses implementation during 2012 – 2015, and who did not form part of top management and decision makers positions, had no academic and/or management knowledge, had no experience in Distance Education and online learning planning and implementation, and who were not members of Signature Courses Steering Committee,

The inclusion criteria for the staff members from the Functional units for the interviews were that they needed to be directly involved in the Signature Courses planning and implementation during 2012 – 2015. They had to be in operational and/or academic positions, their specific knowledge or skills included functional/specialist knowledge and/or academic knowledge, and they needed to show their online learning experience in their functional unit, for example, Human Resources and/or and academic department. The teaching assistants also formed part of this group.

The exclusion criteria for the staff members from the Functional units for the interviews were set up to bar those who did not participate directly in the Signature Courses planning and implementation during 2012 – 2015, and those who did not occupy operational and/or academic positions or who did not have functional/specialist knowledge or academic knowledge. Any staff member who did not have experience in online learning implementation was also excluded.

4.6.2.3 Inclusions and Exclusions Pluralistic Walkthrough Focus Group Discussion

The inclusion and exclusion criteria for the members who formed part of the pluralistic walkthrough focus group discussion were the same as the functional units for the interviews with one exception. The inclusion criterion for the staff members from the Functional units for the interviews were that they needed to be directly part of the Signature Courses planning and implementation during 2012 – 2015. For the pluralistic walkthrough focus group discussion this inclusion brief is substituted by the criterion that members needed to be directly involved in online learning implementation. The exclusion criterion for the staff members from the functional units

for the pluralistic walkthrough focus group discussion was, therefore, that members who were not part of any online learning implementation were excluded.

4.7 QUALITATIVE CASE STUDY DATA COLLECTION PROCEDURES

This section will discuss data collection procedures for the three stages, document analysis, semi-structured interviews, and pluralistic walkthrough focus group discussion. The data collection instruments used to gather data and sources during qualitative research was achieved through following these three stages.

4.7.1. Stage 2: Document Analysis

'Document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic' (Bowen, 2009: 27). Document analysis is similar to other analytical methods: 'document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge' (Bowen, 2009: 27).

The ideal is to use primary data rather than secondary data. In this study the researcher collected primary research data herself through more than one method, namely, document analysis (reports, minutes, decision registers and policies), and interviews and focus group discussions, rather than using previous research data. The documents that were collected for the document analysis took place in Pretoria through emails and shared cloud-based and password-protected data storage. The researcher collected Unisa documents that were developed in the institution, mostly from the steering committee and the functional units. Because of the partnership with Global Ecology LLC, the principal as well as the USA stakeholders in this partnership wrote reports and did presentations on the progress of the implementation of the Signature Courses, and they were also considered and used.

The researcher followed a process by firstly prepared the documents and placing them in different folders, for example, the meeting minutes in one folder and the reports in another folder, etc. This facilitated access to the documents. The researcher experienced challenges with documents which were not dated or where no author was specified. The researcher had to use the 'info' and 'options' tool in MS Word to identify the author of the document as well as the

creation date. A detailed list of all the documents used in the document analysis can be found in Annexure 4.11.

4.7.2 Stage 3: Semi-Structured Interviews

The data collection for the interviews was done by the researcher herself. The semi-structured interviews for the steering committee and the functional units were conducted using MS Teams. The discussions were recorded to ensure that the researcher could revisit the discussions to ensure their authenticity. In adherence to the Unisa Covid-19 Guidelines, no physical contact occurred during the semi-structured interviews (see attached Annexure 4.9 which refers to the Covid-19 guidelines). The researcher took care not to expose staff and or participants to any face-to-face contact or handling of objects that may have been contaminated by the virus during data collection.

The researcher sent an electronic mail communication to selected participants from the steering committee and functional unit participants where the proposed participants needed to indicate if they would be interested to form part of the semi-structured interviews. The purpose of this communication was to notify the participants of the status of the researcher (Ph.D studies), and the email confirmed that the participants were involved with the Signature Courses from 2011-2015 and asked them to indicate if they would be willing to be interviewed for an hour on the implementation process. The email was a standard email sent to all participants about seven days in advance of the proposed interview dates.

After receiving confirmation from the participants that they were involved in the Signature Courses project, the researcher then booked an interview date on the electronic calendar with a link to a MS Teams meeting. Some participants indicated that they were not directly involved, or that their involvement was minimal, or that they were not involved at all, and some invitees proposed a later date.

An electronic booking was done after the participant indicated their availability for interviews. The participants received an email reminder before the interview which included detail about the study as well as the 'consent to confidentiality' form they needed to complete before they could

be part of the interview [see Annexures 4.3 Participant letter to the steering committee, and 4.4 Participant letter to the functional units and teaching assistants].

The interviews for the steering committee and the functional units were scheduled for one hour [see Annexure 4.2 Interview schedule for steering committee and functional units]. The researcher developed a MS PowerPoint presentation for the steering committee and another MS PowerPoint presentation for the functional unit interviews. The purpose of the presentations was to ensure that the researcher kept to the standardized questions which were shared on screen with the participants to assist them if they perhaps did not hear properly or forgot the question etc. The participants seemed excited and shared information freely with the researcher. The first question to both the steering committee and the functional units was an 'ice breaker', a general question to help them feel relaxed.

The interviewees were able to provide first-hand information and experience on the design of the Signature Courses, the decisions that impacted on the implementation, as well as the implementation variables and interdependencies. The researcher needed in-depth information on the implementation process to be able to map the process so this information was apposite. All protocols were observed during the process to ensure the permissions were obtained and adhered to minimal ethical criteria (this will be discussed later in detail in this chapter).

The interview questions for the steering committee arose after the literature review from a combination of the research questions, the conceptual framework at the end of the literature review, and document analysis. The interview questions for the functional units arose after the semi-structured interviews with the steering committee [see Annexure 4.1 which contains a summary of questions in a table so that the alignment from the research question to the interview questions is evident].

The first column indicates the research questions, the second column indicates the nine questions to the steering committee, and the last column indicates the ten questions asked to the functional units and teaching assistants. The questions for the steering committee were developed after the literature review, and the ten questions for the functional unit group members were formulated after the interviews with the steering committee. This was to ensure that the

data which emanated from the steering committee could be verified against the functional units' input.

A mock interview was conducted with the researcher's supervisor for quality purposes for both the steering committee and the functional unit's interview. The purpose of the 'mock' interview, also referred to as pilot testing, assisted the researcher to eliminate problem areas in advance, such as to ensure that key people were identified, ethical and confidentiality criteria were applied correctly, and data gathering methods and the questions in the case of semi-structured interviews were well understood and clear (Adams, 2010). A discussion after the mock interviews assisted in ensuring that no duplication in the questions occurred, and the mock interview itself also assisted the researcher in gaining confidence in performing the interviews with the participants. It is also good practice to keep a few standard quotes on the side to thank the responders before and after each question so as to keep the conversation interesting, and show appreciation for the responses.

Some interviewees informed the researcher that since the implementation of the Signature Courses took place a few years back they may have forgotten key facts. Mouton (2002) alerts researchers to the characteristics of participants and the impact of memory loss during data collection which often occur despite omniscience syndrome and interview saturation. As the researcher probed or nudged the participants in order to extract additional information, some of the participants recalled some information suggesting that this is a useful strategy for interviews.

The interview schedule for steering committee and functional units interview dates is attached [see Annexure 4.2 Interview schedule for steering committee and functional units].

A total of 16 participants from the steering committee and functional units joined the semi-structured interviews.

4.7.3 Stage 4: Pluralistic Walkthrough Focus Group Discussion

The three-hour pluralistic walkthrough focus group discussion was conducted with the participants as set out in Table 4.6: Stage 4: Pluralistic Walkthrough Focus Group Discussion

Population and Sample Size [see 4.6 Qualitative Case Study Population, Sample and Sampling Techniques].

Selected participants received an email communication from the researcher where they needed to indicate if they would be interested to form part of the pluralistic walkthrough focus group discussion. An electronic booking was done after the participant indicated that they were available. The participants received an email reminder before the focus group discussion with the online implementation framework that was developed as well as a letter [see Annexure 4.6 Letter to the pluralistic walkthrough focus group discussion] to indicate what the study is about and other information pertaining to the confidentiality etc.

The focus group discussions took place through a face-to-face meeting. On the day of the discussion the researcher provided the participants with two forms, one a consent form to participate in this study and the other an agreement, which had to be signed, to keep the discussions confidential [see Annexure 4.7 Consent form to the pluralistic walkthrough focus group discussion, and Annexure 4.8: Pluralistic walkthrough focus group discussion, Unisa Research Ethics confidentiality agreement (focus group participant)]. The researcher compiled and presented a 30-minute MS PowerPoint presentation which consisted of the different data collection phases, the themes and frameworks that were developed after the literature review, document analysis, and the interviews as well as the online learning principles for the final framework. A total of 16 participants attended.

Thereafter, the pluralistic walkthrough focus group discussion was divided into four break-away discussion groups giving them time to discuss and provide input into the principles. The break-away discussion groups provided feedback on the handout paper pack regarding the principles.

After the groups provided input on the principles that guide online learning, the participants were asked to give their key thoughts on the design, development, and implementation elements of the framework according to phases I, II and III. The break-away discussion groups provided feedback on the handout paper pack regarding the online learning framework.

Thereafter, the break-away discussion groups were asked to evaluate the implementation framework according to completeness, ease of use, and usefulness. The break-away discussion

groups provided feedback on the handout paper pack for the evaluation of the framework for the researcher to analyse and interpret. For more detail on the pluralistic walkthrough focus group discussion process see Chapter 7.

The diagram below is a flow diagram of the pluralistic walkthrough focus group discussion process as it took place during the discussion.

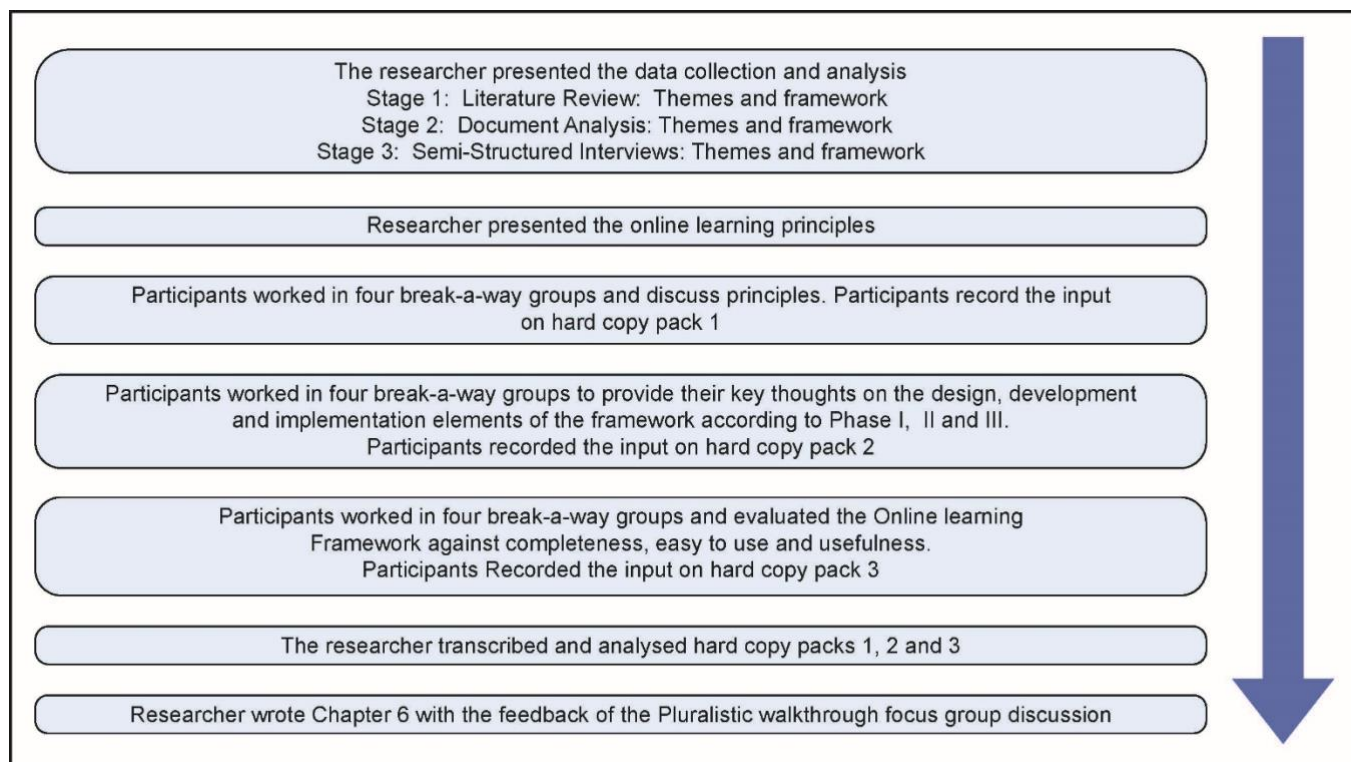


Diagram 4.6: Pluralistic walkthrough focus group discussion

4.8 QUALITATIVE CASE STUDY DATA ANALYSIS

The analysis consists of a directed, inductive, and deductive scan of the documents in the identified corpus (Stage 2), followed by an inductive and deductive analysis of the conducted semi-structured interviews with the steering committee and participants from functional units (Stage 3). In the final analysis, the data collected during the pluralistic walkthrough focus group discussion (Stage 4) was analysed.

The researcher’s main purpose for inductive and deductive coding was to collate as much data as possible to get an in-depth understanding of the Signature Courses implementation process. Another reason for using both inductive and deductive coding was to ensure that the quality of

the data was comprehensive and that the deductive process added to the data if the researcher missed something in the coding.

The researcher used ATLAS.ti version 22 to analyse the data from stage 2 and 3. ATLAS.ti version 22 (the latest version released in December 2021), is a computer-assisted qualitative data analysis software package. This software adds value and sophistication to the coding process, together with an audit trail for transparency of the analysis process (Smit & Scherman, 2021). ATLAS.ti is described as a powerful workbench for analysing extensive textual, graphical, audio, and video data (Smit, 2014; Smit & Scherman, 2021; Smit, 2021). During the qualitative analysis, ATLAS.ti helped the researcher to explore the complex phenomena hidden in the data. All the responses were loaded onto the project function, a container for all the data, for subsequent coding.

Coding is the procedure of associating code words with segments of data or quotations, which is the association between a quote in the text and a specific code. Johnny Saldaña (2016) defines a code as follows:

Most often a researcher-generated word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language based or visual data. The data and thus coding processes can range in magnitude from a single word to a full paragraph or an entire page of text to a stream of moving images. Attributes specific meaning to each individual datum for purposes of pattern detection, categorization, and other analytic processes.

(Saldaña, 2016; 292)

Saldanha indicates that coding and analysis are not synonyms:

Coding is a cyclical act. Rarely is the first cycle of coding data perfectly attempted. The second cycle (and possibly the third and fourth, etc.) of recoding further manages, filters, highlights, and focuses the salient features of the qualitative data record for generating categories, themes, and concepts, grasping meaning, and/or building theory.

(Saldaña, 2016: 9)

In linking the data collecting and the data interpretation, coding is the basis for developing the analysis. ATLAS.ti was used during the literature review, the document analysis, and the interviews.

Saldaña, (2016) explains descriptive coding, also referred to as topic coding, in other literature as: 'a word or short phrase – most often a noun – the basic topic of a passage of qualitative data' (Saldaña, 2016: 102).

The inductive and deductive coding process of the documents is described in detail in Chapter 5. The themes and draft implementation framework are part of the outcomes of the analysis, and can be accessed in Chapter 5.

According to Saldaña (2016), the researcher applies coding terminology and procedures. The researcher specifically used coding terminology such as descriptive, process and in vivo codes, which the researcher created inductively (data-driven).

Descriptive coding and categorising the content of the data as the first cycle of the coding process is essential preparation work for second cycle coding and the analysis and interpretation thereafter. For example, the code 'design' will be extracted from the main body and put in a separate file to be analysed further. In vivo coding is where the researcher uses the exact written or verbatim words from the participants or from a specific text (Saldaña, 2016). Process coding is where the researcher codes action words in the data, words which usually end with ('-ing'), for example, implementing, designing, etc. It can also involve other type of actions, for example, strategic or routine actions which are linked to time or sequence (Saldaña, 2016). Document analysis, semi-structured interviews, and pluralistic walkthrough focus group discussion.

4.8.1 Stage 2: Document Analysis

'Documents provide a means of tracking change and development' (Bowen, 2009: 30). The researcher read all the documents and sorted them according to their relevance. The criteria for this process required that the information in the documents should impact on the implementation process. The documentation should be usable to answer the research questions of the study,

and were marked and copied into a separate folder which was imported into ATLAS.ti version 22. Thereafter the coding process started and the most descriptive words were used during the coding process to describe the data (Creswell & Creswell, 2018).

The researcher analysed the qualitative content of 83 documents using the coding strategies (Linneberg & Korsgaard, 2019; Saldaña, 2016; Saldaña, 2021; Smit & Scherman, 2021; Thomas, 2006). The researcher firstly coded inductively and thereafter deductively. The researcher created a code list or a codebook of 261 codes (1st cycle), which the researcher reduced to 44 codes (2nd cycle) and 21 code groups or categories, and five themes aligned with the research objectives from 2136 quotations.

Minutes, reports and presentations assisted with decisions that were taken in regard to the Signature Courses, for example, decisions on how the material development should take place; the heutagogy educational philosophy that was applied; the choice of the LMS that was used; the assessment criteria; training for faculty; student support including the appointment of Signature Courses tutors; progress feedback on the implementation process information regarding which functional units and key staff were involved; and how these informed the implementation processes. The progress reports helped immensely to follow the tasks, the roles, responsibilities, functional units' interdependencies, and whether the tasks were accomplished within the required time. The document analysis assisted the researcher to identify and map the variables in the different implementation stages.

Cross correlation was done to indicate the interdependencies and the variables to show what impact the variables had on implementation. During this phase the researcher was able to gather information that addressed all four questions, but the interviews were required to corroborate the findings.

4.8.2 Stage 3: Semi-Structured Interviews

The interview recordings were transcribed, and the transcripts were sent to participants to approve that they were a true reflection of the interview, and that permission was given to the researcher for data analysis. The participant had an opportunity to delete any sensitive or compromising information. The researcher needed to ensure that the findings from the

qualitative interview inquiries were valid according to the real experiences of the Signature Courses case study.

The researcher analysed the semi-structured interview responses from 16 research participants for qualitative content, using the coding strategies by Linneberg and Korsgaard, 2019; Saldaña, 2016; Saldaña, 2021; Smit and Scherman, 2021; and Thomas, 2006. The researcher was guided by the research questions together with the interview questions. To this end, the researcher engaged in data reduction, coding, and decoding analytic processes to analyse and interpret these qualitative data forms (Saldaña 2021). See Chapter 6 for more detail.

The researcher firstly coded inductively and thereafter deductively. The researcher created a code list or a codebook of 329 codes (1st cycle), which the researcher reduced to 44 codes (2nd cycle) and 11 code groups or categories. Five themes aligned with the research objectives from 632 quotations. All data responses were edited.

The inductive and deductive coding process of the interviews is described in detail (see Chapter 6). The themes and draft implementation framework are part of the outcomes of the analysis and can be accessed in Chapter 6.

The researcher was able to gather information that addressed all four questions. Cross correlation was done to ensure that the results corroborated with the literature review in Chapter 3, and the document analysis in Chapter 4.

4.8.3 Stage 4: Pluralistic Walkthrough Focus Group Discussion

During stage 4 the researcher used the handout paper packs 1, 2 and 3 from the four groups for the participants to complete during the pluralistic walkthrough focus group discussion. The first task was to provide input regarding the principles and the framework. The implementation principles were analysed from paper pack 1. Minor feedback was received, to which the researcher made a few adjustments. The second task was to provide their key thoughts on the design, development and implementation elements of the framework according to phase I, II and III. The feedback was analysed from the paper pack 2. The last task was to evaluate the online learning implementation framework. Here, the analysis was done from paper pack 3 and the

researcher used the Likert scale to evaluate the questions. The Likert scale can be defined as a rating scale to measure attitudes, ideas and/or opinions. The participant needs to identify the option which reflects his/her opinion best. After the question is asked, the Likert scale provides a range of options to choose from. In this study the researcher used 'strongly agree', 'agree', 'neutral', 'disagree' and 'strongly disagree'. The participants were also allowed to write any comments after each question to provide an opportunity to divulge their opinions and give more information, suggestions, or ideas. Chapter 7 can be visited for more detail on the pluralistic walkthrough focus group discussion.

4.9 TRUSTWORTHINESS OF THE STUDY

This section will assist with how the researcher can assure trustworthiness and will specifically look at the elements such as credibility, dependability, conformability, authenticity and transferability (Lincoln & Guba, 2008). The value of the research needs to be evaluated (Lincoln & Guba, 2008). The most challenging task is not the case strategy itself, according to Brown (2008), but for the researcher to: 'articulate the research paradigm and theoretical framework that is guiding every aspect of their work and ensuring the trustworthiness and credibility of the data and method of research' (Brown, 2008: 9).

When using qualitative research, the researcher needs to describe the measures she took to ensure trustworthiness.

4.9.1 Credibility

To ensure credibility it is important that the research provides evidence that is truthful and correct. Credibility, according to Lincoln and Guba (2008), is how the researcher can establish 'confidence in the truth of the findings' (Lincoln & Guba, 2008: 1).

There are different techniques to ensure credibility according to Lincoln and Guba, (2008), for example, prolonged engagement, triangulation, peer debriefing and member checking.

4.9.1.1 Prolonged engagement

Prolonged engagements mean spending adequate time with participants and building an environment of trust to construct meaning through interaction. The participant should feel free to speak their understanding and experiences (Lincoln & Guba, 2008).

The credibility of the document analysis depends on ensuring that the documents used are relevant to the Signature Courses implementation. The credibility of the interviews was enhanced through the selection of the participants based on their involvement, expertise, and knowledge in the initial planning, roll-out of the Signature Courses, and the feedback on the implementation progress. The planners, decision makers and implementers of the Signature Courses were interviewed (2011-2015), as were the teaching assistants who were appointed from 2013-2015. One hour interviews and three hour pluralistic walkthrough focus group discussion was planned to collate the required information.

4.9.1.2 Peer debriefing

Lincoln and Guba explain peer debriefing, as a 'process of exposing oneself to a disinterested peer in a manner paralleling an analytical session and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind' (Lincoln & Guba, 1985: 308).

4.9.1.3 Triangulation

Triangulation, according to Lincoln and Guba, (2008), means using 'multiple data sources in an investigation to produce understanding '(Lincoln & Guba, 2008: 1). During the data collection and analysis, the researcher used more than one method including document analysis, interviews and a pluralistic walkthrough focus group discussion as multiple resources to ensure credibility. The accuracy of the data and the methods collecting the data and interpreting the data were done in such a way that the results/findings are believable (Patton, 2002; Yin, 2018).

4.9.1.4 Member checking

Member checking occurs when: 'data, analytic categories, interpretations and conclusions are tested with members of those groups from whom the data were originally obtained' (Lincoln & Guba, 2008: 1).

Member checking can be done formally and/or informally. Hancock and Algozzine (2006) support Lincoln and Guba (2008) by explaining that member checking is where the researcher takes the research information back to the participant for validation. After the semi-structured interviews, the transcripts were sent back to the participants to ensure that it was a true reflection of their experiences. The participants therefore had the opportunity to judge the credibility through confirming the accuracy of the information.

Member checking provides an opportunity to discuss the analytical categories arising from the analysis of the document analysis, semi-structured interviews and the pluralistic walkthrough focus group discussion results with the co-coder and the supervisor (Lincoln & Guba, 2008).

4.9.2 Dependability (Methods and Procedures)

According to Lincoln and Guba, (2008) dependability means 'showing that the findings are consistent and could be repeated' (Lincoln & Guba, 2008: 1). The dependability of the research provides a clear, detailed, transparent description, and sequential procedure on how the research is done so that any other researcher would be able to do the same accurately (Hancock & Algozzine, 2006; Moon & Dean, 2016; Patton, 2002). Some scholars, for example, Yin and Mills, Durepos and Wiebe, do not use dependability, but suggest that reliability is when you get the same results if you repeat the study, for example, the collection procedures (Mills, Durepos & Wiebe, 2010; Yin, 2018). According to Hancock and Algozzine (2006), the research procedures and findings should be interrogated in order to identify possible discrepancies which might affect the credibility of the research.

Dependability can also be accomplished during data analysis. Saldaña (2016) explains the importance of 'iterations' of analysis, meaning that the coder goes through the coding process more than once, and as they work through this process they generate a list of categories and later condense these categories into themes (Saldaña, 2016). This iteration assists with the consistency of the process and ensures dependability.

In this chapter the researcher has indicated the importance of following the research design/approach. The various methods and procedures were discussed in detail to ensure dependability. A schematic flowchart provided the flow of the data collection process for this study from the initial document analysis, through individual interviews, to the pluralistic walkthrough focus group discussion. Interviews were conducted with as many participants as possible to gain in-depth information and understanding. The pluralistic walkthrough focus group discussion was used to confirm the usability of the framework. In this Chapter, the researcher also explained the advantages of a case study protocol as it enhances reliability [see 4.5 A Case Study Research Strategy]. Brown (2008) concurs with Yin (2018) in emphasising the following:

Attention to documentation of the research protocol or process serves to strengthen the credibility and trustworthiness of the methodology.

(Brown, 2008: 6)

The documentation of the case study protocol assisted the researcher not to deviate from the main objective as the researcher could indicate to the participants why this study was important. The case study protocol included the letter to the participants providing them with the information on the study as well as the research questions. The protocol assisted with the selection process of the participants as well as the analysis of the data. Using ATLAS.ti provided the documentation of the research analysis and the results in detail. The data collection and analysis are described in detail in Chapters 3, 5 and 6 according to the protocol.

4.9.3 Conformability

Conformability is: 'the degree of neutrality or to extent to which findings of a study are shaped by the respondents and not researcher bias, motivation, or interest' (Lincoln & Guba, 2008: 1).

During the data analysis process, according to Nieuwenhuis (2007a), the researcher focuses on the meaning, understanding, knowledge and interpretation of data. Going through this process to extract meaningful information provides the opportunity for the researcher to interpret the examined content (Rossman & Rallis, 2012). Interpretation, according to Rossman and Rallis (2012), is sense making in terms of what was told and found from the data, and what other

plausible interpretations exist. The researcher used strategies such as in vivo codes to neutralise the researcher's beliefs and assumptions.

According to Moon and Dean (2016) reflection on the beliefs and assumptions (ontology and epistemology) of a researcher doing qualitative research is very important as it enables a reader to determine the conformability of the study by showing how the data, constructs and theories emerge. Further, according to Lincoln and Guba (2008), triangulation can be a technique to ensure conformability as multiple methods helps with a deeper understanding of the phenomenon: 'A single method can never adequately shed light on a phenomenon. Using multiple methods can help facilitate deeper understanding' (Lincoln & Guba, 2008: 1).

The neutrality of a researcher is captured by Lincoln and Guba as follows: 'Understanding something about the position, perspective, beliefs, and values of the researcher is an issue in all research, but particularly in qualitative research where the researcher is often constructed as the 'human research instrument' (Lincoln & Guba, 2008: 1).

In this study, the background of the researcher might have influenced her beliefs and assumptions as the researcher is currently an employee at Unisa and is the Deputy Director, Facilitation of Learning and ICT, in the Gauteng hub. As such, the researcher is known throughout the institution and to some of the participants. In light of the fact that the regional offices were an essential part of the implementation of the Signature Courses project, the Gauteng Regional Hub, where the researcher is Deputy Director, was not part of the sample, and a different Regional hub was identified for the interviews, and the pluralist walkthrough focus group discussion was held with the Technology Enhanced Learning coordinator and the teaching assistants.

The researcher disclosed the potential perceived conflict of interest through signing a non-disclosure document and made participants aware of her role and/or part she played in the Signature Courses 'implementation, committing herself to uphold the University's values and professional conduct. All participants were treated fairly with the necessary respect regardless of level of familiarity with the researcher.

The researcher, furthermore, communicated with participants through her private email account to minimise any conflict of interest and eliminate any possibility that participants would feel obliged to participate, as the researcher is known to some of the participants.

4.9.4 Authenticity

What participants state are their values, attitudes, and their beliefs and it may not always be truthful or correct (Saldaña, 2016). The researcher was able to go back to the participants after the interviews and the pluralistic walkthrough focus group discussion to ask clarification questions (Unluer, 2012). The participants were selected on their required online learning knowledge and experience regarding the Signature Courses implementation. They provided sufficient information on the design variables, the interdependencies and the decisions taken during the implementation.

Cross correlations assisted to identify the overlaps from what was already known, similarities from the literature, and what was new and not mentioned in the literature. Cross correlations identified the similarities to develop a framework that can be used for online course implementations. Cross correlation was done to indicate the key design elements, variables that played a role during implementation, the interdependencies between functional units, and the decisions, and impact of the decisions on online course implementation. Cross correlation was done between the systematic literature review in Chapter 2 (systematic literature review), the empirical data in Chapter 4 (document analysis), and Chapter 5 (interviews).

4.9.5 Transferability

Transferability implies the way in which the researcher presents the outcomes of the study so that 'the findings have applicability in other contexts' (Lincoln & Guba, 2008: 1). The researcher has already referred to the generalisation of the outcomes/findings [See 4.2 Inductive and Deductive Reasoning, 4.3.1 A Quantitative Methodological Approach and 4.5.2 Different Case Study Designs], so the question now is: would the principles developed and the online learning implementation framework benefit or be useful to other scholars? Certainly, the case study findings can be used by other scholars as they may assist with the planning and developing of online learning in developing countries.

4.10 ETHICAL CONSIDERATIONS

Before this chapter provides the conclusion, it is important to indicate the ethical considerations and processes that were followed in this study. After the research proposal was approved, the researcher followed the Unisa research policy and procedures to adhere to the ethical requirements. The researcher first applied for ethical clearance from the College of Economic and Management Science ethics review committee at the university by completing and submitting the prescribed forms, and thereafter received ethics clearance approval from the Unisa Ethics Review Committee (ERC). Ethics approval was granted for five years with an expiry date of 28 September 2026. The researcher needs to ensure to keep within the timeframes. The researcher received the following approval reference: #2021_CEMS_BM_124. The ethical certificate is also valid for a specific period.

After the ERC approval was granted, the researcher applied for ethical clearance from the Research and Permission Committee (PRC). Again, a detailed standardised form was completed for approval from the PRC. The Unisa ethics review Research Permission Subcommittee (RPSC) of the Senate Research, Innovation, Postgraduate degrees and Commercialisation committee (SRIPCC) granted approval for this study. The researcher received the following approval reference: Ref #: 2021_RPSC_080 on 3 November 2021.

The researcher needs to ensure that he/she complies to the conditions granted in the approval as stated above. The researcher could not start with data collection before the approvals were granted from both the College Ethics Committee and the Research Permission Committee.

Research is closely linked to anonymity and confidentiality according to Mills, Durepos and Wiebe (2010). 'Anonymity is the protection of a research participant's or site's identity. Confidentiality is the safeguarding of information obtained in confidence during the course of the research study' (Mills, Durepos & Wiebe 2010: 22).

The safeguarding of information applies to any text whether written or oral (Mills, Durepos and Wiebe, 2010). When research makes use of human beings for interviews, for example, it increases the importance of anonymity (Mills, Durepos and Wiebe, 2010). There are however strategies and techniques to ensure that the participants' anonymity is not exposed.

Confidentiality safeguards participants and/ or organisations against negative public reputation, trade secrets and or personal embarrassment. Therefore, Unisa has certain processes in place to safeguard information and identity.

The supervisor made the initial contact with the identified participants after permission was granted from the Research Permission Committee (RPC) to introduce the researcher and invite the participants to participate in the research.

Once the identified participants expressed their interest and willingness to form part of the research, the supervisor provided their email addresses to the researcher. The researcher was aware that the Unisa official address book may not be used in her capacity as researcher. The researcher communicated with participants through her private email.

Firstly, the researcher was granted permission to use secondary data for document analysis for the study and to invite participants for interviews and pluralistic walkthrough focus group discussion. The researcher obtained all the documentation from the project manager as indicated previously [see 4.8.1 Stage 2 Document Analysis].

Secondly, the researcher had to obtain consent from the participants for semi-structured interviews and for the pluralistic walkthrough focus group discussion. The researcher sent an email invitation to the participants to be part of the research, and indicated the importance of consent and confidentiality to the study and that participation was voluntary. The participants received separate information about the interviews and pluralistic walkthrough focus group discussion.

The participants were appropriately informed by the researcher of the purpose of the study and the methods that would be used to collect data so that they could make informed decisions about their voluntary participation. Participants were informed that they could at any time decide not to participate in the research activity (Unisa, 2016). The researcher shared a letter, a consent form, and a MS PowerPoint presentation with all the identified research participants. After the participants read the letter they were requested to sign the informed consent form before this study commenced and to return it to the researcher.

The participants all agreed that they had read the letter in which the study was explained to them. They also agreed that they had sufficient opportunity to ask questions, and were prepared to participate in the study. They understood that their participation was voluntary and that they could withdraw any time from the study without any penalties. They understood that the findings of the study would be processed into a research report, journal publications, and/or conference proceedings, but on the condition that their participation would be kept confidential unless otherwise specified. The participants also agreed that the interviews would be recorded. They finally indicated that they received an informed consent agreement which was signed and dated by the researcher as well as the participant. The consent forms were filed electronically on a password-protected computer. The participants could contact the researcher for more information or clarity if required. No interviews and or focus groups took place if the consent form was not signed by the participant. In addition, all 3rd parties, for example, the editor, transcriber, co-coder, graphical artist, signed a declaration.

To hide the identity and to ensure the anonymity of the participants the researcher did not use the real names of the participants during the analysis. The researcher used a numbering system that was embedded in the ATLAS.ti system for example, 'P' indicates 'Participant' and 'P1' the number following indicates the participant in line with the commitment.

The following annexures can be viewed to see the letters and consent forms for the interviews and the pluralistic walkthrough focus group discussion [see Annexure 4.3: Participation letter to the steering committee, Annexure 4.4: Participation letter to the functional units and the teaching assistants, Annexure 4.5: Consent form steering committee and the functional units, Annexure 4.6: Letter to the pluralistic walkthrough focus group discussion, Annexure 4.7: Consent form to the pluralistic walkthrough focus group discussion and lastly Annexure 4.10: Third Party agreement].

4.11 CONCLUSION

This chapter provided detailed information about the research design and methodology. The main aspects that were covered in this chapter were the pragmatist philosophy and paradigm used in this study, the inductive reasoning that supports the development of theory and knowledge, the qualitative multi-methods approach that was followed for the Signature Courses

project as a case study. The researcher explored the implementation process from different viewpoints, experiences, and understandings, using data collections strategies such as document analysis, interviews, and pluralistic walkthrough focus group discussion to be able to provide rich descriptive feedback.

The analysis was based on thematic trends, and the researcher was able to analyse the literature, the documents, the interviews, and the pluralistic walkthrough focus group discussion in order to develop key online learning principles as well as an online learning framework that indicates the variables/elements per phases.

The researcher was able to provide grounds for trustworthiness according to the five distinct headings of credibility, dependability, conformability, authenticity and lastly transferability. Finally, the researcher provided evidence regarding the ethical considerations, and focused specifically on confidentiality, anonymity, and the specific ethical procedures followed according to the institution's ethics values. The next Chapter will analyze the documents related to impact on the Signature Courses.

CHAPTER 5

DOCUMENT ANALYSIS OF THE SIGNATURE COURSE IMPLEMENTATION

5.1 INTRODUCTION

In Chapter 4 the researcher discussed the research design and methodology in detail. This chapter will address the analysis of the identified documents. For the reader's convenience, a summary of the qualitative documents is provided next.

The qualitative documents are drawn from a number of public and private documents for the period 2011 - 2015. These comprise reports, policies, meeting minutes, marketing material, news publications, presentations, strategic documents, policies, and implementation plans. The documents are in line with the overview from Creswell and Creswell (2018) of what possible documents could be included in a document analysis. The documents sourced from the Steering Committee stem from the official start of the project to two years after initial implementation, constituting a period of six years [see Chapter 4.6 Qualitative Case Study Population, Sample and Sampling Techniques]. As indicated in the previous chapter, the documents were purposefully selected for their specific relevance to the Signature Course initiative (Creswell and Creswell, 2018). The data retrieved from these documents will be thematically analysed and recorded descriptively, in process and in vivo, according to the themes.

The documents were inductively and deductively analysed to map evidence of the design process, the design decisions, interdependencies, and variables that impacted on the implementation process. This chapter will discuss the different themes of the document analysis.

5.3 OVERVIEW OF THE THEMES FROM THE DOCUMENT ANALYSIS

As described in Chapter 4, for the document analysis the researcher created a code list or a codebook of 261 codes (1st cycle), which the researcher reduced to 44 codes (2nd cycle), 21 code groups or categories, and five themes aligned with the research objectives from 2136 quotations. The themes that emerged from the analysis are presented in the diagram below (diagram 5.1).

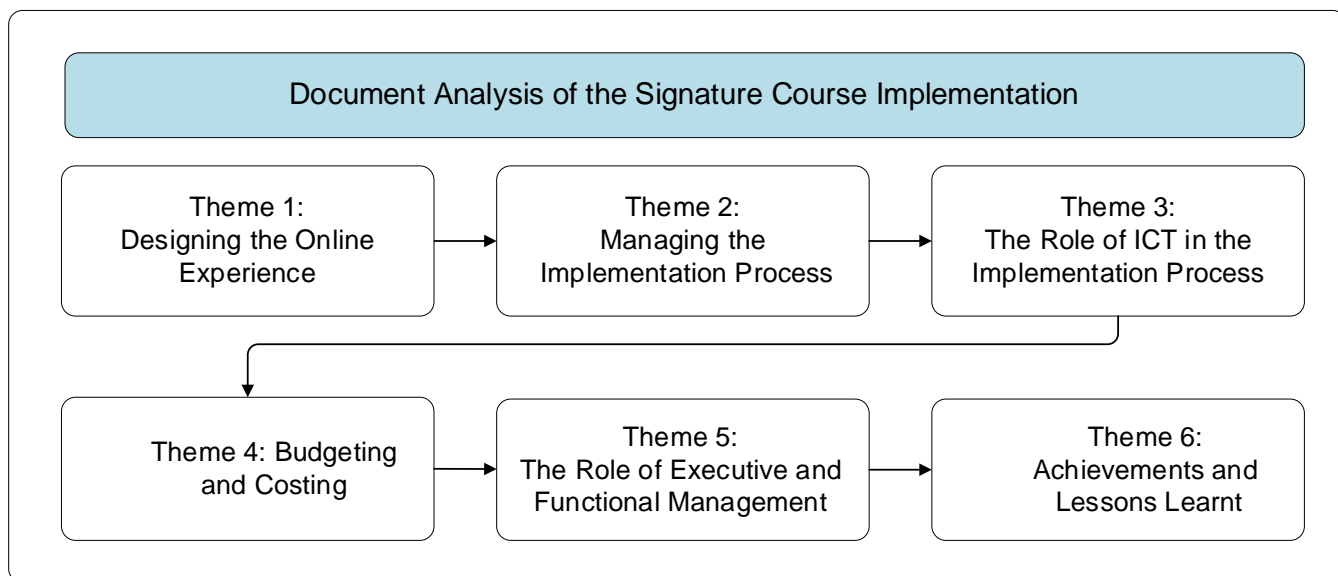


Diagram 5.1: Document Analysis of the Signature Course Implementation

A short description of the six themes follows:

5.3.1 Theme 1: Designing the Online Learning Experience

During the design phase of the implementation process (see an overview of the three phases in the implementation in section 5.4: Theme 1: Designing the online experience), the international partnership with Global Ecology LLC was finalised, the steering committee decided on the modules and module leaders, the Signature Course curriculum team was established with certain principles and criteria, the educational philosophy was determined, and the assessment and course design elements were put in place. The Signature Course curriculum team developed a standardised module template to guide course development, and instructional strategies were determined. The team identified and reworked existing policies, and identified and developed new processes and procedures. The team then visited several online learning universities in the USA to benchmark with distance education universities elsewhere. After the benchmarking exercise, a report entitled *Synopsis of best practices with online learning models* was developed focusing specifically on courseware design, continuous professional development, assessment, assessment administration, teaching assistants, research, rewards and incentives, quality matters, and study material production and distribution. Thereafter the team developed a document that provides recommendations for the implementation of online learning at Unisa.

These recommendations provide input on teaching and learning, a training programme for teaching assistants, management of the teaching assistants, the establishment of a Centre for Professional Development (CPD), research, study material production and distribution (SMPD), the human resource (HR) system, quality assurance matters, AIMS (Academic information Systems), and the enhancement of the myUnisa system and the assignment system.

5.3.2 Theme 2: Managing the Implementation Process

In the second phase of the implementation process, the operationalisation and management of the design decisions taken during the first phase took precedence - the roles and responsibilities of the different units were identified, for example, Corporate Communication and Marketing (CCM), the teaching assistants (TAs), human resources (HR), the Centre for Professional Development (CPD), study material production and distribution (SMPD), while the roles and responsibilities of student assessment and administration (SAA), and the regions and other stakeholders were covered in all the phases. After the discussion of these roles and responsibilities, the implementation achievements and challenges are discussed as well as student acceptance of online learning, supporting teaching-at-scale, student support (teaching assistants), and the need for stable and responsive ICT systems and infrastructure. The management of the implementation process also involved the events in the third phase of the implementation process during which the following occurred: responses to changes in context, monitor student success, summary of student registration and attrition, broadening access through collaboration, specific adaptations to the Signature Courses, and new developments and technological innovations such as the Mobile Application (App) that was developed.

5.3.3 Theme 3: The Role of Information and Communication Technology (ICT) in the Implementation Process

The design decisions taken during the first phase of the implementation process included specific ICT needs and requirements for ICT infrastructure and integration. During the second phase ICT's involvement was to ensure that all ICT platforms for online learning were in place. These

included Sakai/myUnisa², student assessment coordination (formative assessment and summative assessment), and UNIPOOLE (Unisa portable offline-online learning environment). Part of Phase I and II was to ensure that the Digi-bands were well planned, design, developed and was delivered to students in phase III. A Digi-band is a flash-drive packaged in a rubber wrist band and equipped with software that precisely replicates the web-based online environment (myUnisa). This band enable students to work on their courseware offline, and then go online periodically to interact with their peers and academics, and upload their work to the controlled myUnisa learning management system (LMS) platform (Baijnath, 2013; Global Ecology LLC, 2011b). Importantly, ICT had to ensure that all the information and communication technology infrastructure was in place.

5.3.4 Theme 4: The Role of Budgeting and Costing

In this theme the budget and specific costs related to the project are discussed. The institution needed to budget for the implementation of this project, and specific funds had to be budgeted for benchmarking, training, infrastructure costs, and hardware and software costs. The budget also needed to make provision for tutors or teaching assistants and provide the required student support to the students. Developing the course material and acquiring the required software licenses also impacted on the budget.

5.3.5 Theme 5: The Role of Executive and Functional Management

The role of executive and functional or middle management at Unisa was evident in all phases of the Signature Course project, but while executive management was directly involved in the early phases, the functional units and specifically functional management were more evident in the middle and last phases of the implementation process.

5.3.6 Theme 6: Achievements and Lessons Learned

² Sakai is a web-based learning management system that provides access to the myUnisa portal

This theme covers the lessons learned from the implementation particularly those pertaining to teaching and learning, partnerships and team work, heutagogy³, continuous professional development (CPD), the implications of external agents such as correctional services (prisons), the regional centres, student assessment, study material print production and distribution, the Digi-bands, courseware delivery, procurement, the teaching assistants, student performance and experience, and information and communication technology (ICT).

The next section focuses on Theme 1: Designing the online experience. It is important to note that the presentation of the thematic analysis is guided by the *process*, and as such, pays attention to specific role-players, roles, and interdependencies in each of the themes in finding evidence to assist in answering the research questions.

5.4 THEME 1: DESIGNING THE ONLINE EXPERIENCE

The diagram below illustrates the six main elements that will be covered in Theme 1: 5.4.1 Preparation, planning and decision making 5.4.2 Benchmarking for best practices with US Universities, 5.4.3 Synopsis of best practices with online learning models in the USA, 5.4.4 Online teaching and learning model recommendations for Unisa, 5.4.5 Unisa Signature Courses curriculum workshops, and, lastly, 5.4.6 Deliverables and Outstanding Matters.

The 'blue' area in the diagram below indicates the aspect being addressed. The reader is in Theme 1: Designing the online experience.

³ Heutagogy is said to create an enabling environment for the student to self-direct his/her own learning through applying and reflecting their own knowledge and personal experiences. The instructor plays a facilitation role by providing the required guidelines and resources for the student, however the learner takes control of their own learning (Blaschke, 2012).

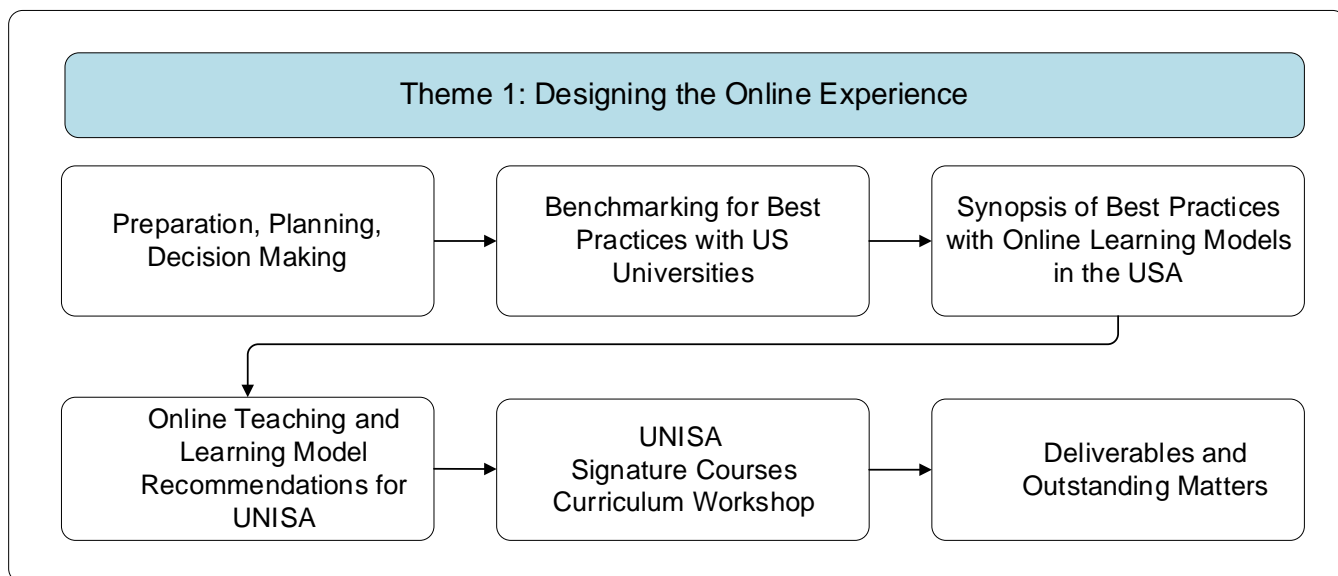


Diagram 5.2: Elements from Theme 1: Designing the online experience: Preparation, planning, decision making and designing

5.4.1 Preparation, Planning and Decision Making

The first element under Theme 1 (designing the online experience) concerns preparation, planning, and decision making, and is organised into ten sections covering the range of activities which are encompassed by this theme.

During the first phase of the implementation process, early in 2011, the steering committee, consisting of the Pro Vice-Chancellor, Executive Director to the Pro Vice-Chancellor, Project Leader, and Principal and the owner of Global Ecology LLC, was negotiating the finalisation of the Global Ecology LLC/Unisa partnership. Global Ecology LLC was appointed to assist Unisa with the design, initial planning, and core decisions that would shape the rest of the implementation (Global Ecology LLC, 2011a; Ryan, 2011; University of South Africa, 2011a). Additionally, the steering committee and the functional units had to prepare, plan, and make decisions throughout the design phase to enable a positive online experience.

5.4.1.1 Finalisation of the Memorandum of Agreement (MOA)

The first action was the finalisation of the memorandum of agreement (MOA) and the due diligence that needed to be approved for the international partnership between Global Ecology

LLC and Unisa. The MOA included key elements to help Unisa realise its ambitious goals for curricular and pedagogical innovation. The partners agreed that Global Ecology LLC would bring to the university the requisite knowledge and experience over the next three to five years (Ryan, 2011).

The partnership allowed Unisa academics and administrators to travel to other countries to study effective ODL online implementation models (Global Ecology LLC, 2011a). During that time Unisa had already made significant progress in reforming the curriculum and improving the programme quality mix (PQM) but had not yet addressed the issue of how the curriculum could produce a distinct cohort of Unisa graduates who would leave Unisa with a clear understanding of who they are and what they can offer society as Unisa graduates (Ryan, 2011).

Other key deliverables of the MOA included management services and coordination of the project, benchmarking, staff development, support with system development, reporting, workshops, and planning and costing of the project. The MOA was submitted to the Management Committee meeting dated 15 March 2011 (Global Ecology LLC, 2011a; Ryan, 2011; University of South Africa, 2011a). Unisa and Global Ecology LLC were responsible for ensuring that the objectives of the project were met through a collaborative team approach (Unisa, 2011a) evidenced through:

[C]onn[ection, camaraderie and communities of practice: the connections forged between the two teams, the camaraderie and caring that was realised in the sharing of good principles of practice across continents ensured the continuation and eventual success of the partnership and the project.

(Ryan, 2013: 12)

5.4.1.2 Determine the Modules and Module Leaders

The second action was to clarify the purpose of the Signature Courses, namely, to create and implement one cross-College Signature Course in each of the six Colleges (Ryan, 2011). With the buy-in and approval from role players such as the respective Executive Deans of the Colleges, executive management identified the College curriculum champions who would lead the project in the respective Colleges (Ryan, 2011). The curriculum champions were senior

academics with a good teaching track record who volunteered to be part of the project and, in particular, to oversee the modules which were pitched at entry level (first year) and which would be taught by other academics (Global Ecology LLC, 2011a). Later in this chapter the roles and responsibilities will be discussed in greater detail, indicating, for example, how they are dependent on each other [see 5.5 Theme 2: Managing the Implementation Process]. Not all the Colleges were on-board from the start (Ryan, 2011), with the Colleges of Education, Law, and Science, Engineering and Technology joining the Signature Course project at a later stage. However, all six Colleges were on board by the end of 2011. In 2014, the College of Accounting Sciences (CAS) joined the Signature Course project when the College of Economic and Management Sciences split in two, and a plan was developed to implement a CAS Signature Course module (Unkown, 2014).

After the Colleges came on board the following step was to identify the modules. The curriculum champions in each College had to decide on the specific module that would evoke both the 'signature' of the College as well as that of Unisa. Some of these modules already existed and needed adjustment, while others needed to be developed from scratch. After the modules were identified, the Unisa curriculum champions were finalised for the six Colleges, and the six USA team partners were recruited to support their Unisa colleagues in the team-based strategy that was followed.

Thereafter, the Unisa Signature Course authors/module leaders were identified per College. The USA team partners provided one USA partner representative to work with the curriculum champions and the Signature Course authors/module leaders [see Chapter 1]. The USA team partners were international professionals from the US with extensive experience in online course development (Global Ecology LLC, 2011a).

The Signature Course authors/module leaders were permanently appointed academics at Unisa reporting to the curriculum champions. The researcher will henceforth refer to the authors/module leaders as academics whose role was to ensure that the teaching and learning aspects were addressed in the initiative, and who liaised with all stakeholders. Part of the discussion that took place amongst the team was to determine whether the courseware needed to be newly developed or merely adjusted from the existing courseware. At this stage, a decision was made to place the Signature Courses at the introductory level.

The table below indicates the respective Colleges, modules and course codes. For each of these Colleges there were Signature Course curriculum champions, Signature Course authors/module leaders, and USA team partners. The table provides information not only with regard to the name of the module per College, but also, in the right-hand column, whether the envisaged Signature Course was an existing module that needed alteration to fit the specific design elements of the project, as in the case of the College of Agriculture and Environmental Sciences (CAES), or whether it was a totally new module as in the case of College of Economic and Management Sciences (CEMS).

Table 5.1: Signature Courses Curriculum Team

Signature Courses College	Module and Course Code	New module or needing to be altered to meet SC criteria
College of Agriculture and Environmental Sciences (CAES)	Environmental awareness and responsibility (GGH3708)	Needing alteration
College of Economic and Management Sciences (CEMS)	Sustainability and greed (SUS1501)	New
College of Education (CEDU)	Being a teacher (BPT1501)	Needing alteration
College of Human Sciences (CHS)	Language through an African lens (AFL1501)	Needing alteration
College of Law (CLAW)	Social dimensions of justice (SJD1501)	New
College of Science, Engineering and Technology (CSET)	Ethical Information and Communication Technologies for Development Solutions (EUP1501) Note: was commonly know as end user computing	Needing alteration

As Table 5.1 illustrates, of the six envisaged Signature Courses, only two of the modules had to be designed from scratch, while four modules were existing modules that needed alteration.

5.4.1.3 Establish an Effective, Collaborative Team Approach Principles and Criteria

The third action was to select a highly qualified curriculum team consisting of professionals with exceptional experience and knowledge (Global Ecology LLC, 2011a). In this project the team members should be familiar with best practices in the design and development of online courses, and their main task was to translate the range of Signature Course objectives into highly successful learning outcomes. As Global Ecology LLC says, it is 'highly unlikely to find these skills, experiences and expertise represented in any one individual' (Global Ecology LLC, 2011a: 3).

The team had to be representative of Unisa academics who were cognisant of the end goal which was to ensure that successful graduates would be equipped with the desired knowledge, and that the skills and values which characterised 'graduateness'⁴ and 'Africanness'⁵ were embedded in the learning outcomes. The international team members should be similarly on board to ensure that best practices were implemented (Global Ecology LLC, 2011a).

To be an effective team specific expertise and experience were required from the US and the Unisa team members. This aligns with the following criteria cited by Global Ecology LLC (2011a): 1) experience in online course design, development and implementation; 2) experience in developing courseware that stimulates student inter-activeness, plus engagement and focus on student centredness through the learning journey; 3) experience in heutagogy engaging students as co-teachers; 4) experience in online teaching, learning, and assessment that will support the learning outcomes; 5) extensive knowledge in subject fields, for example, law, entrepreneurship, and/or how to teach a practical course on line, for example, Ethical Information and Communication Technologies for Development Solutions; 6) extensive knowledge in online delivery methods; and 7) professional development expertise to assist with instructional design

⁴ Graduateness, the online course should be distinguished by providing high-quality education that prepares students for the rigours of their chosen profession and which encourages them to be ethical, socially responsible citizens of Africa and globally (Global Ecology LLC, 2013).

⁵ Africanness, the courseware should incorporate a strong sense of what it means to be a scholar on the African continent (its society and people) (Global Ecology LLC, 2011a).

that incorporates multi- inter- and trans-disciplinary implementation. The two components of the team worked very closely with each other and found that each had particular strengths, with the US team contributing in terms of online learning experience, and the Unisa team broadly emphasising the African context of the courses.

The team according to Mischke (2014b), consisted of the steering committee, the principal of Global Ecology LLC, Signature Course curriculum champions and their US team partners, and authors/module leaders. The team's capacity was strengthened and expanded by the inclusion of student support services. For example, the Department of Courseware Learning and Design (DCLD) dedicated to each module an instructional specialist to work closely with the module academic during the design and development of the courseware as did the Centre for Professional Development (CPD) who also worked closely with the academics and the DCLD. The other role players, according to Mischke (2014b), were ICT, which was mainly responsible for information technology, and worked with all role players; Study Material Production and Distribution (SMPD), who were responsible for the production and distribution of the Digi-bands, and who worked mainly with the academics and ICT; and Corporate Communication and Marketing (CCM), which later become the Department of Institutional Development (DIA), who made sure that the marketing and branding of the Signature Courses was well planned, and who liaised with the whole team to ensure that all levels of service were addressed. For example, they worked with the academics to retrieve information on the Signature Courses and update brochures⁶, but also with the Department of Student Administration and Assessment (DSAA) to ensure that the students were well informed about online modes of delivery and the challenges of working digitally. DSAA was mainly responsible for assessments and worked very closely with the academics and ICT. The Department of Tuition and Facilitation of Learning (DTFL) was mainly identified to be on the team to ensure that the teaching assistants were on board, and that the supporting procedures, processes policies, and systems were in place. While members from Study Material Production and Distribution were involved in the first phase, their role became more significant during Phase II of the implementation process [see 5.5.1 Roles and Responsibilities of the Functional Units].

⁶ The Unisa brochure contains all information pertaining to courses and their requirements plus administrative information, for example, registration procedures and the dates for events, assessments, and procedures.

Other role players such as human resources (HR), the regions, and the teaching assistants only became involved during Phase II, and their roles and responsibilities are also discussed in 5.5.1.7: roles of the regions and other stakeholders. The regions and telecentres were involved in the third phase of the project. All these functional units are discussed in depth under Theme 2: Managing the implementation process, 5.5.1 Roles and responsibilities of the functional units.

The diagram below indicates the strategic role players – the Vice Chancellor and Pro Vice-Chancellor, the Principal of Global Ecology LLC, the Executive Director to the Pro Vice-Chancellor, the Project Manager, and the Deans of the Colleges. The operational team consisted of, inter alia, the curriculum champions and their US partners, the curriculum authors/module leaders, and the functional units:

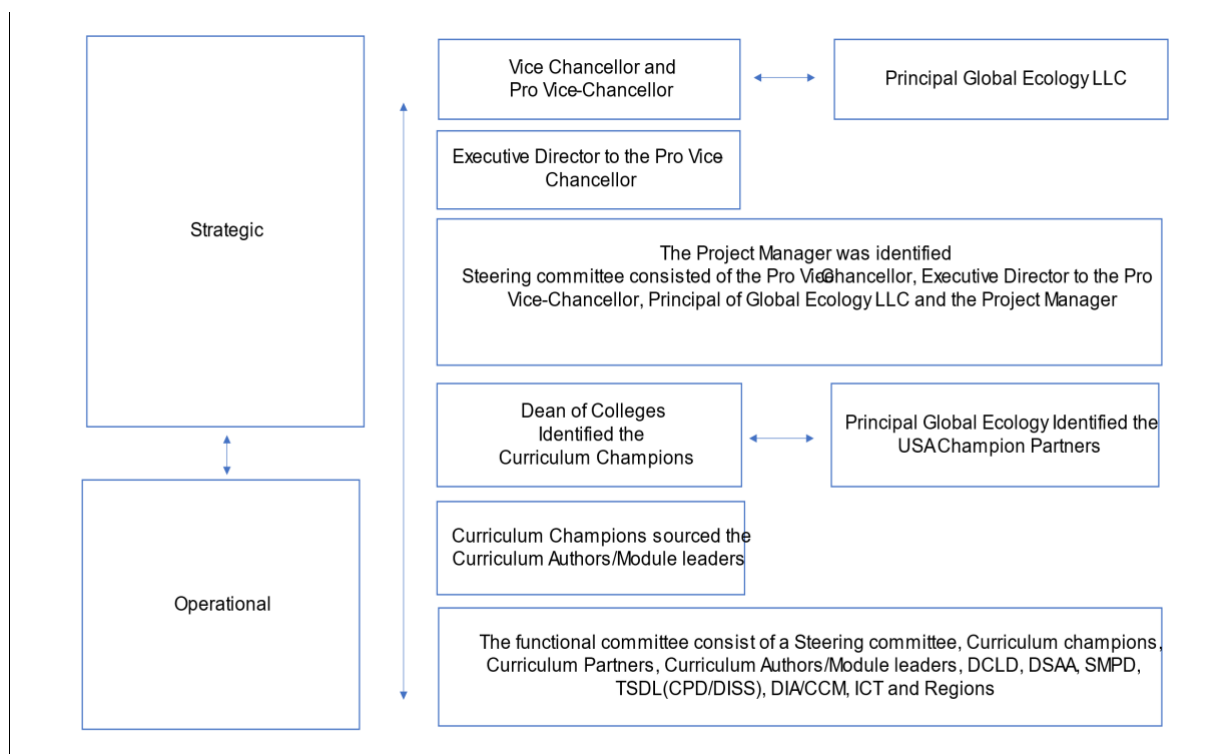


Diagram 5.3: Elements from Theme 1: Designing the online experience: Preparation, planning, decision making and designing

5.4.1.4 Heutagogy as the most suitable Educational Philosophy for the Signature Courses

The fourth action was to choose heutagogy as the most suitable educational philosophy for the Signature Courses. An educational philosophy was needed to support the vision, mission, and

values of the university, and it had to be robust and support student-centredness, while taking into consideration that Unisa's student market is slightly older than conventional universities. In choosing heutagogy, the project team acknowledged that 'heutagogy signifies an educational philosophy that is immanently consistent with the Unisa vision of community engagement and social responsibility' (Global Ecology LLC, 2011a: 3).

In addition, Global Ecology LLC (2011a) supported heutagogy as an appropriate educational philosophy as it uniquely suits the online environment as a teaching platform for adults. Heutagogy promotes student self-directedness because students take responsibility for their own learning (Global Ecology LLC, 2011a). When students interact with fellow students it enriches the learning environment as they bring real life experiences and contextual knowledge to the course context. According to Global Ecology LLC (2011a) this is a very creative process stimulating interest as learners themselves become co-creators of their learning environment. In this regard the academics responsible for the Signature Courses needed to be knowledgeable on how to implement heutagogy effectively in their courseware.

More pertinently, heutagogy gives distance learners the chance to participate in a mentored learning community with the aim of enhancing student aptitude and capacity (Mischke, 2012d):

Heutagogical strategies ask students to become familiar with specific knowledge outside of the formal learning environment of the signature module while testing knowledge, applying information, and comparing one's own learning to that of one's peers

(Global Ecology LLC, 2013: 1).

This is accomplished by directing students through an active process of critical thinking where the assessments assist students to acquire the knowledge and abilities which affirm the active interaction of students as co-teachers (Global Ecology LLC, 2011b). The role of the student is to participate actively in the course and interact with other students, the courseware and academics. Students are in control of their own learning and decisions. Thus, the role of the academic is to set the parameters of the teaching by defining objectives/goals, designing sub-goals and structure, testing knowledge through assignments, and assessing/evaluating what has been learnt (Global Ecology LLC, 2011b).

5.4.1.5 Determine the Course Design Elements

The fifth action was to determine the course *design* elements. During the initial discussions between Unisa and its USA curriculum partner it was deemed important to incorporate the university's vision, mission, and goals in the course design elements, and to ensure sustainability. Defining the interdisciplinary curriculum addressed the design elements and prevented unnecessary duplication (Global Ecology LLC, 2011a; Global Ecology LLC, 2011b). In addition, according to Global Ecology LLC (2011b), the Signature Courses had to introduce 'students to the broad concepts, perspectives, methods and expected skills of their chosen field associated with their specific colleges' (Global Ecology LLC, 2011b: 2).

The preliminary course design elements and features included template syllabi, course materials, assignments, student mentoring, peer tutoring models, and other elements of a signature Unisa experience (Global Ecology LLC, 2011a). The critical outcomes and metrics were based on a consistent application of the concepts of gradueness and Africanness as well as taking cognisance of national and regional needs and objectives, the African context, and student-centredness (Global Ecology LLC, 2011a).

The Signature Course curriculum champions and their US partners finalised the standard module template during the design phase to assist with course design and development, and to guarantee that all modules adhered to the same guidelines, ensuring that students would be thoroughly engaged in the learning process (Global Ecology LLC, 2011c; Global Ecology LLC, 2011d). The main purpose of the template was to ensure that the standards were consistently applied during the course design and development phases to create high quality courseware and materials. The team committed to using this module template to craft all Signature Course modules. The module template 'forced' consistency by requiring all courses to list the intended learning outcomes and objectives, and by emphasising the importance of introducing instructional strategies. Each learning objective indicated which instructional strategies would be employed to achieve the objective, for example, asynchronous learning activities would involve reading on different platforms, discussions, and interaction on the online platform between peers, writing an assignment, or synchronous learning activities between the instructor and students. The learning objectives also estimated in what ways the assessment of learning activities would

take place, for example, through evaluation of data analysis, small group discussions, written assignments, or essays using rubrics. The learning objectives also focused on the delivery strategy, for example, the ways in which technology would be used to ensure interactivity between content, peers and academics by means of the myUnisa discussion forum, additional electronic resources on Drop Box, articles and visual graphic design image and videos. (Mischke, 2012d). They determined the logistical support needs, for example, proctoring and electronic mail, etc.; and lastly, the learning objectives outlined the production/technical support needed for orientation on myUnisa and other tools, as well as possible technology configurations.

When using the module template all parties involved in the delivery of the Signature Courses 'will also clarify specific responsibilities of the course instructors, tutors and students associated with each of the Signature Courses' (Global Ecology LLC, 2011a: 7).

Global Ecology LLC (2011a) claimed that staffing costs, which are typically driven by the high personnel costs associated with hiring full-time instructors, would be reduced as a result of the heutagogical principle of self-directed learners and co-instructors. Moreover, rather than spending money on textbooks, students could make use of open electronic resources (OERs)⁷. The main expense for students was expected to be the time and effort put into achieving the desired learning outcomes for each tier.

The Signature Courses were not designed to be OERs, however the designers of the courses were encouraged to use Creative Commons licensing material. As Mischke explains:

Where copyright permission could not be obtained, students have to access material following the URL link online. Such materials have been restricted to the bare minimum. (Mischke, 2013a: 1).

To ensure that the facilitative tools were in place on Sakai/myUnisa, the academics worked closely with ICT to institute the following requirements:

⁷ Open electronic resources (OERs) are digital and or print educational materials available in the public domain registered under a creative commons license (open license) that allows other users to access the material free of charge

The first deliverable was to deploy additional Sakai/myUnisa tools, for example syllabus, glossary, discussion tools and blogs onto the myUnisa platform (Myburgh, 2012; University of South Africa, 2012b). This was necessary because the Learning Management System (LMS) produced on myUnisa was mostly used for administrative functions, so academic support tools needed to be enhanced on the myUnisa platform specifically for the Signature Courses.

The Sakai community was supportive of further developments on the Blog tool, but Unisa would need to sponsor the technical work to accomplish the development in time for the 2013 registration period for the Signature Courses (Myburgh, 2012; (University of South Africa, 2012b).

5.4.1.6 Materials Development

The sixth action was to develop the material. During the design phase (Phase I) of the Signature Course project emphasis was placed on the benefits of applying heutagogical strategies. Such an approach called for meticulous planning during the design phase of the course. Not only was each Signature Course compelled to have well-defined learning objectives with specific goals, there also needed to be a direct connection between each learning outcome, its corresponding course content, and the activities and methods used to achieve those outcomes. It was also important to clarify timelines associated with each learning goal. Prior to starting the course, the academic should know and indicate what kind of support will be required to achieve each goal (Global Ecology LLC, 2011b), for example, ICT requirements, assessment, learner support, professional development, human resources, library services, etc. These needs should be spelled out in detail, as well as the roles of the academics, tutors, students, and support departments. The academic achievement of Unisa students was deemed to be a shared responsibility between all departments and units (Global Ecology LLC, 2011b).

Apart from being responsible for the design and development of the modules, the primary academic was to be the only person with the authority to make changes to the course design (Global Ecology LLC, 2011b).

The USA Signature Course curriculum team also collected supplementary materials that provided information about efficient teaching methods to improve student outcomes in an online classroom. These were made available on a shared online platform for all academics,

instructional designers, and librarians to access the material (Global Ecology LLC, 2011b). The materials consisted of up-to-date research documents that assist with online learning best practices, innovative technologies, theory and practice of online learning, challenges in online learning, future innovations, and so on.

5.4.1.7 Assessment

The seventh action was to develop appropriate assessment strategies. More frequent and smaller assignments were envisaged to improve student learning success. Assessments had to be 'front-loaded' (assessments are online and available to the students after registration) to assist students with their self-directed learning processes (Global Ecology LLC, 2011b). Timeous feedback from academics was stated as essential as delayed feedback can stifle the pace of the learner.

Students' interaction with each other (student-student) is central to learning through a heutagogical lens with attention given to social, cognitive, and active elements during the learning process (Global Ecology LLC, 2011b). Activities such as reading assigned materials, posing questions, facilitating discussions, responding to questions and commenting on the responses of others, locating and presenting external resources, and working together on case studies and research projects can all help achieve interactivity. There are seven different types of assignments, according to Global Ecology LLC (2011b), that effectively apply interactivity in online teaching and learning. These are: 1) a forum with a threaded discussion structure; 2) research conducted by a group working together; 3) writing tasks posed by the students themselves; 4) helping each other with assignments and studying; 5) evaluations of one's own work; 6) blogs with a reflective assessment; and 7) digital portfolios of self-evaluation of skills and accomplishments.

The design of the assessment and the assignment process for the Signature Courses also impacted on the integrity of the assessment. Integrity in assessment was seen to be ensured through a three-pronged strategy that centred on the design of the assessment itself:

- 1) By actively contributing to the learning process, students demonstrate their commitment to the ideals of citizenship and personal accountability.

- 2) Grading assignments becomes more personalised and less reproducible when they frequently incorporate student experience and life context.
- 3) Using rubrics during the assessment process allows transparency as the students can receive feedback on their performance at any time owing to the openness of the assessment process (Global Ecology LLC, 2011b).

5.4.1.8 Student Support (Teaching Assistants) and Grouping of Students

The eighth action was to determine the student support model and grouping of students. The rationale for employing teaching assistants was to allow academic staff the time to design courses, develop assessment practices, and generally guide and direct the learning process. Facilitation of learning is a very time-consuming process, and the teaching assistants' role was to alleviate work pressure for academics and ensure increased instructor presence in the learning environment. The group sizes of these student groups should be manageable, and the grouping should be sorted according to specific criteria. There was also a need to capture the teaching assistants' details on the myUnisa system as well as a messaging tool or options to communicate to the teaching assistants, and to administrate the group (Mischke, 2012d).

The teaching assistants' model was initially planned to assign 25 students to a group, so, from a human resource perspective the university needed to prepare the human resources policies that govern the processes (Global Ecology LLC, 2011b). In light of the fact that the Signature Course project was a departure from traditional teaching and learning at Unisa, it was expected that the newly appointed teaching assistants would not necessarily have had any prior Unisa experience. Accordingly, it was suggested that the weekly average time spent by a teaching assistant on each student was to be set at seven minutes. The Signature Courses was seen as a pilot to prepare Unisa for going fully online, and, after considerable discussion with HR, projections were made on the basis that each teaching assistant would oversee six groups of 30 students per group, not 25 as initially planned, resulting in a total of $6 \times 30 = 180$ students grouped per teaching assistant (Mischke, 2012b). [see 5.5.1.2 Roles and Responsibilities of the Teaching Assistants for more information].

The primary academic would be fully in charge of supervising the study groups with 30 students in each group. The process of assigning students to study groups of 30 students in each group

had to be manageable and not result in extensive staff time spent considering student demographic data. To ensure that the learning groups had been set up as desired, the course's primary academic was consulted well in advance before the launch of the Signature Courses (Global Ecology LLC, 2011b).

Another issue that was considered was who would be responsible for the grouping of students. It was suggested that the best place to assign the students to their learning groups would be the registrar's office which had early access to information about student registrations. When enrolling in a Signature Course students should be immediately assigned to a study group to allow them access to introductory material, to the online ice breaker activities and course content, as well as getting to know one another as fellow students, and meeting the primary academic and teaching assistants (Global Ecology LLC, 2011b).

5.4.1.9 Branding the Signature Courses and Reworking Policy and Procedures

The ninth action was to brand the Signature Courses, and rework policies and procedures. During the design phase, the Signature Course team had to ensure that effective branding was aligned to the university's vision, pedagogy, and technology goals so as to promote the institutional reputation of the Unisa Signature Courses. Given that the Signature curriculum was about to change the Unisa academic environment, Corporate Communication and Marketing's main role and responsibility was to adapt their marketing plan and inform prospective Unisa students of these changes (University of South Africa, 2012a). Campaigns were part of the plan to inform students of the effects of Unisa's vision to increasingly shift toward Open, Distance eLearning (ODeL). The marketing plan also describes the Signature Courses and their effects to all prospective and registered students, using the Unisa brochure, and the institutional and College calendars. The marketing plan also included a *Quick Start Guide* placed on the study page on the corporate website to guide the students to get started with their studies.

By means of an announcement on the corporate website and myUnisa, the Signature Courses would be explained to all prospective and reregistering students. Media campaigns using newspaper and radio, as well as social media campaigns using Twitter and Facebook, were used to remind students and staff of the innovations resulting from Unisa moving online. Lastly, an internal communiqué was used to keep the staff informed. Most of these tasks were still not

complete by the end of August 2012 (University of South Africa, 2012a; University of South Africa, 2012b).

The Pro Vice-Chancellor's office was encouraged to oversee a comprehensive review of university policies (CIES/IIE, 2010; Global Ecology LLC, 2011b) since the Signature Courses would not be able to reach their full potential without revising the policies that govern them. Accordingly, the curriculum policy needed to be adjusted to embed context, relevance, graduateness, and student engagement (Global Ecology LLC, 2011b), and to cater for the university's vision, pedagogy, and technology goals (Global Ecology LLC, 2011d). The Signature Course team used the developed *Framework for the implementation of a team approach to curriculum and learning development at Unisa* (University of South Africa, 2013a). The purpose and aim of this newly developed team approach framework was to provide a bridge between policies related to tuition and ODL practice at Unisa, and incorporate:

- 1) the team approach advocated in the Tuition Policy (<http://unisa.policies/Tuition>);
- 2) the quality regime of the Council on Higher Education (CHE) (University of South Africa, 2013a: 3).

This team approach framework indicated that the academic is ultimately responsible for the course material and that the DCLD should coordinate the course material development using the four-steps guide, namely: Step 1: programme design; Step 2: curriculum planning of modules; Step 3: learning design; Step 4: learning development. The framework assists with setting up the team approach principles through the different steps (University of South Africa, 2013a).

The Signature Course project team took cognisance of the fact that the ICT technology strategy included the goal to expand or establish policies that ensure that all personnel, irrespective of whether they are permanent or contract appointments, were exposed to the social, ethical, legal, and human uses of various technologies (University of South Africa, 2011d). The academics were encouraged to use open electronic resources (OERs), and an approved OER policy and guidelines at Unisa (University of South Africa, 2011e: 11) needed to be in place. All assessment-related policies at Unisa, furthermore, needed to be in line with the design-driven assessment concepts used in the Signature Courses and, more generally, for effective online learning environments (Global Ecology LLC, 2011b). A university's commitment to quality relies

heavily on the reliability of its assessment methods and procedures, and detailed assessment policies need to be instituted (Global Ecology LLC, 2011a). There should be an alignment between continuous student-centred formative assessments and learning instructional goals and objectives during the design and development process (Global Ecology LLC, 2011a). There was, however, a request to relook at the examination policy which, if approved, would result in a system change as the business rules are not the same (Mischke, 2012d). The university prepared and finalised the human resources policies that govern the HR processes for example, to implement a recruitment strategy to advertise widely and proactively for suitable candidates, or to allow for teaching assistants to be sourced from the large pool of Unisa alumni's database, or from current graduate students (Global Ecology LLC, 2011b).

5.4.1.10 ICT Access and Cost

The tenth action was to ensure ICT access and cost-effective strategies for students. Factors that needed to be considered included assisting students with certain challenges such as internet availability, student access to sustainable technology, and student preparedness for online learning. The issue of student access to the online learning environment seemed to be a constant source of tension surrounding the design of the Signature Courses. The documents analysed indicate that, at that stage, only 60% of Unisa students had regular access to a computer, and even fewer had access to the internet (Global Ecology LLC, 2011b). Considering the concerns regarding access and internet challenges, a reasonable solution was proposed that the weekly assignment should remain open on the system for a two-to-three-week period to enable those students who were disadvantaged to complete and submit their assignments (Global Ecology LLC, 2011b).

Other possible solutions included low-cost gadgets with internet access functionalities such as netbooks and Google Chromebooks, as well as interactive e-readers like Kindle. What emerged from the document analysis under this theme is a consideration of the fast pace in which technologies develop, and a willingness to be open to new choices as newer technologies became available (Global Ecology LLC, 2011b).

Another way to assist students with access to technology was through mobile and smart phone technology (CIES/IIE, 2010; Global Ecology LLC, 2011b; Prinsloo et al, 2011). In the analysed

documents there was an openness to consider and make use of the potential of mobile technologies that would allow for increased access to learning materials despite the concern about the small screens of many types of mobile phones (Global Ecology LLC, 2011b). Two further initiatives were to secure funding that would transform the existing twenty-eight Unisa regional sites into innovative technology-enhanced hubs, and, secondly, to ensure that students had access to myUnisa even without regular access to the internet by means of an innovation, new to Unisa, the Digi-bands [see Theme 3: The role of ICT in the implementation process, and ICT UNIPOOLE under 5.5.1.5 Roles and Responsibilities of Study Material Print and Production and Distribution].

Again, the 'blue' areas in the diagram indicate the immediate discussion point. The reader is in Theme 1: Element two:

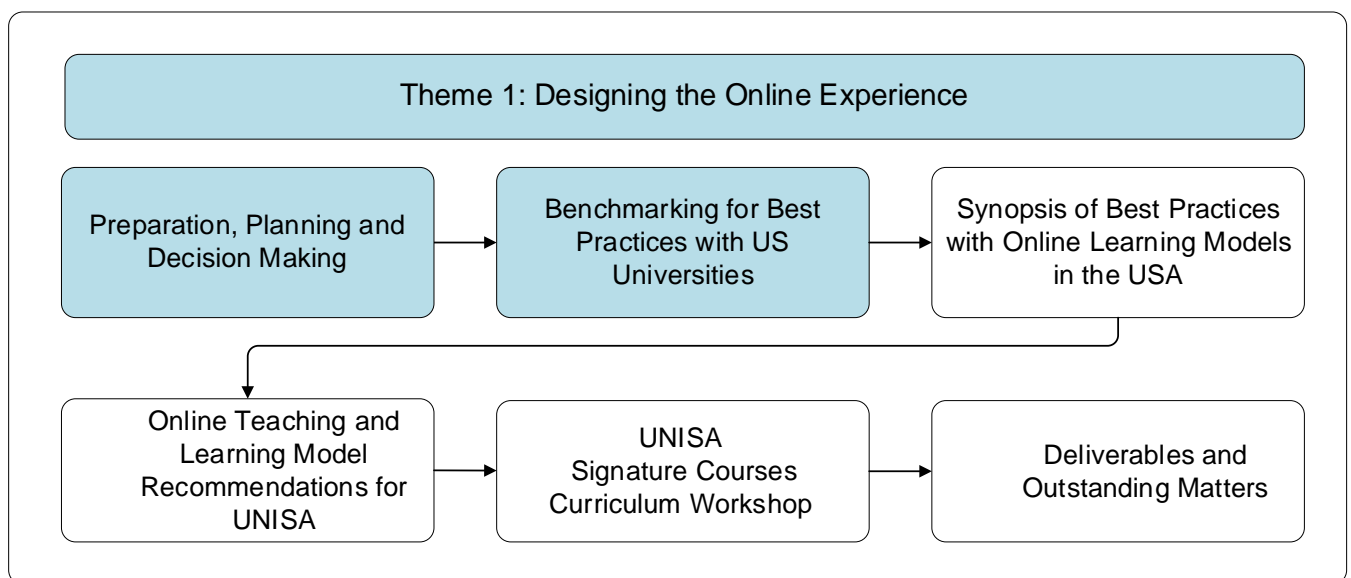


Diagram 5.4: Elements from Theme 1: Designing the online experience, Benchmarking with US Universities

5.4.2 Benchmarking for Best Practices with US Universities

The second element under Theme 1 discusses the benchmarking exercise with six other higher education universities as a deliverable of the MOA (Ryan, 2011; Global Ecology LLC, 2011a). This best practice benchmarking visit consisted of academics and members of Unisa's administrative departments who were directly involved in ensuring the successful implementation of the Signature Courses, namely, Student Administration and Assessment, ICT, DCLD and the Study Material Print Production and Distribution Department. According to Ryan (2013), the benchmarking visit to the US was 'arguably the most significant' part of the entire project (Ryan, 2013: 10). This was because during these visits Unisa staff received information on best practices on how particular universities implemented online courses (Mischke, 2012d).

The six universities visited in the USA were:

- 1) Thomas Edison State College (TESC): Trenton, New Jersey: TESC caters exclusively for adult learners and has many students from enlisted soldiers (USA Marines or Navy Seals) who need to obtain a qualification or further their studies in particular fields of interest. The students are referred to as 'submarine students' and they have limited time and access to a computer or the internet (Mischke, 2012d).
- 2) Johns Hopkins University (JHU): Baltimore, Maryland: JHU is a university with a famous medical school and is a highly ranked institution in the USA. The university implemented a blended learning model: 60% of its courses are online and the rest are face-to-face mode of instruction. Students have access to computers and other ICT infrastructure to successfully partake in online courses (Mischke, 2012d).
- 3) State University of New York (SUNY): Albany, New York: SUNY started off as a face-to-face contact institution and has since adopted online teaching and learning as part of their blended model (CIES/IIE, 2010; Mischke, 2012d). SUNY follows both a decentralised and a centralised model. The decentralised model consists of 64 campuses which are fully autonomous in terms of authority (CIES/IIE, 2010; Mischke, 2012d). The decentralised management model consists of deans appointed at each campus (a dean can be responsible for more than one campus depending proportionally on the campus size). SUNY is comparable to Unisa in terms of student numbers (460 000) and at the time of the visit and had about 88 000 staff on their payroll which included teaching assistants. Some centralised functions included ICT and

- Centre for Professional Development (CPD); decentralised functions included management and LMS, and assessment strategies (CIES/IIE, 2010; (Mischke, 2012d).
- 4) Howard University (HU): Baltimore, Maryland, a historically black American university. They follow the blended model as some courses are offered fully but most of their courses are delivered face to face. Their Center for Professional Development is extremely well equipped, and they developed a very good academic training programme (Mischke, 2012d).
 - 5) State University of New York – Empire State College (ESC): Saratoga Springs, New York. Empire State College forms part of the SUNY system, however it is the only dedicated distance learning institution within the context of SUNY and offers many of their modules online. They mainly provide education to adults who want to improve their qualifications. The self-study initiative is one of their unique offerings where a student can choose a personalised designed curriculum to assist in their own self-development (Mischke, 2012d).
 - 6) State University of New York – Herkimer Community College (HCC): Herkimer, New York. As a member of the SUNY group HCC provides affordable and accessible two-year certificate courses to students who are not quite ready to enter higher education at the required level. At the time of the visit, they had 3,600 students enrolled. About 60% of their students were from outside the county or are from foreign countries. The Suny group assisted centrally with course design and development (Mischke, 2012d).

An interesting observation concerning the American colleges visited was that most of these universities followed a gradual move from face-to-face to blended learning, and ultimately to fully online modes (Mischke, 2012d). An integral part of the visits was to study these universities' similarities and best practices according to the following elements: course design and delivery; Centre for Professional Development (CPD); student assessment administration; teaching assistants; research; rewards and incentives; and quality matters (Mischke, 2012d).

All the universities indicated that academic performance improves when students learn online. The variables contributing to this improvement are the quality courseware designed to ensure the presence and interaction of stakeholders which include students, peers, academics, and tutors in the teaching model (Mischke, 2012d).

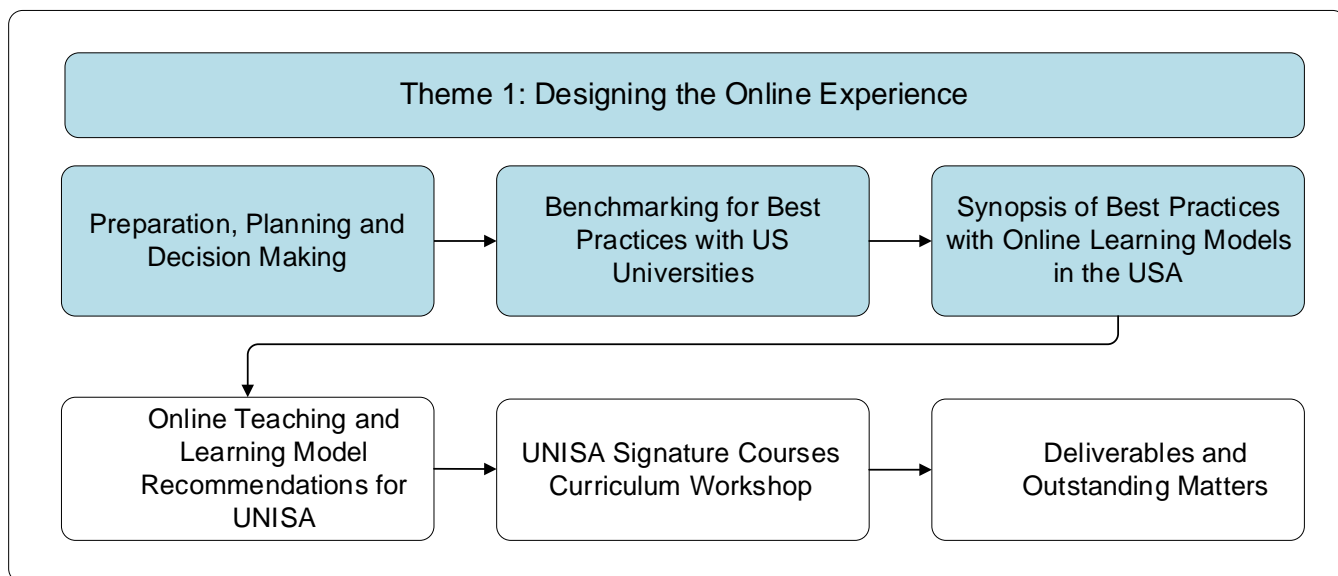


Diagram 5.5: Elements from Theme 1: Designing the online experience, Synopsis of best practices with online learning models in the USA

5.4.3 Synopsis of Best Practices with Online Learning Models in the USA

The third element under Theme 1 (designing the online experience) will discuss the best practices synopsis report that was written after the visit to the USA according to the following sub sections: 5.4.3.1 Courseware Design and Delivery; 5.4.3.2 Continuous Professional Development; 5.4.3.3 Assessment and Assessment Administration; 5.4.3.4 Teaching Assistants; 5.4.3.5 Research; and 5.4.3.6 Quality Matters.

5.4.3.1 Courseware Design and Delivery

- 1) The core lesson derived from the benchmarking visit was the need for the course leaders to create supportive network communities across disciplines and to work in teams when designing and developing courseware. The development of courseware also implies the need for professional development through a centre or facility for professional development which could assist academic staff not only with the basic background for course development but also with the development of resources such as handbooks and online guides. After the visit, the team realised that 'online course development does not necessarily require more time, but instead it requires lecturers to do things differently' (Mischke, 2012d). Develop and use a design template to ensure

standardisation and consistency, and to ensure that all aspects pertaining to course development are covered, for example, learning outcomes, objectives, etc.

- 2) Heutagogy, or variations thereof, was commonly accepted at the US universities as a preferred online pedagogy since, as discussed previously in this chapter, it creates a platform where instructor and learner take part in the teaching and learning process with the emphasis on self-organised learning by the students.
- 3) Learning is optimised at all these universities through well-designed and developed online courses and alternative assessments.
- 4) Students need to be versatile with technology to be able to adapt to the working environment. The new generation of learners is more technology orientated and expect integration of digital tools to support diversity and different learning styles in their mobile lives.

5.4.3.2 Continuous Professional Development

The feedback report from Mischke (2012d) regarding the US visits indicates that these universities have extremely well-equipped centres for professional development. Most of these institutions had dedicated spacious training rooms with up-to-date modern technologies. A large part of the activities undertaken by these centres consist of seminars, inter-institutional discussions, peer-group forums for course designers, the sharing of information, and brainstorming problems for solutions. CPD centres employed staff with a range of specialist knowledge, qualifications, and experience, such as instructional designers, learning specialists, assessment specialists, and IT specialists. In all these institutions, CPD staff were well respected by academics as the CPD staff kept abreast with the latest technology and research-related teaching and learning matters.

Most of the universities visited used their CPD centres to implement a 'train the trainer' model which allowed a pool of academics to be trained and then train fellow academics and peers in turn. These institutions used a one-stop-shop concept for course development where academics and a range of experts could develop the courseware jointly. CPD centres facilitated study material production by involving a range of specialist services such as language services, graphic artists, and layout support staff. All courseware documents were accessible to the whole team

on an iCloud environment. Some universities also implemented academic advisory boards which consist of innovative academics who liaise with CPD centres or individual academic departments, and report back to departments and colleges on course development trends in the CPD training programmes.

5.4.3.3 Assessment and Assessment Administration

Mischke (2012d) reported that all the visited institutions implement continuous assessment strategies whereby students receive regular and timeous feedback. All universities use rubrics to grade online assignments and examinations. The academics have full autonomy in their course, and 'there is no centralised assignment section or directorate' (Mischke, 2012d: 12) as the final student mark is captured on a central student administration system available to all academics and teaching assistants. Indeed, the only institution that resembled Unisa with a centralised assessment administration system was SUNY, where centralised functions included systems administration and certain financial or budgeting functions (Mischke, 2012d).

5.4.3.4 Teaching Assistants

Teaching assistants were evident in all the visited universities and assisted academic staff with the facilitation of online learning. The rationale for employing teaching assistants is to allow academics to spend more time on the development of courseware and research since the teaching assistants alleviate the academic workload. The tasks include grading student assignments, giving feedback to students, contributing to online discussion forums, and responding to student queries. Student marks awarded by the teaching assistants are quality assured by the course academic (Mischke, 2012d) [see 5.5.1.2 Roles and Responsibilities of the Teaching Assistants for more information].

5.4.3.5 Research

Mischke (2012d) reported that all the visited universities support research on pedagogical practices in an effort to continuously improve their teaching methods (Mischke, 2012d). For example, the Center for Applied Research in Learning and Teaching (SCARLET) at SUNY specialises in research for teaching and learning, looking for new ways to increase the

effectiveness of their practices. The Center also assists researchers with research and research financing, and fosters collaborative research through the establishment of forums. The research centre's role is to put in place and support scholarly exchange programmes, provide grantsmanship, organise conferences, and host scholarly journals. These institutions also award prizes for outstanding contributions, and celebrated innovation, research breakthroughs, and novel policy approaches (Mischke, 2012d).

5.4.3.6 Quality Matters

Central to all the visited universities, according to Mischke (2012d), is ensuring the quality of teaching and learning. All universities are registered with Quality Matters (QM) which is an international programme charging membership fees per year (Mischke, 2012d). The purpose of belonging to a quality assurance programme is so that a university's courses could be evaluated and accredited against a set of quality standards. Self-assessment is also encouraged through quality management tools such as the Development of Accreditation in Engineering Training and Education (DAETE) and the Sloan quality consortium criteria (Mischke, 2012d).

The reader is in Theme 1: Designing the online experience where the fourth element refers to Online teaching and learning model recommendations for Unisa.

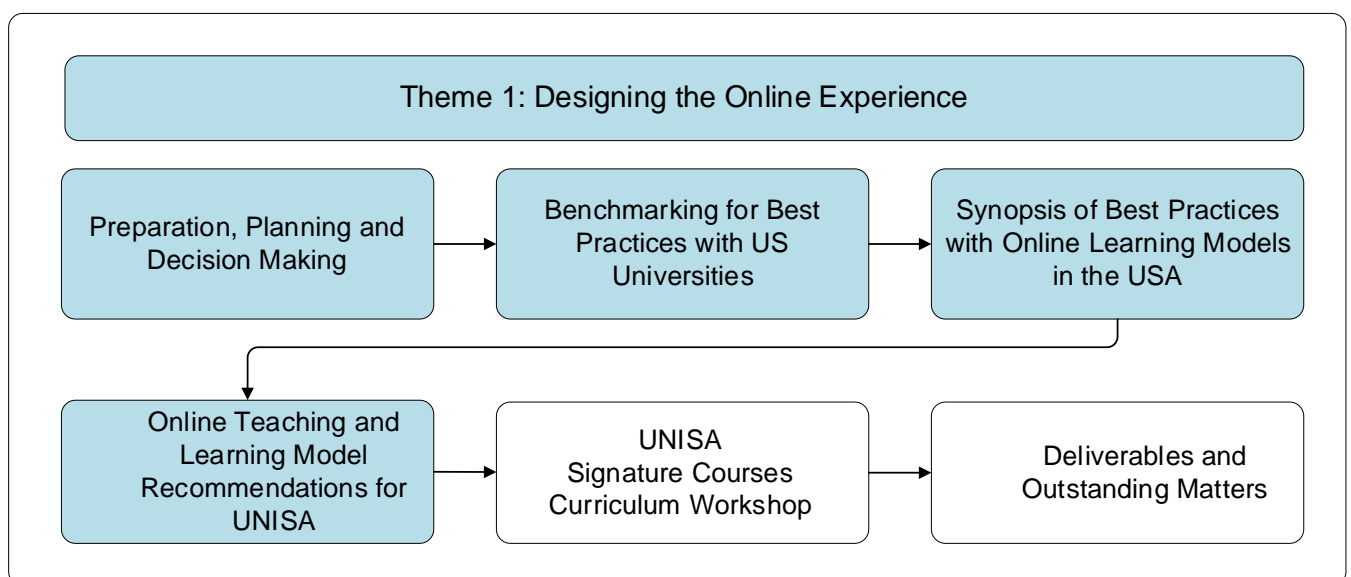


Diagram 5.6: Elements from Theme 1: Designing the online experience, Online teaching and learning model recommendations for Unisa

5.4.4. Online Teaching and Learning Model Recommendations for Unisa

After the bench-marking exercise, the fourth element derived from the document analysis under Theme 1 consists of the recommendations for the online teaching and learning model that were sent to Unisa's executive management concerning how the Signature Courses should be designed and implemented (Mischke, 2012d; University of South Africa, 2012b). This study does not attempt to evaluate whether these recommendations were implemented, but highlights the fact that these recommendations provided valuable information in the context of mapping the implementation process.

5.4.4.1 Teaching and Learning

The teaching and learning recommendations for Unisa's online learning model were as follows, according to Mischke (2012d):

- 1) Increase online teaching and learning by providing staff with incentives to move online in line with benchmarking findings. Such incentives include reduced teaching loads, financial support, laptops and tablets with the latest educational technologies. Rewards included a process of formal acknowledgement and certification for those who complete the training through the CPD. This responsibility was given to the Vice-Principal: Academic and Research.
- 2) Appoint teaching assistants for all the Signature Courses. The Academic departments, HR, and the Department of Instructional Support and Services (DISS) need to ensure that this takes place.
 - 3) Adopt a collaborative team approach to curriculum and course design. Here learning specialists from the DCLD and the Centre for Professional Development are the responsible parties.
 - 4) Continuous assessment strategies.
 - 5) Design and develop courses by means of a course design template to guide course design and the development of online courseware. The learning specialists from the DCLD and Centre for Professional Development as well as interested and progressive academic staff aligned to the Signature Courses were the responsible parties.

- 6) Appoint mentors to facilitate peer interaction with academics to develop, motivate, and encourage staff to implement online learning. Staff should be encouraged to experience online learning as students to increase their understanding of online learning. A handbook for academics to consult when planning and implementing online teaching and learning models needs to be developed.
- 7) Provide students with the opportunity to practise being an online student. For example, a module called 'Learning Unit Zero' could be integrated into every online course to allow students to familiarise themselves with the myUnisa platform. The academic departments, learning specialists from the DCLD, the Centre for Professional Development, as well as the Signature Course teams would be responsible.
- 8) Establish increased computer access for students through the establishment of well-equipped computer centres for Unisa students. The Executive Director: Tuition and Facilitation of Learning was mandated to ensure this task was done.

5.4.4.2 Centre for Professional Development (CPD)

Professional training and development for all stakeholders involved in the online learning model implementation were deemed to be essential to the success of the Signature Course implementation. The following recommendations, according to Mischke, (2012d) were proposed to re-align and prepare the university for online learning implementation:

1. Establish a one-stop-shop for academics for course design (instructional designers, learning specialists, language, graphic and layout support) through critically re-considering the structure of the CPD. The Executive Director: Tuition and Facilitation of Learning was responsible.
2. Establish a state-of-the-art CPD unit with a clear vision and role clarifications within the DCLD. The Executive Director: Tuition and Facilitation of Learning was responsible. The CPD unit space should be equipped with cutting edge equipment and internet access to conduct CPD online teaching and learning training. This responsibility would fall to the Executive Director: Tuition and Facilitation of Learning.
3. Increase specialised technology-enhanced support to assist and advice on innovative technological futuristic trends. It was proposed that the Academy for Educational Technology establish a Centre for Educational Technology, and that the Academy for

Educational Technology staff could be utilised in these centres. The human resource needs for such an expansion may necessitate headhunting appropriate staff. It was also advisable to regrade current positions in these units as that would have added future value.

4. Appoint dedicated, highly skilled staff with senior degrees focusing on curriculum and course design, online teaching, learning and research at the CPD unit. The Executive Director: Tuition and Facilitation of Learning was responsible for this task,
5. According to Mischke (2012b), the setup of a 24/7 help desk for online teaching and learning support and specifically for all stakeholders involved in course design and development was mooted as a possible innovation. Such a 24/7 help desk would be essential in the implementation of online learning and would need to be capacitated with skilled staff.
6. Develop a series of certified online training courses on curriculum and course design and development for staff (e.g include assessment, grading, and online teaching strategies such as blogs, videos, and audio). The CPD unit should work closely with learning specialists from the DCLD. The Executive Director: Tuition and Facilitation of Learning was responsible for this task.
7. Design a certified training course for tutors and teaching assistants. Learning specialists from the DCLD, the Centre for Professional Development, as well as interested Signature Course academic staff would be responsible.

5.4.4.3 Research

During the benchmarking visits the importance of a dedicated research unit was discussed. The Signature Courses provided excellent opportunities for practice-based research in online learning (Mischke, 2012d) and reflective research is necessary for any new project (Nkhumeleni, 2014; University of South Africa, 2013c; University of South Africa, 2013d).

5.4.4.4 Study Material Print Production and Distribution (SMPD)

The following recommendations, according to Mischke (2012d) refer to study material and print production:

- 1) SMPD directorates will have to invest in professional and continued training in their respective fields, and apply changing trends in online delivery in order to stay abreast of software developments. They will have to work with the DCLD and the CPD to identify suitable training interventions. The SMPD Directors and staff are responsible for this task.
- 2) Staff need to keep abreast of new technological changes including hardware and software developments. SMPD staff need to be re-skilled in relevant online learning environment skills, for example, language editing, layout, graphic design, research administrators, etc. as print production is gradually discontinued.
- 3) Systems should be set up to allow students to indicate whether they will access their study material online or whether they want a Digi-band supplied to them if they have restricted access to the internet. The Executive Director: Study material, Print, Production and Delivery was responsible for this task.
- 4) Extend the database of in-house-produced resources and make these available to staff. The Executive Director Study material, Print, Production and Delivery was responsible.

5.4.4.5 Quality Assurance (QA) Matters

During the benchmarking visit to the USA quality assurance played a significant role [see 5.4.3 Synopsis of Best Practices with Online Learning Models in the USA; 5.4.3.6 Quality matters] and all online courses need to be designed and developed according to a quality assurance model and standards. The recommendation was that the Signature Course team should design a course quality template. In addition, a quality assurance model that provides clear and open quality assurance criteria for online learning should be developed. Existing quality management systems were proposed, for example, DAETE and Sloan, which included standards and self-assessment templates. The responsibility would be the CPD together with the DCLD (Mischke, 2012d).

5.4.4.6 Academic Information Management System (AIMS)

Unisa uses an Academic Information Management System (AIMS) to administer and maintain the Programme Quality Mix (PQM). The system needed to be adjusted and updated to distinguish between face-to-face, blended, and/or fully online. The system also needed some

adjustments to make allowance for fully online modules, and an option to indicate whether the module will have non-venue-based examinations (Mischke, 2012d).

5.4.4.7 myUnisa System Enhancement

Unisa already had a learning management system called myUnisa but because it was used mainly for administrative support there was a need to expand its teaching and learning functionality. An automated LMS process generated default online site types for the academics, and they could use these web templates to create managed sites for the teaching assistants (Mischke, 2012d). The primary academic was responsible to adjust and maintain these myUnisa site templates according to their specific module requirements, and including announcements, discussions, blogs and digital portfolios.

The assessment plan, at that stage, was populated with information on the assignment system, and the system needed to be adjusted to ensure integration between the assignment system and myUnisa so that the more assessment information could be captured on myUnisa. There was also a need for additional assessment types (Mischke, 2012d) and, to accommodate these, myUnisa needed to be adjusted with additional assessment tools in order to deal with multiple choice questions (MCQs) and written assignments. Obviously, new system improvements and adjustments were needed to accommodate additional assessment types (add marking ability, link to onscreen marking, etc.). The Student Information System (SIS) therefore needed to be modified like the myUnisa system to accommodate additional assessment types. For example, Gradebook (software used to capture and store the assessment mark) needed to be deployed and linked to the SIS. Mischke (2012b) further notes that the implementation of assessment rubrics and Gradebook tools would make the recording of assignment marks redundant as the marks would be automatically captured. Colleges should ensure that formative assessment marks are captured, and summative assessments should be recorded centrally.

The benchmarking visits proposed that Unisa should adopt a blended tuition model before moving gradually to a fully online teaching and learning model. This vision should be supported by a flexible administrative management system that could accommodate Unisa's complexity. The benchmarking report made it clear that Unisa would seriously need to focus on providing an efficient information technology system to support the blended tuition model and, eventually, a

fully online teaching model (Mischke, 2012d). The student information system (SIS) needed to be replaced to accommodate the move to innovative teaching and learning practices, and allow for the integration of mobile and social media features into the system.

For the Unisa Signature Curriculum Project to overcome potential technology challenges for students, particularly the problem of access, the principal of Global Ecology LLC and the Pro Vice-Chancellor also decided to work together to secure funding that would transform the existing twenty-eight Unisa regional sites into innovative technology-enhanced hubs (Global Ecology LLC, 2011b).

With these recommendations in mind the Signature Course project team envisaged multiple workshops in collaboration with the US team to ensure proper consultation and planning towards the implementation of the Signature Courses.

Under Theme 1, there are two elements left to discuss (see the diagram below) namely the 'Unisa Signature Course curriculum workshops' and 'Deliverables and Outstanding Matters'.

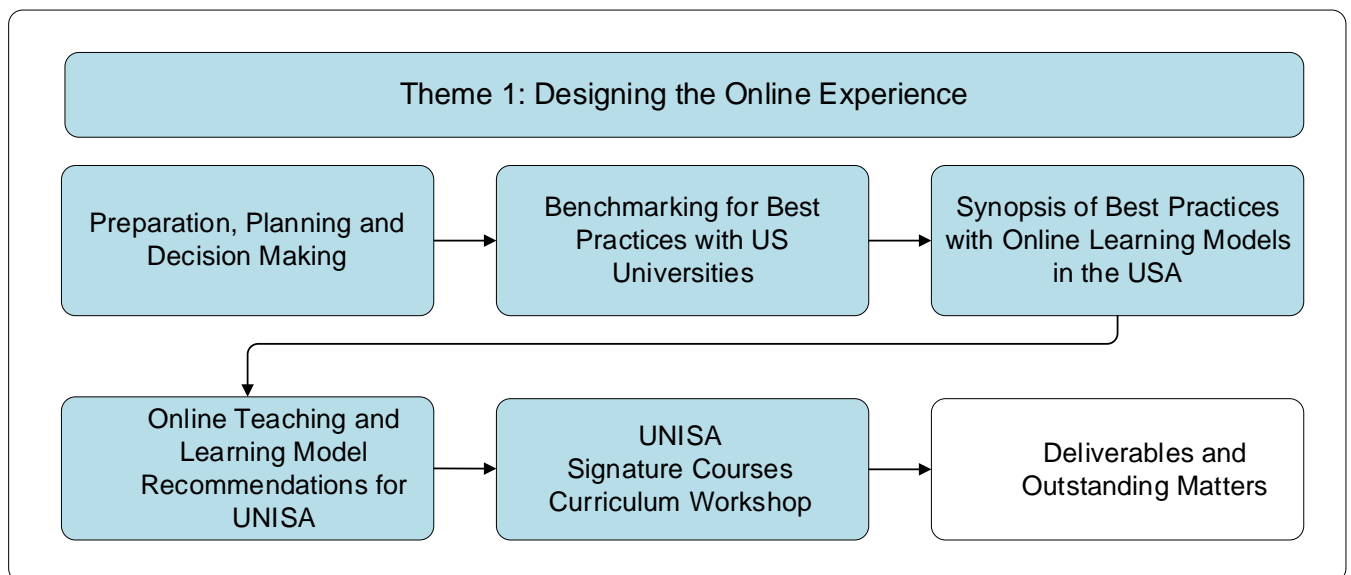


Diagram 5.7: Elements from Theme 1: Designing the online experience, Unisa Signature Courses curriculum workshops

5.4.5 Unisa Signature Courses Curriculum Workshop

This is the fifth element of Theme 1. The first workshop was held in May 2011, and subsequent workshops took place in August, September, and October during 2011. These workshops dealt with the planning, design and development, including professional development and benchmarking, of the Signature Courses [see 5.4.2 Benchmarking for Best Practices with US Universities]. Networking with curriculum partners and functional units that played an integral part in support systems was also covered (Global Ecology LLC, 2011d).

Unisa had to find suitable curriculum champions from the Colleges while the principal of Global Ecology had to source curriculum partners from the USA. Global Ecology organised the first preparatory meeting with the Unisa steering committee, and also prepared a workshop in Washington DC with the curriculum champions from the College of Science Engineering and Technology (CSET), the College of Law (CLAW) and the College of Economic and Management Sciences (CEMS). The visit began with a strategic meeting where the Pro Vice-Chancellor and two other senior delegates from Unisa met with the principal of Global Ecology LLC (Global Ecology LLC, 2011d).

The first set of deliverables involved introducing the Unisa champions and US partners to one another during the May and August 2011 visits to Washington DC. Thereafter, the team started on the preliminary design and development of the course components which form an integral part of the course materials. The workshop with the Unisa and US teams shared details on designing ODeL Signature Courses, context-based material, and other course features that might be appropriate to the Unisa Signature Courses, as well as the course elements [see 5.4.1.5 Determine the Course Design Elements]. Unisa representatives presented a description of Unisa's context, and shared related case-studies, data, research results, and the preliminary Signature Course design aspects for the three Colleges for their US counterparts (Global Ecology LLC, 2011a; Global Ecology LLC, 2011b).

The second workshop in August 2011 included:

how to begin the process of identifying best practices ODL elements to support the Signature Courses including template syllabi, service-learning assignments, course

materials, student mentoring and peer tutoring models and other elements of a signature Unisa experience.

(Global Ecology LLC, 2011d: 10)

Each College provided a presentation for the Unisa and US team partners to indicate their teaching and ODL experience, and what the use of context-based material and other course elements potentially applicable to the Unisa Signature Courses meant to them. The individual Unisa and US Signature Course curriculum team partners workshopped the preliminary course design elements, and the four teams presented under the theme 'Introduction of Conceptual, Methodological and Contextual Elements of the Unisa Signature Courses'. After each team presentation there was time allocated for reaction and feedback (Global Ecology LLC, 2011a).

Another two-day curriculum workshop took place from 16 to 17 September 2011 in Washington, DC where the meeting objectives were to prepare for the October 8 to 14, 2011 visit to the Unisa campus by designing the key elements of the Unisa Signature Courses for the six Colleges (Global Ecology LLC, 2011b) [see 5.4.1.5 Determine the Course Design Elements]. During this workshop the US curriculum specialists discussed how the Unisa team could craft their curriculum and embed the Signature Course design elements. The workshop also provided a list of fact-finding questions and informational needs that identified data, case studies, and research results that could form the starting point for developing a Unisa databank for context-relevant teaching. Along these lines they started to develop a resource databank of best practices in learning outcomes-based course assignments, service-learning assignments, and student-to-student assignments (heutagogy) as course development resources for the Signature Course modules. Two resource databanks were developed: a databank covering context-relevant data (case-study materials, research results etc.), and a databank covering teaching methods, course assignments etc. (Global Ecology LLC, 2011b).

The last Unisa Signature Curriculum workshop that took place in Pretoria, South Africa, from 8-14 October 2011 was a continuation of the previous workshops but with a focus on identifying existing information and information gaps related to research results, case studies, demographic data etc. (Global Ecology LLC, 2011). (Global Ecology LLC, 2011d) This workshop continued the process of designing the six Signature Courses by determining the preliminary course design elements that would ensure that all the Signature Courses met key elements of Unisa's

curriculum policy, including context embeddedness, relevance, Africanness, and student-centredness (Global Ecology LLC, 2011). The workshop continued with the development of materials on the databank, and best practices. Both the Vice-Chancellor, Prof. Mandla Makhanya and the Pro Vice-Chancellor Prof. Narend Baijnath were present during this workshop.

We now turn to the last element under Theme 1, namely ‘Deliverables and Outstanding Matters.

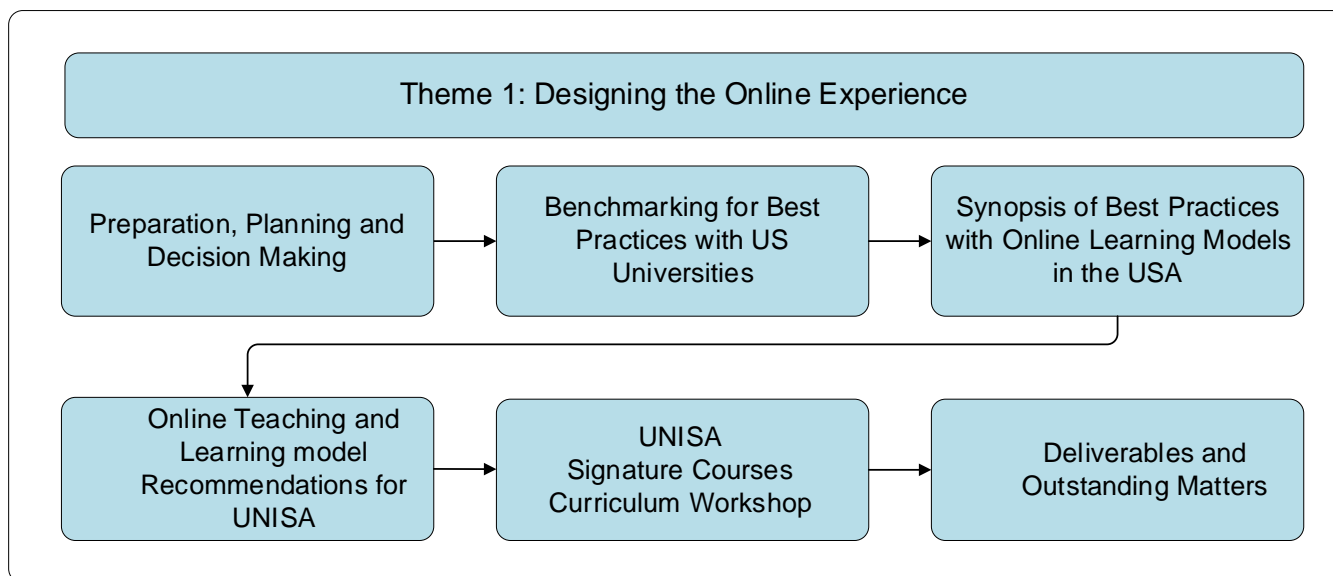


Diagram 5.8: Elements from Theme 1: Designing the online experience, Deliverables and Outstanding Matters.

5.4.6 Deliverables and Outstanding Matters

During Phase I of the implementation process most of the staff development, benchmarking, networking, and curriculum and courseware design took place. The steering committee, US partners, and the academics were the key role players. The other functional units, for example, ICT, DCLD, CPD, DSAA, SMPD and CCM had limited involvement. They did, however, become major role players in Phase II during 2012 [see 5.5.1 Roles and Responsibilities of the Functional Units].

Approval was received from the Senate Tuition and Learning committee (STLC) for the inclusion of Signature Courses in the PQMs. The team was orientated/trained in how to design fully online heutagogy courseware through a series of workshops between the USA and Unisa (Global

Ecology LLC, 2011a; Global Ecology LLC, 2011b). The academics informed the department of assessment administration about their assessment needs (more frequent and more continuous assignments) and also communicated to the ICT Directorate all ICT needs (University of South Africa, 2012b). In sum, the learner-centred design of the Signature Courses needed courseware that fostered the creation of student-generated content and fully online interaction between student and student, and student to staff (University of South Africa, 2012b).

Phase II will discuss important aspects such as roles and responsibilities and their interdependencies, and the importance of three specific departments that played a leading role during the implementation process.

5.5 THEME 2: MANAGING THE IMPLEMENTATION PROCESS

As a preamble to this section it is important to note that Unisa is guided by its strategic planning documents. In regard to strategising and implementation, the 2015 Strategic Plan states:

It is anticipated that this is where the real work will begin for the institution and where additional resources will be required to support the successful implementation of the devised strategies. It is a known fact that the majority of strategy failure takes place, not during the strategy formulation phase, but rather owing to poor implementation and monitoring of performance. (University of South Africa, 2004: 25)

The document analysis provides ample evidence that the design elements, mentioned in Theme 1, had to be carefully monitored (Global Ecology LLC, 2011b). According to Global Ecology LLC (2011b), the departments of information and communication technology (ICT), human resources management, and student assessment are key to learner success. Theme 2 emphasises that it is impossible for the Signature Courses to reach their full potential without proper alignment of activities within these three crucial departments and the policies that govern them (CIES/IIE, 2010).

We now turn to the first element of Theme 2 – ‘Roles and responsibilities of functional units’ – indicated by the blue in Diagram 5.9 (below) and will discuss thereafter 5.5.2 implementation achievement and challenges, and 5.5.3 the importance of adaptation, monitoring, and evaluation.

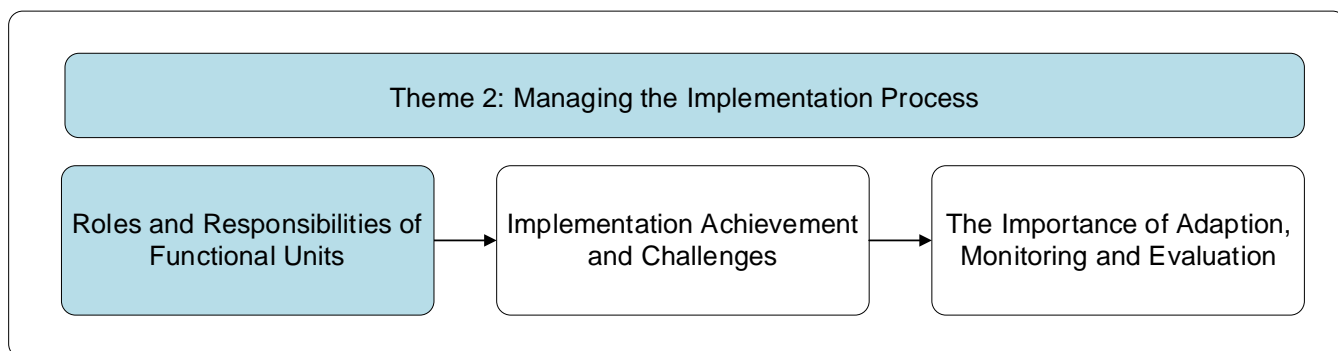


Diagram 5.9: Elements from Theme 2: Managing the implementation process, roles, and responsibilities of functional units.

5.5.1 Roles and Responsibilities of the Functional Units

Owing to the complexity of the Signature Curriculum project, the first element of Theme 2 (managing the implementation process) focuses on clarifying the roles of distinct functional units. The roles of the functional units will be discussed in the following sub sections: 5.5.1.1 Corporate Communication and Marketing; 5.5.1.2 the Teaching Assistants; 5.5.1.3 Human Resources; 5.5.1.4 CPD; 5.5.1.5 Study material and print production and Distribution; 5.5.1.6 DSAA; and 5.5.1.7 the Regions and other stakeholders. [also see 5.4.4.1 Teaching and Learning] which was discussed under Theme 1, and ICT which will be discussed under Theme 3].

5.5.1.1 Roles and Responsibilities of Corporate Communication and Marketing (CCM)

Despite the communication and marketing strategies that were in place [see 5.4.1.9 Branding the Signature Courses, and Rework Policy and Procedures] and with the central message that the Signature Courses were only available online, some students nevertheless felt that they had unwittingly signed up for an online course without knowing the implications (for example, that there would not be any printed study material). There were also complaints that many students did not receive their Digi-bands, and, therefore, could not start work on their assignments. Though students had been informed that the Digi-bands only contained copies of the materials that were already available online, students stated they could not start working 'until they have received these bands' (University of South Africa, 2013d). These students therefore did not start engaging with any online activities as was required (University of South Africa, 2013d). After

receiving this feedback from the students, the Signature Course project team decided to improve communications to students, informing them by means of a variety of formats that they could access course materials online at any time after logging into their myLife account⁸ via myUnisa (College of Economic and Management Sciences, 2013; University of South Africa, 2013d).

5.5.1.2 Roles and Responsibilities of the Teaching Assistants

The main tasks of the teaching assistants were to facilitate the assignment processes according to the milestones provided, and provide guidance and supervision on the assessment process associated with each assignment, which included monitoring the virtual progress of the students, and marking (grading) student's electronic assessment submissions. The teaching assistants had to regularly interact online with the primary academic, and provide feedback on student engagement, student's online work, and assignments (Global Ecology LLC, 2011b; Mischke, 2012). The academics were dependent on updates on the progress of the student learning groups from the teaching assistants as this allowed them to make educated decisions on how to improve the course material and student outcomes. Other roles of the teaching assistant were to respond to student concerns online, deliver online student support, and perform administrative tasks. (Global Ecology LLC, 2011b; University of South Africa, 2012c).

Since this was the first time fully online courses were being offered at Unisa, it was assumed that the newly appointed teaching assistants would not necessarily have prior Unisa experience. It was therefore crucial that the appointed teaching assistant be well-versed with the course content and Unisa processes in addition to having the required technical knowledge and interpersonal skills: 'The selected tutors must therefore be extremely dependable, be knowledgeable in the relevant course content' (Global Ecology LLC, 2011b: 12). These skills are required to effectively communicate and operate on online platforms and to connect and support the students in their different learning groups (Global Ecology LLC, 2011b). To ensure that the appointed teaching assistants had enough preparation time to become accustomed to the online learning environment, their contractual responsibilities commenced two weeks prior to the start of the Signature Courses. In addition, the tutoring agreements included a compulsory training period

⁸ Mylife account was a Unisa email for every student in the university and was the formal method of written communication

of at least four weeks before beginning work (Global Ecology LLC, 2011b; University of South Africa, 2012b).

The conditions of service for the teaching assistants had to be determined. It was suggested that the weekly average time spent by a teaching assistant on each student be set at seven minutes. This standard informs the proposal that during the Signature Course project's pilot phase, each teaching assistant would be in charge of six groups with 30 students per group, not 25 students per group as initially decided on. Therefore a total of six groups with 30 students per group equates to a total of 180 students per TA (Mischke, 2012b).

5.5.1.3 Roles and Responsibilities of Human Resources (HR)

The appointment of teaching assistants was a new initiative associated directly with the Signature Courses. This meant that HR would have to be directly involved in setting up the parameters of their work conditions. The following three major deliverables for HR were: to develop a job description for the teaching assistants with roles and responsibilities; to map out the HR processes and procedures in respect of the teaching assistants; to develop training opportunities for the teaching assistants; and to liaise with ICT to develop a teaching assistant system that integrates with other systems at Unisa.

Primary academics would need to collaborate closely with HR in order to draft job descriptions for the teaching assistants that included the requirements that were identified as essential for a qualified teaching assistant in their particular module (Global Ecology LLC, 2011b). The teaching assistants' job description was evaluated and the position was graded to determine the remuneration before they could be recruited (University of South Africa, 2012b). Since the Signature Courses were delivered entirely online, the teaching assistants could theoretically have been recruited from anywhere in the world. It was likely that such an approach would have necessitated a review of Unisa's recruitment and hiring practices to guarantee that all available teaching assistants' positions were advertised widely, and in the hope that human resources would proactively attract a suitable candidate pool (Global Ecology LLC, 2011b).

Human resources were responsible for screening all applicants against a set of requirements, then sending the primary academics a ranked list of qualified tutor candidates (Global Ecology

LLC, 2011b). After an initial pool of qualified applicants had been established, the primary academics for the six Signature Courses were directly involved in reviewing pre-screened applicants, as described above, and would identify their top candidates. At least three months before the start of the Signature Courses, the Unisa HR office had to issue employment contracts to all identified candidates (Global Ecology LLC, 2011b).

HR indicated the need for administrative support, so the Academic Support Coordinators (ASC)s, who were responsible for supporting the academics with administrative tasks in the Colleges, assisted HR with the administrative tasks associated with the appointment of the teaching assistants, for example, recruitment, appointment, payment, and basic management of teaching assistants.

Another deliverable was to ensure that HR was structured and resourced to develop and maintain the teaching assistants' administrative processes. The recruitment, appointment and payment of the teaching assistants is a centralised function and resides under the supervision of the Directorate for Institutional Student Support (DISS) (Mischke, 2013b; University of South Africa, 2013c). A resolute HR practitioner from the Department of Human Resources was seconded to the Department of Institutional Student Support (DISS). This internal department at Unisa was responsible for three operations of the face-to-face tutors, e-tutors, and teaching assistants. Unisa would now have three kinds of tutors to make provision for: the teaching assistants were appointed for fully online courses, the e-tutors were appointed for mixed-mode courses, and face-to-face tutors were appointed for high-risk modules (Mischke, 2013a). The Centre for Professional Development was responsible for the training (this will be discussed in detail: see 5.5.1.4 Roles and responsibilities of the Centre for Professional Development).

Apart from the academics, DISS was dependent on HR and ICT to assist with the process and with system development. HR needed to recruit and appoint 350 independent contractors as teaching assistants to assist the academics with teaching and learning. HR therefore reported to DISS and the academics on the recruitment appointment and payment processes.

Human resources provided ICT with a complete set of system requirements. ICT had to create a new position, title, and a three-year appointment period on the HR structure for the teaching assistants. The contracts had to be activated per a specific semester, and HR had to make

allowances for a renewal of the contract, and accommodate a fixed monthly payment on the Oracle system⁹. This was in line with Unisa's Executive Management committee (Mancom) decision that the teaching assistants would be appointed for three years as independent contractors and receive compensation throughout that time (University of South Africa, 2012b). The teaching assistant's appointment was to be linked to the Oracle HR system which needed to be adjusted to allow the teaching assistants access to the Unisa intranet system and the myUnisa system.

Another criterion that needed to be installed on the system was to make provision for the possibility that a permanent member of staff would want to be appointed as a teaching assistant upon retirement. In this case, the system would retain their official staff number which would be used for payment etc. Adjustments to the Oracle HR system had to be made to send out a notification to all qualifying permanent retirees three months before the assignment end date to invite them to apply for a position as a teaching assistant. HR should map the roles and responsibilities and decide which functions should be available on Oracle and on myUnisa. The Oracle Payroll system was to be used to make payments (University of South Africa, 2012b).

There were no systems in place to recruit, appoint and pay the teaching assistants so ICT became a major stakeholder during 2012 by assisting HR to map the process and develop the business requirements to ensure that all systems were in place (Global Ecology LLC, 2011b; University of South Africa, 2012b).

The roles and responsibilities of the teaching assistants differed significantly from the activities performed by e-tutors, and new protocols were needed. [see 5.5.1.2 The Roles and Responsibilities of the Teaching Assistants]. Towards the end of 2013 the need arose to appoint a separate group of Academic Support Coordinators (ASCs) to oversee teaching assistant matters (College of Economic and Management Sciences, 2013; Mischke, 2013b). The ASCs were actively involved in the setting up of myUnisa group sites which served as the basis for student interaction. As more and more students registered for the Signature Courses, they had to be linked to the teaching assistants who would be marking the students' online assignments (Eloff, 2013; Mischke, 2013b). Obviously, students could not have access to their group sites

⁹ Oracle is a cloud-based software database that provides an integrated management model through multiple modules, for example, HR, Finances etc. The HR system capture activities for example appointments.

unless such sites had been created so there was a considerable amount of pressure on the ASC during the student registration period (which often lasts up to three months) to ensure that there was no delay in teaching assistants' appointment and online activation.

Initially, the ASCs who, up to now, had dealt mainly with the job descriptions of the e-tutors, did not have clearly defined specifics concerning what they would be expected to do with respect to teaching assistants. Discussions on this matter pointed to the possible burden on the workload of ASCs should teaching assistants be added to their current responsibilities (Mischke, 2013b). DISS confirmed that the workload of the existing ASCs was of such a nature that they would not have been able to handle teaching assistant matters in addition to their current tasks. In light of these challenges, the Signature Course project team proposed a revision of the ASC job descriptions to include teaching assistants as part of their roles and responsibilities, and to adjust the current centralised appointment process to be decentralised to the Colleges, as the ASCs were appointed by the Colleges (Eloff, 2013). The Signature Course project team worked directly with the centralised HR representative and requested the status quo to remain till the new process was in place to decentralise the teaching assistants HR processes to the Colleges (Mischke, 2013b).

ICT successfully completed the deliverables within the implementation plan target date set at 30 June 2012. ICT ensured that a fully online process and procedures for the application, selection, and short listing of teaching assistants was established, and the appropriate system was developed and deployed. Each College received a formalised online advertisement link, and the advertisements and shortlisting for the teaching assistants was accomplished (Mischke, 2012c; (University of South Africa, 2012b). ICT as an interdependency still had to make changes to the system to include the teaching assistants as independent contractors, to develop a function on the system to notify the teaching assistants of the appointment, and to provide the teaching assistants with access and passwords to the myUnisa system before their training commenced on September 1, 2012 (University of South Africa, 2012b).

5.5.1.4 Roles and Responsibilities of the Centre for Professional Development (CPD)

As can be seen in the discussion under Theme 1: Designing the online experience, specifically the benchmarking exercise, the issue of who would be responsible for the professional development of the staff and the teaching assistants was a crucial element for consideration since the project needed to ensure that professional development was in place. As such, the Directorate: Tuition and Facilitation of Learning (DTFL) was reconfigured, and Centre for Professional Development (CPD) unit was established to provide training in support of the new online learning initiative and implement programmes to support academics and teaching assistants in facilitating online learning. In addition to taking on the responsibility for training, the Centre would have a direct impact as a change agent: 'Continuous professional development (CPD) will form a crucial part of change management and capacity building' (University of South Africa, 2011d: 11).

Possibilities for the training included the creation of a myUnisa virtual learning environment training module for teaching assistants, testing this with the DCLD, and then refining it. This VLE training module focused on guiding the teaching assistants through online modules on how to use all myUnisa systems and tools pertinent to Signature Courses. The VLE training module included topics such as 'Learning in the modern era: My facilitating role' (University of South Africa, 2012a: 10) and 'Train Teaching Assistants in all aspects relating to the subject field' (University of South Africa, 2012a: 10). Another online module was developed specifically for academics entitled 'Design and develop subject field assessment' (University of South Africa, 2012a: 10). The CPD also created VLE training certificates which were issued to those teaching assistants who successfully finished the course. All these tasks received attention during 2012, and the final due date for completion was end of September 2012 (University of South Africa, 2012b).

Two issues are pertinent here. Firstly, how the need for professional development for both staff and teaching assistants was operationalised, and second, how it laid the groundwork for the implementation of the Signature Courses during Phase III.

5.5.1.5 Roles and Responsibilities of Study Material Print Production and Distribution (SMPD)

The Study Material Print Production and Distribution functional unit created a viable scheduling and translation system for the online courses (Mischke, 2012c; (University of South Africa, 2012b). SMPD therefore worked very closely with ICT to ensure that the systems were in place. These Digital solutions in support of online learning were part of the implementation plan (Mischke, 2012c; University of South Africa, 2012b) and can be itemised as follows:

The Signature Course curriculum team was aware that not all students would have access to internet despite the fact that the internet had become more affordable and accessible. With that in mind the team had to firstly work with the US team partners to research options to make provision for those students who did not have regular access and could not afford the internet. It was clear that Unisa did not have the software program nor the capacity to develop an offline-online learning environment so the team identified two stages (Mischke, 2012c; University of South Africa, 2012b). The first stage was to ensure that the myUnisa LMS content was available for students to work offline, the Signature Course team adopted the Digi-band approach which was similar to the Thomas Edison copyright flash drive. The flash drive would provide access to the myUnisa online environment but no real-time file synchronisation and content updating could take place (Mischke, 2012c). Therefore, some adjustment was needed on the myUnisa system to ensure automatic synchronisation of the students' work once the student connected to the internet. This application did not exist and needed to be developed as a deliverable (Mischke, 2012c; University of South Africa, 2012b).

The SMPD was responsible to ensure that a workable mechanism was in place for uploading online courses on the Digi-bands (Mischke, 2012c; University of South Africa, 2012b). Of the 33,693 enrolled students, approximately 7,000 completed their coursework on the Digi-bands (Baijnath, 2013). A large portion of these were students were from rural areas, outside of internet coverage, or those who were incarcerated (Baijnath, 2013).

There were a number of other challenges, according to Mischke (2012e), regarding the Digi-bands. There were instances where the supplier sent out defective bands, despite receiving master discs from Unisa. Moreover, the supplier did not perform quality assurance on the content that was transferred onto the Digi-bands. Obviously, the distribution of the bands to the students

was significantly impacted because of this. Another issue that arose during the implementation was the licensing of materials. A core design principle of the Signature Courses was to only use content available via a Creative Commons license. At the start of 2013, the library informed the team that the licensing criteria of some of the videos had changed since downloading these to the course sites and the Digi-bands therefore had to be removed. The matter came under urgent attention for improvements (University of South Africa, 2013d).

The Digi-band was a new development for Unisa, and both students and staff seem to have been perplexed by their unfamiliarity and complexity. To mitigate these challenges and address misconceptions, a document was created to communicate additional information to staff and students, and this was made available on a number of platforms (University of South Africa, 2013d).

The second stage, which ran parallel with the first stage, made use of a tender process to develop an offline-online learning environment (UNIPOOLE) by a third-party software development company. This would include the creation of a brand-new, feature-rich online application that was fully synchronised with myUnisa in terms of interaction, assessment activities, content, and other areas. The student should have access to a web-based learning environment similar to the SAKAI 2.8.0 open-source software through a Unisa portable offline-online learning environment. This phase could only be completed in 2014 (Mischke, 2012c; University of South Africa, 2012b).

5.5.1.6 Roles and Responsibilities of Student Assessment and Administration (DSAA)

As indicated previously, the assessment department is, along with HR and ICT, one of those crucial departments which impact on students' success (Global Ecology LLC, 2011b). This section will focus firstly on the different adjustments that DSAA had to implement, and, secondly, its dependency on ICT.

Because the assessment process changed from the current system to a fully online environment, DSAA involved the students in various discussions on assessment, and students participated in the design and development processes (University of South Africa, 2012b). The first major difference was the focus on continuous formative assessment with its increased number of

assessments (continuous evaluation). Secondly, the heutagogical goal of including students as part of the assessment process (peer assessment) was a totally new concept for Unisa, and raised concerns from the DSAA (Mischke, 2012a). The success of the online learning model depended on the design of the system (University of South Africa, 2012b) as it needed to make provision for students to participate frequently in focused formative assessment activities which would constitute 80% of their final mark. The principle of continuous assessment involving 8-13 assignments per semester contributing 80% towards a student's final mark, and the use of rubrics, which help to clearly define the assessment criteria, needed to be accommodated by an appropriate system and procedure (University of South Africa, 2012b). In light of this innovation, the following proviso was promulgated:

In order to implement this assessment model successfully it is of the utmost importance that there should be no outside interference with assignment due dates (eg. by Unisa Management). Such tampering will interfere with students' engagement in weekly assignments.

(University of South Africa, 2012b: 5)

Another design principle was that students should always have access to their current grades on all graded assignments. Thus, it was crucial that the Gradebook functionality of the course management systems be used in the Signature Courses (Global Ecology LLC, 2011b). The assignment grades needed to be entered directly into the Gradebook function when rubrics were used, so that students could view their performance against each criterion on the rubric (Global Ecology LLC, 2011b).

Summative assessment contributed 20% towards the final mark, and no printed material was to appear in its design. Summative assessment had traditionally been venue-based at Unisa so the design needed to switch to non-venue-based assessments for the Signature Courses. An exception to this was made for the Ethical Information and Communication Technologies for Development Solutions (EUP1501) module during the first year of implementation which allowed the students to use a venue to do practical summative assessments in the regional computer laboratories. However, during 2014, the College reported to the Management Committee that they should redesign to eliminate the main obstacles. 'For instance, the practical on-site

examination students had to register for at regional computer laboratories is being replaced by non-venue based portfolio' (University of South Africa, 2014c: 5).

Quality assurance mechanisms, such as a signed-off grading process by the academic on all assignments, is one example of a monitoring strategy that guarantees fairness and accuracy (Global Ecology LLC, 2011b). Reporting on student progress such as the assessment outcomes also needed to be in place as the academics needed to monitor and control the information regarding student progress, for example, the number of students who submitted their assignments, students passes/fail, and which students contributed to post and blogging activities etc. (Global Ecology LLC, 2011b).

Each course was foreseen to culminate in the creation of a backup process that would contain all of the course materials organised by the different student learning groups, thereby providing permanent archival storage. For example, backup should be in place for all of the assignments handed in by students (Global Ecology LLC, 2011b).

The academics and the DSAA were dependent on each other and worked closely to ensure that continuous online assessment took place and that the systems were in place to accommodate the new formative and summative assessments principles [see 5.4.1.7 Assessments].

The following section discusses the formative and summative assessment processes and system requirements, developments and adjustments that are required for the students to operate fully online in a conducive environment:

1) Formative assessment

Under the distance education matrix, there were multiple options for students to submit their formative assignments at Unisa, either online, scanned and then mailed, or hard copy. After the benchmarking visit to USA the requirements for assessment for the Signature Courses were developed by the academics, DSAA, and ICT as they were the key role players in ensuring that the new procedures were operational. There was a high-level of dependency on ICT as a role player to deliver the system. According to University of South Africa (2012b), the following system deliverables were specified:

- 1) The system needs to be adjusted to cater for different online assessment methods, for example, discussions, blogs, portfolios etc., and, in addition, the system should be able to allow students to work interactively in groups of +30.
 - 2) During the assignment registration process the current status is to register and index the assignments when scanned. The system should be adjusted to automate the online assignment registration, and assignment-related activities should reflect on Sakai/myUnisa.
 - 3) An adjustment was needed to allow for an automatic process to route fully online module assignments directly from Sakai /myUnisa/ to the teaching assistants to mark online.
 - 4) The system needed to be adjusted for the TA's to capture the marks automatically from the onscreen marking system. The marks should be available on myUnisa, and marks for additional assessment types should be captured into Gradebook.
 - 5) A system adjustment was required to send a notification to the student that online submitted assignments were marked via the onscreen marking facility and that all assignment comments, information and marks would be available online (Mischke, 2012c).
-
- 2) Summative assessment

The summative assessment process is different from the formative assessment process and requires ICT to deliver specific system adjustments. During the 2012 period, the status quo remained for written examinations (Mischke, 2012d), and no system changes were recommended for examinations. However if the need arose, system adjustments could digitise the scripts for marking onscreen, similar to the process for assignments, but this required a new process and infrastructure by October 2012, and system adjustments by March 2013 (Mischke, 2012c). The DSAA handled enquiries regarding portfolio marks as a formative assessment process and not a summative assessment process.

ICT achieved the following deliverables by the specified due date: ICT implemented three new assignment formats on myUnisa, the online status of the module or individual assignment was adjusted to indicate the status on myUnisa; and the assignment submission tool was removed

from new assignment formats. The following deliverables were not finalised during 2012 but were receiving attention, and needed to be ready before the 2013 student enrolments. The Student Information System (SIS) needed to include additional new assignment format types on various functions. The online blocking status of all paper-based assignment submissions to prohibit Signature Course students from submitting paper-based assignments was still outstanding. It was essential that the Signature Curriculum Programme provided for an automated system to regularly transfer grades from the myUnisa platform to the student system. Additionally, ICT had to develop an application to support non-venue-based alternative assessments, for example, online portfolios and e-projects (University of South Africa, 2012b). ICT had to develop a utility tool to import marks per module per assignment from batch files which needed to originate from the Gradebook, and, lastly, ICT needed to provide an option to import and upload captured marks and the date received from a private file (University of South Africa, 2012b).

5.5.1.7 Roles of the Regions and other Stakeholders

At Unisa, students are able to access the myUnisa platform through the regional computer laboratories, the telecentres (also known as Multi-purpose community centres), and through the Toasters. All three of these components will now be discussed.

1) The Regional centres

In 2012 there were 27 regional centres with a total number of 1061 computers. At such centres students are able to access the Unisa internet and intranet (myUnisa and myLife). Students have access to printing facilities and digital learning advisors (DLAs) in the computer laboratories for support. Because the Signature Courses involved continuous assessment, the demand to access the regional computer laboratories increased substantially. For example, students needed to work on MyItLab¹⁰ or MS Office 2013 to complete their assignments, and students who arrived at the Centres with their own computers often needed technical support.

¹⁰ MyItLab is specifically designed software to train students through simulating Ms Office packages, for example, MS Word package.

During 2013 the regions were inundated with students. 'Students are flocking to Unisa regional centres to get access to computers and the internet' (University of South Africa, 2013d: 3). Because of the increased number of visiting students, the regions needed the support of ICT to be equipped with sufficient resources. In light of this unexpected increase regional staff reported three major obstacles: a lack of computers, slow internet bandwidth, and a lack of human capacity to meet the needs of students. Although the majority of the Signature Course students (about 85%) were proficient with computers, there were those who were not digitally literate and who did not have access to technology (Mischke, 2013b; Prinsloo et al., 2011). It was mostly those students who visited the regional computer laboratories for support (Mischke, 2015). These concerns were addressed in a meeting between ICT and the regions where ICT was informed about these challenges and was requested to attend to the matter urgently. Interestingly, while it was emphasised that students in the catchment areas of the regional centres could use the Digi-bands to work offline and only connect to the internet at specific times, it was an open question whether this would be a sufficient solution to the challenges raised by the regional centres (University of South Africa, 2013d).

An additional challenge was the lack of communication between the Colleges and the regions. To mitigate this, a two-day face-to-face orientation workshop was arranged with all the regions at the Sunnyside Campus, Gauteng Region, in June 2014. On the first day the Colleges orientated the regions on Signature Course activities, thereafter the regions were orientated on myUnisa, myLife e-mail, course administration, MyItLab, and the telecentres (Tshabalala, 2014).

2) Telecentres

48 private facilities, known as telecentres, offered computers and internet facilities to Unisa students. These agreements allowed Unisa students to use these facilities for free as Unisa paid the telecentres. These facilities were furnished with telephones, computers with internet access, printers, photocopiers, scanners, and fax machines. Administrators were on hand to help students to ensure effective and efficient service. Unfortunately, the quality of the service offered varied (University of South Africa, 2012b) [also see 5.5.3.3 Broadening Access through Collaboration].

3) Toasters

Unisa students could also access their course material digitally through Unisa's 64 Toasters¹¹ placed at regional centres and at the Florida and Muckleneuck main campuses [see 5.5.1.7 Roles of the Regions and other Stakeholders]. Unfortunately, the Toaster software was not UNIPOOLE compatible so Signature Course students were not able to utilise Toasters to access their course materials, but they could use any external electronic medium, for example a flash drive, to download information (University of South Africa, 2012b).

Considering the aforementioned, the SC steering committee suggested to Unisa's management to ensure that Unisa could maintain integrity and efficiency as it expanded its online presence:

- 1) Increase and improve computer facilities at the regional centres and provide sufficient internet access to students;
- 2) Ensure telecentres are properly regulated with well managed computer facilities and reliable internet connectivity;
- 3) Upgrade the software on the Unisa Toasters or replace the Toasters with other appropriate technology; and
- 4) Investigate possibilities to allow students to buy technological devices such pcs, tablets, and data at discounted prices (University of South Africa, 2012b).

5.5.2 Implementation Achievement and Challenges

The second element under Theme 2 records the achievements and challenges of the implementation process. Unisa's Pro Vice-Chancellor presented the feedback report on the Unisa Signature Curriculum Programme to Unisa's Management Committee on 21 February 2013 (University of South Africa, 2013d) to allow for reflection on the implementation process of the project. Implementation achievement and challenges as well as suggested solutions to challenges will be summarised under the following four sub sections: 5.5.2.1 Student acceptance of online learning; 5.5.2.2 Supporting teaching-at-scale; 5.5.2.3 Student support (teaching assistants); and 5.5.2.4 The need for stable and responsive ICT systems and infrastructure.

¹¹ Toasters provided students with the option to download their course materials on CD, DVD, and USB during the enrolment and registration periods. They could also access all peripheral content such as Unisa marketing material, additional study material, lecture notes, podcasts, video lectures etc. after registration.

5.5.2.1 Student Acceptance of Online Learning

The Signature Course team made some statistical projections to assist with planning and to ensure that appropriate resources were in place. Table 5.2 below provides detailed information on the first semester as on 17 February 2013 on the projections, student registration numbers, and the projected number of teaching assistants. Thereafter follows a brief discussion on the information in the table (Mischke, 2012c; University of South Africa, 2013d).

Table 5.2: Signature Course registration numbers

SIGNATURE COURSES REGISTRATION NUMBERS:						
Module code	Title of Signature Courses	College	Projected student numbers	Projected number of TAs	Actual registration numbers	Percentage of total Signature Course registrations
AFL1501	Language through an African lens	CHS	6000	34	4901	14,55%
BPT1501	Being a professional teacher	CEDU	5000	28	4650	13,80%
EUP1501	Ethical ICTs for development solutions	CSET	15000	84	20149	59,80%
GGH3708	Environmental awareness and responsibility	CAES	900	5	160	0,47%
SJD1501	Social dimensions of justice	CLAW	11400	65	809	2,40%
SUS1501	Sustainability and greed	CEMS	6000	34	3024	8,98%
			44 300	250	33 693	100%

The document analysis provides evidence that a total of 33,693 students (see blue columns in the table) signed up for a Signature Course during the first semester of 2013. The Signature Course team had projected 44 300 students. The module entitled Ethical Information and Communication Technologies for Development Solutions (EUP1501) had 20,149 registrations (59,80% of the total Signature Course registrations) making it impossible for academics to respond personally to each student who had questions (University of South Africa, 2013d). As a consequence, the Dean of the College had to appoint additional academic and administrative staff in 2014 to 'assist with the management of the course' (University of South Africa, 2014c: 5)

As can be seen in the table, the model predicted that 250 TAs were needed to assist the academics with inquiries and other tasks (the projected student numbers and actual registration numbers are evident in the table but only the projected numbers for the TAs and not the actual number, are reflected. It was later established by Baijnath's (2013) report that 192 TAs were activated during the first semester of 2013).

5.5.2.2 Supporting Teaching-at-Scale

On average, 87% of students enrolled in the Signature Courses participated in the online course activities through myUnisa, and the myUnisa platform received overwhelmingly positive feedback from students once they had figured out how the platform worked. The following comments from students are evidence of their satisfaction: 'amazing', 'interesting', 'stimulating', 'fresh', 'innovative' (University of South Africa, 2013d: 1). This signalled a shift in the way students approached their studies. The document analysis provides evidence of feedback from students in all the Signature Courses showing that they realised the differences between online learning and the traditional mode of delivery where students engaged with printed study materials and handed in written assignments. Unlike Unisa's usual formative assessment practice, students enrolled in the Signature Courses were required to participate regularly, engage with the materials on a weekly basis, as well as be continuously assessed on their progress. While this excited many students, others worried that the Signature Courses would take more work and dedication than other courses.

The document analysis provides evidence of early challenges in the implementation of the Signature Courses. Owing to a delay in student registration in the first semester, the assignment due dates had to be shifted. The training of some of the TAs was still in process, and the TAs could therefore not assist in the marking of assignments during the first semester of 2013 (College of Economic and Management Sciences; College of Law, 2013). Another concern was that the proficiency levels and technical experience of some teaching assistants varied, and this impacted negatively on the online training process. For example, it was difficult to train some TAs on technological aspects such as podcasts and simulations (College of Economic and Management Sciences, 2013). The academics too were not altogether happy, indicating that the assignment marking process was very time consuming because each assignment needed to be identified manually and allocated to the teaching assistants. The system could, furthermore, only accommodate assignments in PDF format, and academics needed to convert MS Word formatted assignments into PDFs (College of Economic and Management Sciences, 2013; College of Law, 2013). On the plus side, issues of plagiarism (see Baijnath, 2013) did not arise since students were typically assigned to work in groups of 30, so copying was easily spotted. As a result, a growing number of students acknowledged that they had to think for themselves (Baijnath, 2013) rather than copying from peers.

5.5.2.3 Student Support (Teaching Assistants)

The vast majority of the 192 appointed teaching assistants (93%) was found to do outstanding work, and academics could not have handled the workload without them (Baijnath, 2013). Initially, students complained that the teaching assistants inhibited them from connecting with the academics, and some of them thought they were not receiving adequate value for money. There were also complaints that the lack of printed study materials (as provided in other courses) caused some students to feel that they had nothing to show for their studies. However, there was also positive feedback from students appreciating the personal contact with teaching assistants, and praising the Signature Courses (Baijnath, 2013; Mischke, 2013a).

The document analysis also shows that systems governing the appointment of the teaching assistants continued to challenge the effective implementation of the Signature Courses. There were concerns that some teaching assistants were activated but not working, while no teaching assistant contracts could be activated between January 7th and January 25th in 2013 owing to

the Unisa payroll cycle. As a result, there was a massive backlog in teaching assistant appointments in HR. To remedy this, the Signature Course project team proposed that the salaries of full-time and part-time workers be separated. Once teaching assistants and e-tutors were run on separate payrolls, capturing of information on Oracle could occur up to two days before the final day of every month, thereby nullifying any delays in teaching assistant appointments (University of South Africa, 2013d). The integration of the iRecruitment, Oracle, HR, ICT, and the Student Information System (SIS) was essential for the effective implementation of the Signature Courses (College of Economic and Management Sciences, 2013).

Another serious challenge emerging under this theme was the grouping of students (30 per group), raising many complaints from students, teaching assistants and academics (College of Economic and Management Sciences, 2013). The current Student Information System (SIS) had limitations that prevented it from being fully aligned with human resources systems. As a result, there was no way to automatically group the teaching assistants with the students. There needed to be human interaction (emails) between ICT and HR instead. This delayed teaching assistant appointments even further. The Signature Course project team proposed the integration of HR platforms like Oracle with the Student Information System (University of South Africa, 2013d). A final challenge was that a monitoring tool for the teaching assistants was lacking and needed to be developed (College of Economic and Management Sciences, 2013).

5.5.2.4 The Need for Stable and Responsive ICT Systems and Infrastructure

The Signature Course project could not have been visualised without the dedication of the ICT team, who consistently provided outstanding service. However, there were a number of challenges hindering the successful implementation of the Signature Courses (University of South Africa, 2013d).

The increased traffic on the Unisa network resulted in a slower network having a direct impact on the effectiveness of the Gradebook tool. However, ICT improved the student identification authentication, making the Gradebook tool much more reliable and efficient than previously. Evidence from the documents indicates that students complained about the slowness of myUnisa and the servers, as these could not cope with the large amount of data that needed to be

transferred to and from the system (College of Economic and Management Sciences, 2013; College of Law, 2013). In addition, the use of an ICT email address where students could raise issues presented students with inadequate responses.

The Colleges also requested that daily backups needed to be done on all live activities as the system was not stable (College of Law, 2013). It was suggested that ICT system maintenance should be scheduled between 00:00 and 07:00 as this would have ensured that peak hours were reserved for teaching and learning activities (College of Economic and Management Sciences, 2013). The planned growth of potential students and the dependence of the Signature Courses on ICT made it imperative that the ICT challenges be addressed quickly and effectively (College of Economic and Management Sciences, 2013).

Students also experienced serious challenges in accessing their online resources, and many could not upload and download study material, examination papers, and assignments (College of Economic and Management Sciences, 2013; College of Law, 2013). An alarming increase in myUnisa usage was blamed on the Signature Courses, much to the chagrin of both students and academics. Increases in both the university's ICT infrastructure and the number of people working in this area, were regarded as non-negotiable, considering the growing number of students using myUnisa (University of South Africa, 2013d).

The document analysis provides evidence of concerns around increased workloads and stress from academics (they were mostly the first people to receive complaints from students), as well as the teaching assistants. This was obviously upsetting since academics could not assist students in solving technical challenges (College of Law, 2013). Students further indicated that the myLife and myUnisa password processes were not user friendly, and some students gave up as they could not start their studies without their passwords, and could not get any support. The problems were not isolated to students alone. Teaching assistants indicated that they experienced issues with login details, and complained that responses from ICT were short, cryptic and unhelpful (College of Law, 2013). The teaching assistants also experienced

challenges with the jRouter¹² and complained that their postings disappeared on the online discussions.

The most challenging aspects for students were how to get started with myUnisa, posting and participating on the discussion forum, and inquiries about their marks (College of Economic and Management Sciences, 2013). A proposal was made to implement an after-hours help desk to support both students, teaching assistants, and academics with technical challenges (College of Economic and Management Sciences, 2013) [see 5.4.4.2 Centre for Professional Development; 5.6 Theme 3: The Role of ICT in the Implementation Process]. It was also crucial that all ICT help-desk staff be trained in onscreen marking and all related tools used by staff, students and teaching assistants in order to be able to respond to queries (College of Economic and Management Sciences, 2013).

5.5.3 The Importance of Adaptation, Monitoring, and Evaluation

We are now addressing the last element of Theme 2: Managing the implementation process. The importance of adaptation, monitoring, and evaluation will be discussed under the following sub-sections 5.5.3.1 monitoring student success; 5.5.3.2 summary of student registration and attrition; 5.5.3.3 broadening access through collaboration; 5.5.3.4 Signature Courses specific adaptations; and 5.5.3.5 embracing mobile learning.

5.5.3.1 Monitoring Student Success

The careful monitoring of students' progress and performance is required not only throughout the online learning experience, but also as an essential element during the implementation process. Implementation involves not only continuous monitoring and evaluation of the implementation process, but specifically the monitoring of a key outcome of the project, in this case, student success (Global Ecology LLC, 2011b). Diagram 5.10 below provides an overview of the first semester student pass rates for the two years of implementation (2013 and 2014). (Note: in the

¹² As indicated in Chapter 1: The jRouter is a tool that was used with the Sakai/myUnisa assignment system. The jRouter is software that routes students' assignments online to academics and teaching assistants to be marked, and automatically captures the student marks to the student system.

corpus of documents analysed the results for the second semester of 2014 were still outstanding therefore the analysis is for the first semester 2013 and the first semester 2014).

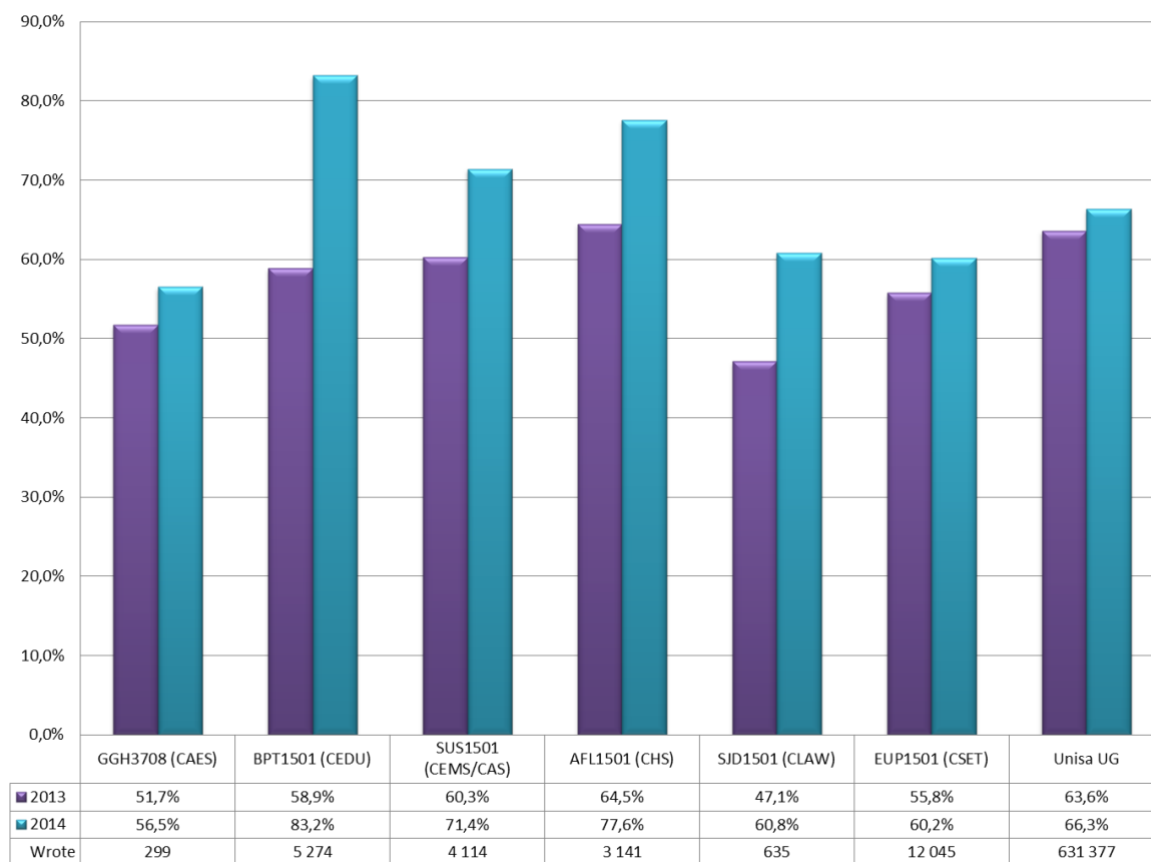


Diagram 5.10: Overview of Signature Courses pass rate % for 2013 and 2014 (Adapted from University of South Africa, 2014d)

The bar chart above shows the pass rates for 2013 and 2014 for the six Signature Course modules. The last 'Unisa UG' indicates the total percentage for all the Unisa undergraduate student pass rates. This is to provide an indication that a total of 631 377 students wrote examinations during 2013 and 2014 and displayed the following data:

- The success rates for SUS1501 (CEMS), AFL1501 (CHS) and SJD1501 (CLAW) increased by over 10% between 2013 and 2014.
- The College of Education (BPT1501) saw a 24.3% increase in passing rates, with 83.2% of students completing the course successfully.
- SUS1501 (CEMS); AFL1501 (CHS); and SJD1501 (CLAW) reported pass rates of 71,4%, 77,6% and 60,8% (these modules have shown increases in normal pass rate in excess of 10%);

- The College of Law recorded a 20% (47.15 to 60.8%) improvement from 2013 to 2014. Muthaphuli (2015) from CLAW suggested that the success was in part owing to the sterling performance of the teaching assistants.
- The pass rates for three Signature Courses offered by CEDU, CEMS, and CHS were all higher than the overall Unisa undergraduate average of 66.3%.

5.5.3.2 Summary of Student Registration and Attrition

Since the launch of the Signature Course project in 2013, Unisa has debated the phenomenon of student dropout from fully online courses. This was primarily motivated by the belief that the students were not prepared for online learning (University of South Africa, 2014a). Even though this may have been initially the case in 2013 owing to the high number of students who dropped out of the Signature Courses, the trends from 2014 show a remarkable improvement in attrition rates (University of South Africa, 2014a).

The table below provides information on the cancellations, also referred to as drop out/attrition, of students for the Signature Courses.

Table 5.3 Student registrations and cancellation trends (adjusted from in University of South Africa, 2014a)

EUP1501	1st Sem 2013	2nd Sem 2013	1st Sem 2014	Narrative
Registrations	17,313	14,436	14,698	During 1 st semester 2013 and first semester 2014 the cancellation dropped from 20.4 % to 4.4% The student numbers also dropped
Cancellations	3,505	1,927	646	
% Cancelled	20.4%	13.3%	4.4%	
AFL1501	1st Sem 2013	2nd Sem 2013	1st Sem 2014	Narrative
Registrations	4,816	3,486	4,017	
Cancellations	455	434	124	

% Cancelled	9.4%	12.4%	3.6%	During 1 st semester 2013 and first semester 2014 the cancellation dropped from 9.4 % to 3.6% The student numbers also dropped
BPT1501	1st Sem 2013	2nd Sem 2013	1st Sem 2014	Narrative
Registrations	4,169	5,693	7,253	During 1 st semester 2013 and first semester 2014 the cancellation dropped from 35.85 % to 2.8% The student numbers increased
Cancellations	1,495	1,233	204	
% Cancelled	35.85%	21.6%	2.8%	
SJD1501	1st Sem 2013	2nd Sem 2013	1st Sem 2014	Narrative
Registrations	701	751	828	During 1 st semester 2013 and first semester 2014 the cancellation dropped from 23.8 % to 6.5% The student numbers increased
Cancellations	167	131	54	
% Cancelled	23.8%	17.4%	6.5%	
SUS1501	1st Sem 2013	2nd Sem 2013	1st Sem 2014	Narrative
Registrations	2,858	3,583	5,188	During 1 st semester 2013 and first semester 2014 the cancellation dropped from 5.1 % to 3.2% The student numbers increased
Cancellations	146	177	168	
% Cancelled	5.1%	4.9%	3.2%	
GGH3708	1st Sem 2013	2nd Sem 2013	1st Sem 2014	Narrative
Registrations	150	261	362	During 1 st semester 2013 and first semester 2014 the cancellation dropped from 6.6 % to 4.9% The student numbers increased
Cancellations	10	13	18	
% Cancelled	6.6%	4.9%	4.9%	
	1st Sem 2013	2nd Sem 2013	1st Sem 2014	Narrative

Total Registrations	30,007	28,210	32,346	32,346 students enrolled for SCs in the first semester 2014. There were 1,214 students' dropouts before or shortly after the completion of the first assignment.
Total Cancellations	5,778	3,915	1,214	
% Cancelled	19.26%	13.88%	3.75%	

According to the data presented in the table above (Table 5.3), there was a dramatic decrease in the dropout rate from the first semester of 2013, when 19.26% percent of students dropped out, opposed to the 3.75% in 2014. The decrease in the number of dropouts may be ascribed to improved communication strategies to students, improved student support in the Signature Courses, the experience and knowledge gained by academics, TAs, and administrative staff, as well as improved systems and processes. The main reason for student attrition, according to a survey that was done by the CEMS (College of Economic and Management Sciences, 2013), indicates that the students either did not have access to a computer or to the internet. The documentation makes reference to the attrition rates of the Open University of the United Kingdom (OUUK) with attrition rates of 35% before turning in their first assignment, concluding that the Signature Courses numbers looked very promising) (University of South Africa, 2014a).

Factors that contributed to the decrease of the attrition rate include the support given by the teaching assistants and the student ratio resulting in each teaching assistant having four groups of 50 students per group (200 students per teaching assistant) during 2014. The teaching assistants were monitored on a weekly basis with regard to responsiveness to student queries, moderation of marks between the different groups of students, and/or student complaints. Two of the 75 teaching assistants contracted in 2014 had to be replaced owing to poor performance (University of South Africa, 2014a). Since students in the Signature Courses submit assignments every other week, any teaching assistant inactivity is quickly apparent, reducing the potential impact on student support.

Evidence suggests that by 2014 several lessons had been learned, systems improved, and many of the initial teething problems sorted out (Mischke, 2014a: University of South Africa, 2014a).

5.5.3.3 Broadening Access through Collaboration

DISS hosted a series of workshops in 2014 in conjunction with the PVC's Office (Signature Courses), ICT, and the library to equip telecentre administrators with the tools they needed to support the students. Data gathered during the workshops indicated that Signature Courses student used the telecentres mainly for administrative purposes, for example, viewing their financial accounts, updating personal records, and checking their assessment results. The students who used the telecentres for academic purposes took part in discussion forums and searched for e-resources (University of South Africa, 2014b).

The challenges experienced with the telecentres were resource challenges such as outdated technology and equipment, and lack of expertise and skills (University of South Africa, 2014b). In the main, however, the telecentres appear to function well, and they provide an additional mechanism of support for Unisa students to do their online work.

5.5.3.4 Signature Courses Specific Adaptations

During the Signature Course implementation phase some Signature Courses faced particular challenges which required College- or course-specific solutions. One example is the Ethical Information and Communication Technologies for Development Solutions (EUP1501) module. To address the specific problem in this course, the EUP1501 inquiry protocol was established to handle student inquiries (University of South Africa, 2014b). As previously indicated, the EUP1501 module had the largest group of students and the inquiry protocol allows for automatic rerouting of student complaints from the mailbox to the Uniflow system, where the complaint is filed according to predefined categories such as, 'assignment matters, student support, academic matters, etc' (University of South Africa, 2014b: 3). For this purpose, a designated email address was made available for EUP1501 which allowed for an instantaneous alerting of the relevant department that a complaint had been filed. This also facilitated a system for keeping tabs on inquiries and complaints, accessible to anyone who needed to be kept abreast of progress (University of South Africa, 2014b).

5.5.3.5 Embracing Mobile Learning

A survey conducted at Unisa in 2011 indicated that a large component of students had regular access to mobile technology (University of South Africa, 2015), and, while mobile technology

may have its disadvantages, it provides nearly universal access, and is rapidly evolving. Most students at Unisa use their mobile phones to access their learning materials and keep up to date with developments in their courses. The Signature Course project commissioned a software development company to design a mobile application to provide access to myUnisa for students via their mobile phones (University of South Africa, 2014d). This mobile application offered a streamlined version of myUnisa and some of its associated learning management capabilities. Unisa planned for students to receive the mobile application at the end of the first semester of 2015. This mobile application would integrate with other Unisa mobile initiatives and will eventually be incorporated into a Unisa-wide mobile application (University of South Africa, 2014d).

5.6 THEME 3: THE ROLE OF ICT IN THE IMPLEMENTATION PROCESS

It is impossible to overstate the importance and integration of ICT infrastructure and resources in supporting Unisa's efforts to develop and implement a fully online teaching and learning model (University of South Africa, 2012b). ICT was involved with the Signature Course project from Phase I to Phase III as they were responsible for the effective implementation of all ICT-related activities that directly and indirectly impacted on the Signature Courses (University of South Africa, 2012b).

ICT identified different projects during Phase I and Phase II. Some of these projects have already been discussed under Theme 1: Designing the online experience, 5.4.1.5 Determine the course Design elements; 5.4.1.7 Assessment; as well as Theme 2: Managing the implementation process. See also under section headings 5.5.1.2; Roles and responsibilities of teaching assistants, and 5.5.1.3; Roles and responsibilities of Human Resources, and 5.5.1.5: Roles and responsibilities of Study Material Print Production and Distribution.

The Unisa Signature Courses could not be rolled out without a strong and reliable ICT infrastructure and the resources, buy-in, and support of the ICT staff, who are adept at, and enthusiastic about the high levels of student-instructor interaction and student-content interactivity necessary for successful online instruction (CIES/IIE, 2010; Global Ecology LLC, 2011b; University of South Africa, 2011c; University of South Africa, 2011d). Therefore, the capacity and availability of the required ICT services must be driven by a dedication to student

success that is reflected in the course design and related assessment tasks of the Signature Courses. In order to ensure that Unisa students received the best possible education, it was imperative that all ICT systems be structured and scaled in a way that allowed them to comfortably support best practices of effective online course design (Global Ecology LLC, 2011b).

A successful online environment that promotes high levels of student interaction is built on the foundation of best practices, for example, student groups (Global Ecology LLC, 2011b). It was thus immensely important for the ICT department to deliver systems that are effective and with minimum downtime (University of South Africa, 2012b):

Server capacity, backup systems, and staffing must support a 99 percent up-time of the system throughout the course preparation phase (ice-breaker phase) and the delivery phase of all of the signature modules.

(Global Ecology LLC, 2011b: 9)

Taking into consideration the previous information, the Signature Courses posed a major challenge for the ICT infrastructure systems (Global Ecology LLC, 2011b). This design objective needs to take into account the fact that some students at Unisa may have access to a computer, but may have restricted internet access (University of South Africa, 2015). This also means that myUnisa's servers, backups, and staff must be able to guarantee the system is available 99 percent of the time. One percent of downtime is expected due to planned maintenance and upgrades etc. (Global Ecology LLC, 2011b).

5.6.1 Technical Support to Staff and Students

The Signature Course team also recommended that Unisa might want to think about adopting the 'help desk' model which is common at universities in the United States (Global Ecology LLC, 2011b). A help-desk team is one that is available via phone, email, and text message to assist academics and students with access issues. Help desk workers are typically former students or graduates with a demonstrated interest in, and proficiency with information and communication technology (Global Ecology LLC, 2011b). The help-desk model was mooted as an effective addition to the services provided by the Unisa ICT department in its ongoing effort to promote

student success. Having a trained help-desk staff available to students who have questions about accessing their assignments, posting to discussion forums, submitting online written assignments, or viewing the assignments posted by their learning group members is highly recommended. The team proposed that help-desk services should be implemented because, after the visit to the USA, it was obvious that Unisa staff needed technical support to implement online learning (Global Ecology LLC, 2011b).

5.7 THEME 4: BUDGETING AND COSTING

Though one would expect ample evidence of the costing of the Signature Course implementation, the document analysis did not find much evidence of how the project was budgeted for, or evidence of a comprehensive costing analysis. This does not mean that the cost of the implementation was not considered, but there was little evidence in the corpus of documents analysed. Also, as the design, development and delivery of courses was already budgeted for in the operational budget of academic departments and the university as a whole, and with an existing learning management system, it is possible that the only 'extra' costs considered were, inter alia, the consulting fees for the external consultancy firm Global Ecology LLC, the costs of the benchmarking visits, etc.

The document analysis shows that the Signature Course project applied for special project funds during 2011 to fund the three-phase project. The budget for the funds was approved (University of South Africa, 2011b) and consisted of operational costs only. The project budgeted for corporate communication and marketing, materials/ consumables, outside services, and travelling and subsistence. The largest part of the project budget was spent on outside services which included training, training materials, workshops inclusive of all logistics, benchmarking, design and development of material, monitoring, and reporting. The project budget did not include the salaries of the TAs nor the infrastructure cost, for example, ICT hardware and/or software. During 2012 the project leader consulted with various functional units, especially ICT, to cost the systems required for the Signature Courses to go out on tender. As previously mentioned, ICT did not have the capacity to develop and enhance some of the systems internally and a budget was developed for the UNIPOOLE and SAKAI tool enhancements. During 2012, the Academic Human Resources Allocation Model (ACHRAM) budget (a budget allocated to the Colleges) was used to pay the salaries of the teaching assistants (Mischke, 2012b).

Phase III of the Signature Curriculum project was focused on long-term sustainability (Global Ecology LLC, 2011b), but the researcher found it difficult to come to conclusions on the question of sustainability as the last reports do not make mention of such. Additionally, from the document analysis the researcher could not find any evidence that there were not enough funds to implement the Signature Course project.

5.8 THEME 5: THE ROLE OF EXECUTIVE AND FUNCTIONAL MANAGEMENT

The role of executive management underlies the whole implementation process and is therefore woven into the different themes. For example, during 2013, the Pro Vice-Chancellor reported that most of the systems were in place for the Signature Courses (University of South Africa, 2013d) [See Theme 2: Managing the implementation process, 5.5.2 Implementation Achievement and Challenges]. Continuous communication, according to Ryan (2013), as well as feedback and knowledge shared with Unisa's management through reports, meetings, etc., was one of the main success factors of the Signature Course project. The Pro Vice-Chancellor's office was also responsible for ensuring that the university's policies were reviewed and aligned, as the Signature Courses would not reach their full potential without the reviewed policies (CIES/IIE, 2010; Global Ecology LLC, 2011b) [see Theme 1: Designing the online experience, 5.4.1.9, Branding the Signature Courses and Reworking Policy and Procedures].

To ensure commitment and buy-in from executive management, the steering committee consisted of executive management staff including the Pro Vice-Chancellor, the Executive Director to the Pro Vice-Chancellor, and the Project Leader. The meetings and workshops with Global Ecology were attended by either the Vice Chancellor or the Pro Vice-Chancellor (Global Ecology LLC, 2011d) [see Theme 1: Designing the online learning experience, 5.4.5 Unisa Signature Course Curriculum Workshop]. Buy-in was also needed from executive management, and different role players such as the College Executive Deans (Ryan, 2011; Global Ecology LLC, 2011a) [see Theme 1: Designing the online experience, 5.4.1.2 Determine the Modules and Module Leaders]. The initiation of the partnership with Global Ecology LLC by the office of the Pro Vice-Chancellor was instrumental to the success of the Signature Course design and implementation because this institution brought experts in the field to assist with the planning,

coordination, monitoring, and feedback of the Signature Courses [see Theme 1: Designing the online learning experience, 5.4.1 Preparation, Planning and Decision making].

The functional units were mostly represented by the Directors or Deputy Directors for Finance, Costing and Budgeting, Study Material Print Production and Distribution, Student Assessment and Administration, and Institutional Development (DIA). The other departments that were part of the functional units were ICT, Human Resources, Curriculum Development and Transformation (DCDT), and DISS, which consists of the Centre for Professional Development (CPD), Tuition Support, and myUnisa administration. These members applied their specialist knowledge and experience to ensure that implementation was successful.

The budgets were managed via these functional units (University of South Africa, 2011b). For example, the TAs were appointed under Human Resources with the Management Committee approving a three-year contract for the TAs (University of South Africa, 2012b). Other examples are the development of courseware, assessments, the Digi-bands and their distribution, and marketing etc. [see Theme 2: Managing the implementation process, 5.5.1.1 - 5.5.1.7; and see Theme 3: The role of ICT in the implementation process, as well as Theme 4: Budgeting and costing].

Lastly, the Signature Course project team had an unwritten 'authority' to implement the Signature Courses and to act in their best interest. For example, when the Unisa management wanted to extend the assignment dates, the Signature Course team informed them that there would be interference with the assignment due dates [see Theme 2: Managing the implementation process; 5.5.1.6 Roles and Responsibilities of Student Assessment and Administration]. These are examples where executive management, and the management of the functional units played a major role.

5.9 THEME 6: ACHIEVEMENTS AND LESSONS LEARNT

While several have already been mentioned in the previous sections, this section will provide more background and clarity on the last theme, 6: Achievements and lessons learnt from the implementation of the Signature Courses from 2013-2015. The diagram below illustrates the seven elements derived from the document analysis which will be discussed in this sequence: 5.9.1 partnerships and teamwork; 5.9.2 teaching and learning; 5.9.3 implications for marginalised

students; 5.9.4 continuous professional development; 5.9.5 procurement; 5.9.6 student performance and experience; and 5.9.7 information and communication (ICT) matters.

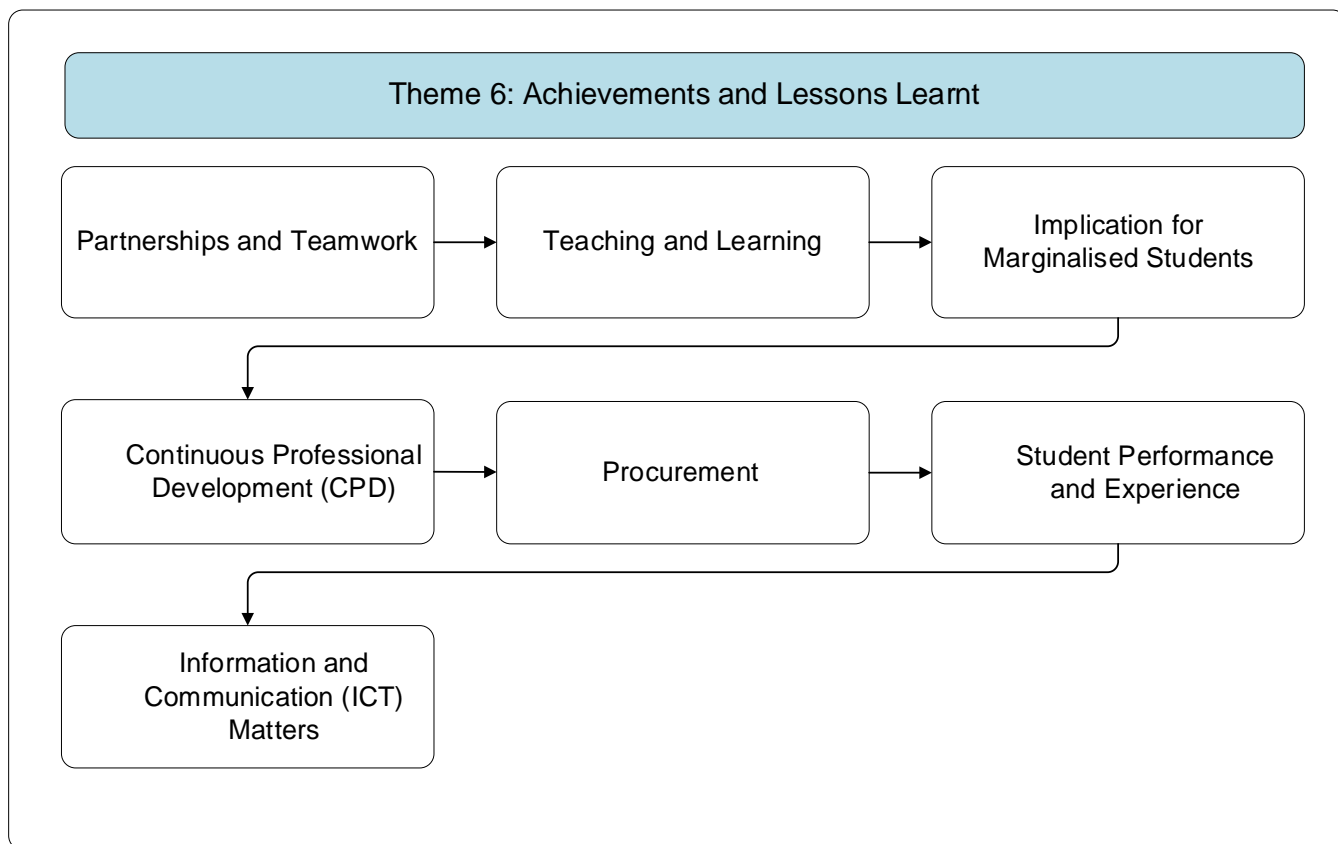


Diagram 5.11: Elements from theme 6: Achievements and lessons learnt

5.9.1 Partnerships and Teamwork

According to Mischke (2014e) a significant factor for the project’s success resides in the congruence of the partnership with Global Ecology LLC. The formal partnership with Global Ecology LLC in the USA brought some advantages that were not foreseen in the beginning, but, as the project evolved, the following can be recorded as one of the lessons learned: a team approach brought about connection through team camaraderie, caring, and sharing knowledge and experience. The team was transparent, open, and trustworthy, and worked in a safe space. Team members worked together sharing common goals and working towards achieving those goals (Mischke 2014e; Ryan, 2013). Consequently, the training and support the academics received from the curriculum specialists assisted with the design and development of online curriculum and courseware (Mischke, 2014a).

5.9.2 Teaching and Learning

The concept of contextual relevance is illustrated by the following multi-disciplinary topics covered in the various Signature Courses: ‘Social dimensions of justice’ ; ‘Ethical ICTS for development solutions’; ‘Sustainability and greed ’; ‘Being a professional teacher’ ; ‘Intercultural communication’ and ‘Environmental awareness and responsibility’ (Mischke, 2014a). This approach was accomplished by adopting heutagogy which also corroborated with Chapter 6 [see section 6.3.2 Design Matters with Respect to the Pedagogy] as the educational philosophy which was deemed to be a new ‘teaching praxis’ (Mischke, 2014a; Ryan, 2013: 15), one which encouraged students to work effectively on their own.

This new approach was a total paradigm shift, and moved the ‘boundaries of curriculum and course design’ (Mischke, 2014a: 2). Baijnath agreed with Mischke, adding that Unisa had now established pedagogical practices that promoted active and collaborative learning (Baijnath, 2015). Heutagogy according to Mischke (2014a) was new to Unisa academics in an ODeL context yet their exposure to the Signature Courses provided them with the skills to teach in an authentic student-centred way and with a strong awareness of their context in Africa, since Africanisation was embedded in the curriculum (see Africanisation definition in Chapter 1). Baijnath (2015) also suggested that the workplace of the twenty-first century required not only disciplinary knowledge but also dispositions and abilities that can only be developed through active learning processes. Active learning necessitates a shift from content-driven curricula to learning designs that are geared towards both student and national needs (Baijnath, 2015). Both Mischke (2014a) and Baijnath (2015) reported that the Commonwealth of Learning (CoL) acknowledged the appropriateness of this pedagogical approach in December 2013 when it presented Unisa with an Award for Excellence for Distance Education Materials. This award was created to honour Commonwealth institutions for their innovative and efficient use of suitable learning technologies. According to the judges, Unisa’s Signature Course module, ‘Language through an African lens’ developed by the College of Human Sciences (CHS), was the best interactive online course created in 2013 (Mischke, 2014a). This accomplishment proves that Unisa was capable of creating internationally benchmarked online courses.

Further, the Signature Courses addressed the fraught challenges of the digital divide by firstly acknowledging the problem of access to the internet and second, coming up with solutions that

addressed the issue. Finally, according to Baijnath (2015), important insights achieved through perceptive reflection were used to improve, advance, and make progress. Three elements in particular under teaching and learning were major achievements but these were also where the most lessons were learnt. They are student assessment, study material print production and distribution, and student support. These will be discussed in this order.

5.9.2.1 Student Assessment

The Signature Course project adopted an entirely new approach which was a fully online system using e-portfolio/e-projects which encouraged reflection and self-reflection. Unisa's usual practice was to use a fixed memorandum with model answers which the academics developed. With the implementation of the Signature Courses the teaching assistants graded the assessments.

Initially, the Unisa assessment plan, processes and procedures could not accommodate alternative online assessment strategies (University of South Africa, 2013c). Lessons learnt from the implementation of the rubric assessment tool were that it enhanced transparency and ensured that the marking was consistent as the tool provided guidance on how to score the activity (Setlhako, 2015). The assignments had to be marked online, and, owing to the high volumes, this caused additional pressure on ICT's server capacity and impacted on the jRouter which could not route assignments effectively (Nkhumeleni, 2014; Setlhako, 2015; University of South Africa, 2013c).

5.9.2.2 Study Material Print Production and Distribution

Unisa used printed study material as basis for teaching and learning for more than 140 years, so students and staff had to be encouraged to adjust to an online environment. Promoting a shift towards a fully online mode of instruction at Unisa, characterised by engaging and pertinent interactive content, was quite a mind shift. Introducing this fully online open distance learning model enabled the university to compete internationally with other distance learning higher education institutions (Mischke, 2014a).

It is important to consider that though there was a scheduling timetable in place for the design, development, and production of printed study materials, including language editing, layout and artistic design, going online with the Signature Courses implied that not only had current processes to be adapted, but going fully online with the Signature Courses also implied that the scheduling of study material had to take place online, and iCloud facilities were needed to store all online course material (Nkhumeleni, 2014; University of South Africa, 2013c). All these were lessons for this department.

An advantage of online courseware is that it provides the option to easily modify or update the content and enhance courseware flexibility and student interaction (Baijnath, 2015; Eccles, 2015). Eccles (2015) expressed his concern about the dedication required to move courses fully online and the *laissez-faire* attitude of academics, as it could influence negatively on the quality of the courseware and support.

5.9.2.3 Student Support

Eccles (2015), in the context of the College of Economic and Management Sciences (CEMS), reported that the lessons learned from CEMS at the end of 2015 were that student support can be extremely enriching but needed to be available 24 hours, seven days a week, for the academic year. The student-support model implemented for the Signature Courses was supported through the new teaching assistant's system (Mischke, 2014a). Student feedback on the teaching assistants showed support and appreciation, as students felt that the teaching assistants closed the gap usually experienced at distance universities since the teaching was personalised. The academics also valued the teaching assistants, and, over time, started to feel comfortable with them as adjunct academics. Some Colleges experienced challenges in appointing effective teaching assistants owing to the limited expertise available in the market, and some courses could not manage to appoint enough teaching assistants, resulting in unrealistic teaching assistant to student ratios (Mischke, 2015; University of South Africa, 2013c; University of South Africa, 2013d).

5.9.3 Implications for Marginalised Students

The document analysis did not provide any evidence of how students with disabilities were considered in the design and delivery of the Signature Courses. The analysis did show consideration for incarcerated students who experienced challenges accessing the online courses. To this end, the correctional institutions requested that Unisa should notify all student advisors at the prisons when inmates register for online courses. The correctional institutions then made a computer available for these respective inmates upon the information received from Unisa. However, the students/prisoners were not able to use the internet, and a warden had to upload the students work on the myUnisa platform. Moreover, not all correctional institutions were so accommodating (Nkhumeleni, 2014; University of South Africa, 2013c).

5.9.4 Continuous Professional Development (CPD)

The academics and the teaching assistants needed to be supported by CPD in terms of the online curriculum, systemic matters, and development. The challenge here was that the Unisa CPD unit was completely under-resourced in terms of staff and physical training facilities (Nkhumeleni, 2014; University of South Africa, 2013c).

5.9.5 Procurement

ICT and the SMPD were totally dependent on the Department of Procurement to approve tenders and to ensure that the necessary infrastructure and expertise were acquired to support the ODeL model (Nkhumeleni, 2014; University of South Africa, 2013c). If the Department of Procurement failed to procure the required infrastructure needs the Signature Course implementation would have failed.

5.9.6 Student Performance and Experience

At the end of 2015, the average undergraduate course success rate at Unisa was 70.7%, and with the Signature Courses the average student course success rate was 77.6% (Mischke, 2015). The dropout rates of students from the Signature Courses were similar to the print-based courses (University of South Africa, 2014e).

According to Muthaphuli (2015) from the College of Law, the lessons learnt at the end of 2015 were that student perspectives should inform the design and development of open educational settings, and that students should not only absorb knowledge but also be active learners. It was, therefore, incumbent on academics to be attuned to the various perspectives of the students within the institutional context. Students need encouragement to comprehend what they are learning, and to draw suitable connections between what they are studying and the psychosocial developments in their own lives. When enrolled for a Signature Course, discussion and group-based learning activities are the norm, encouraging students to speak and share their opinions. Interaction in discussion forums 'improved communication among students in culturally diverse classes' (Muthaphuli, 2015 p. 12).

The Signature Courses provided academics with the opportunity to experience students' values in terms of their perseverance and tenacity, work, and challenges. As students address real-world issues, their motivation, discussion quality, and level of analysis increase. At first (2013) the students complained, but as the systems improved the students adapted to the online university atmosphere, and experienced profound learning and personal development while testing new concepts (Muthaphuli, 2015).

5.9.7 Information and Communication (ICT) Matters

The lessons learned from an ICT support perspective during the online implementation of the Signature Courses were very insightful as Unisa was not fully prepared for full online delivery. The degree of damage to its reputation because the system could not cope with large student enrolments had a severe impact (University of South Africa, 2013c). The main lesson here is to ensure that the institution has highly efficient systems and procedures, and an adequate and well-functioning ICT infrastructure to ensure student success (Mischke, 2014a; Nkhumeleni, 2014; University of South Africa, 2013c). For an ODeL institution to function properly, the success of every aspect of education—from instruction to administration to student services—depends on the effective use of information and communication technology (Nkhumeleni, 2014).

Up to August 2013 the capacity and performance of ICT's systems at Unisa were inadequate resulting in constant downtimes especially during critically busy periods (College of Economic and Management Sciences, 2013; College of Law, 2013; University of South Africa, 2013c).

During 2013, ICT experienced challenges with myUnisa (Myburgh, 2015). The myUnisa website was extremely slow, making use from off-campus nearly impossible.

As has been discussed, students registering for the Signature Courses had to be divided into manageable groups and then linked to teaching assistants who would then support them during their learning journey. ICT, however experienced human resource challenges during this period, resulting in a failure to link the systems needed for this task (Setlhako, 2015; University of South Africa, 2013c). As the grouping and linking of students to TAs created many challenges, students could not be mentored, and a serious delay in student learning occurred. Another challenge was that some modules had too many group sites, making the facilitation of learning an unproductive activity (Setlhako, 2015; University of South Africa, 2013c). In addition, each student group should have had their own site on myUnisa to ensure effective communication and group activity, but the statistics tools to monitor the TA activities on these various group sites were too cumbersome to be effective (University of South Africa, 2013c). High student traffic volumes on myUnisa slowed down the system for students, academics and TAs (Nkhumeleni, 2014; University of South Africa, 2013d).

The document analysis also provided insights into the frequency with which myUnisa was offline, and the inadequacy of myUnisa tools that needed to be upgraded (University of South Africa, 2013c). The inaccessibility of myUnisa has been the subject of numerous reports of student complaints (Myburgh, 2012; University of South Africa, 2013c). During 2014, ICT established new systems and upgraded existing systems to integrate the continuous online formative and summative assessment design (Mischke, 2014a). The Sakai Gradebook tool which was to be used during assessments needed to fully integrate with myUnisa and the Unisa Student Information System (Myburgh, 2012; University of South Africa, 2013c). However, as Nkhumeleni (2014) indicates, the Sakai Gradebook tool on myUnisa and the Unisa student information system were not properly integrated, which impacted negatively on interactive student communication and collaboration within their groups. Slow networks resulted in frustrations for the TAs as well when using the Gradebook tool. Numerous issues also occurred with the routing of assignments via iRouter. The statistics tool on the different group sites to track TAs was cumbersome and not user friendly (Nkhumeleni, 2014). At the end of 2015, Myburgh (2015) indicated that the Gradebook tool should be exploited to its full potential and not just as an online spreadsheet. The information technology system encountered difficulties when

assignments were marked late or when modifications to the grades were not in accordance with DSAA procedures Myburgh (2015).

The demand for computer resources at the university or in the regions increased with Unisa's move toward fully online teaching and learning. This was partly because students did not take advantage of the various initiatives offered by the institution to purchase laptops and tablets at a cheaper rate because they did not find them appealing (Nkhumeleni, 2014).

Myburgh (2015) reported at the end of 2015 that the browsers on mobile devices also provided some challenges, and the discussion statistics software was unreliable. ICT had to source a new method for collating discussion statistics from the end of April 2015.

In light of these challenges in ICT, the following system improvements were put in place: a class list functionality was added; assessment registration used a Gradebook to monitor the discussions (tasks) of the teaching assistants; an assignment tool for discussions was developed as well as a new blog/writing tool with marking capability. ICT refined the master site system, and recommended improvements to institutional communication with the teaching assistants (Myburgh, 2015).

In sum, effective online teaching and learning, as well as training cannot take place if ICT systems are intermittent or down. But, more generally, and after noting this sequence of lessons learned, procedures or methods that were demonstrated to be superior to previous procedures or methods were identified and constructed as best practices (Baijnath, 2015).

5.10 CONCLUSION

This chapter discussed the six themes which covered the three main implementation phases and showed how the implementation evolved from 2013-2014 accompanied by unique challenges but also by improvements. The recommendations, noted by Unisa, are valuable for future online learning implementation. The functional dependencies and interdependencies are indicated throughout the discussion plus the impact they had on each other, and the main role ICT played across functions. In addition, the achievements and lessons learnt during this process, either positive or negative, were discussed.

The overall opinion by those connected to the project was that the project itself was a huge success. Although there were major challenges, especially in ICT, the success of the project can be ascribed to innovative improvements in teaching and learning as endorsed by Mischke (2014) who motivates her claim by stating that Unisa implemented a totally new online model, a new pedagogy, new assessment strategies, plus a student support model that was diversified and upgraded:

Establishing a higher purpose of teaching at Unisa, whereby faculty members do not only teach discipline specific methodology and concepts, but rather inculcate in students' graduate characteristics such as the ability to apply their discipline-specific knowledge competently, ethically, and creatively to solve real-life problems.

(Mischke, 2014a: 1)

The Signature Course project managed to fulfil its initial aims and objectives which were aligned with Unisa's 2015 Strategy. The project developed curriculum courseware that was context based taking the students' background, the work force, and community needs into account and, with the assistance of international scholars, the team designed and developed six fully online highly interactive Signature Courses (Mischke, 2014a).

Diagram 5.12 below presents a visual representation of the themes and their respective elements structured according to the three implementation phases – design, development, and implementation. The next chapter will discuss the process and result of the 16 interviews with the different functional units during the implementation process.

Draft online learning implementation process conceptual framework

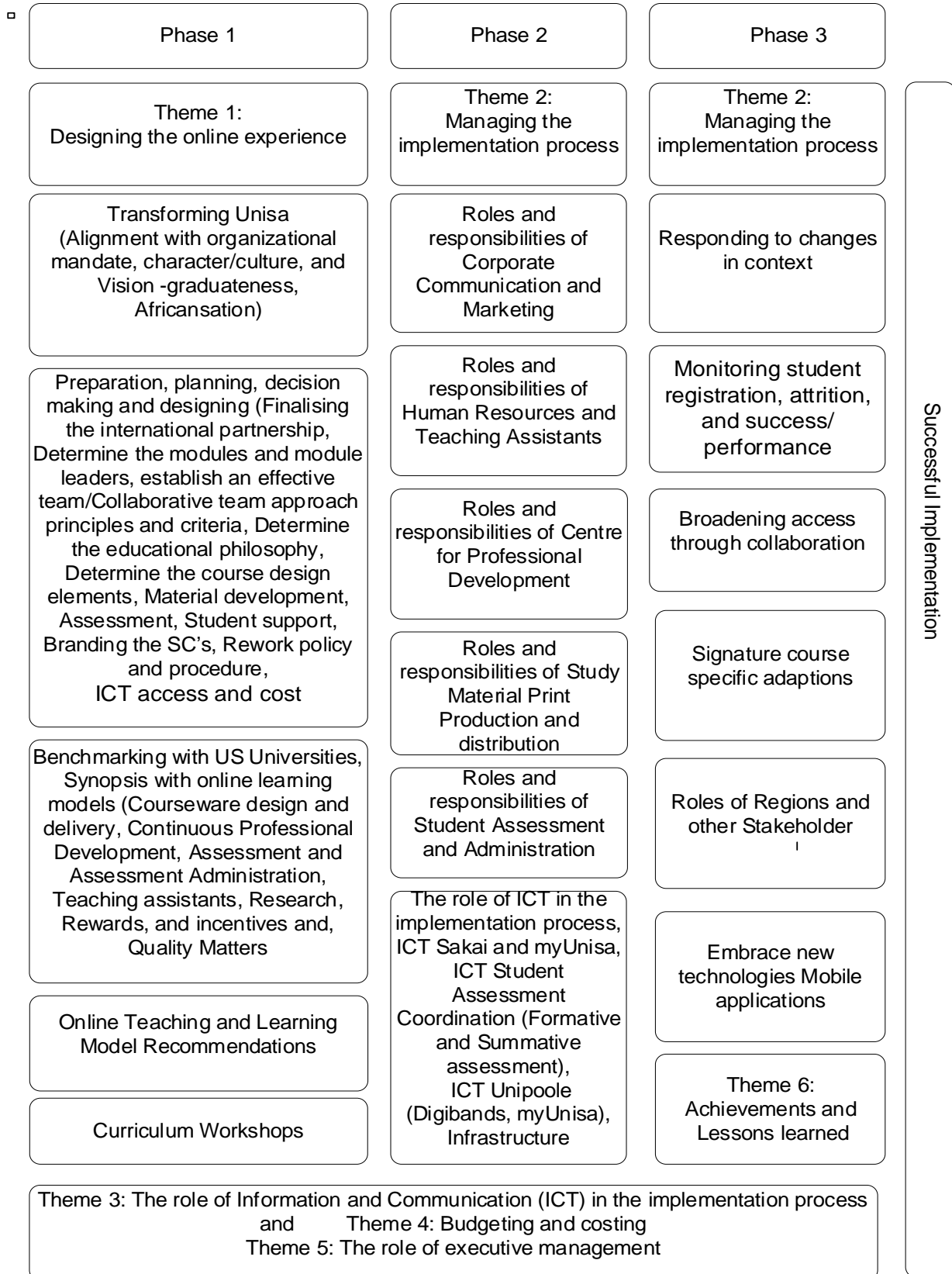


Diagram 5.12: A visual presentation of the themes and phases arising from the document analysis

CHAPTER 6

PRESENTATION, ANALYSIS, AND DISCUSSION OF THE SEMI-STRUCTURED INTERVIEWS

6.1 INTRODUCTION

The previous chapter discussed, in detail, the purposeful selection of documents, sourced from the steering committee, and provided a qualitative analysis of the documents relating to the conceptualisation, planning, design, development, and implementation of the Signature Courses for the period 2009-2015. The data retrieved from these documents were analysed thematically, producing six different themes.

This chapter will cover the analysis of the semi-structured interviews as the second type of data collection. The population was purposefully selected and consisted of the steering committee and the functional units, as they were directly involved in the planning, design, and implementation of the Signature Courses [for a full discussion, see Chapter 4 – Research Design and Methodology]. A sample of 16 research participants was drawn from the steering committee and the functional units. The interviews took place after the research questions were developed [see Annexure 6.1]. In the analysis below, the identity of the participants is indicated as a 'P' (indicating participant) and the number following the 'P', for example - 'P5' – indicates the number of the participant in line with the commitment to ensure their anonymity.

The researcher needs to subvert potential criticism by highlighting that there is some repetition between Chapter 5 and 6 but the aim is to show as effectively as possible how the processes attached to the Signature courses need to be viewed from the two different perspectives because only in this way can the studies methodology be properly reflected.

Six themes emerged from the inductive and deductive analysis, namely:

- 1) Understanding the Signature Courses.
- 2) Key design elements.
- 3) Participant narratives of the Signature Courses implementation phases.
- 4) Interdependencies between functional units and management decisions.

- 5) Information and Communication Technology (ICT).
- 6) Lessons learned, personal reflections, successes and challenges.

The chapter will unfold as illustrated in the diagram 6.1 below:

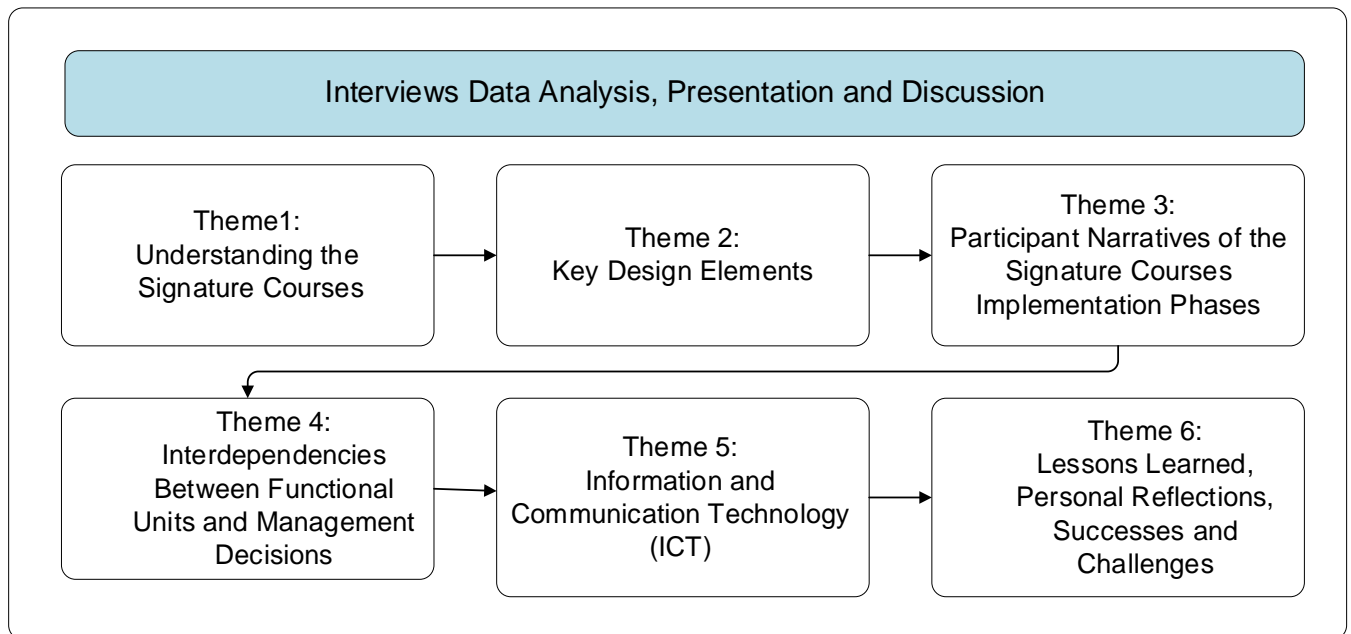


Diagram 6.1: Interviews Data Analysis, presentation, and discussion

Depending of the length and or complexity of the Theme, the researcher may present additional diagrams to indicate in blue which element is being discussed.

The discussion of Theme 1: Understanding Signature Courses which follows consists of the following five elements as per the diagram in the next section [Diagram 6.2: Elements of Theme 1: Understanding Signature Courses]. The 'blue' areas in the diagram below means "YOU ARE NOW HERE".

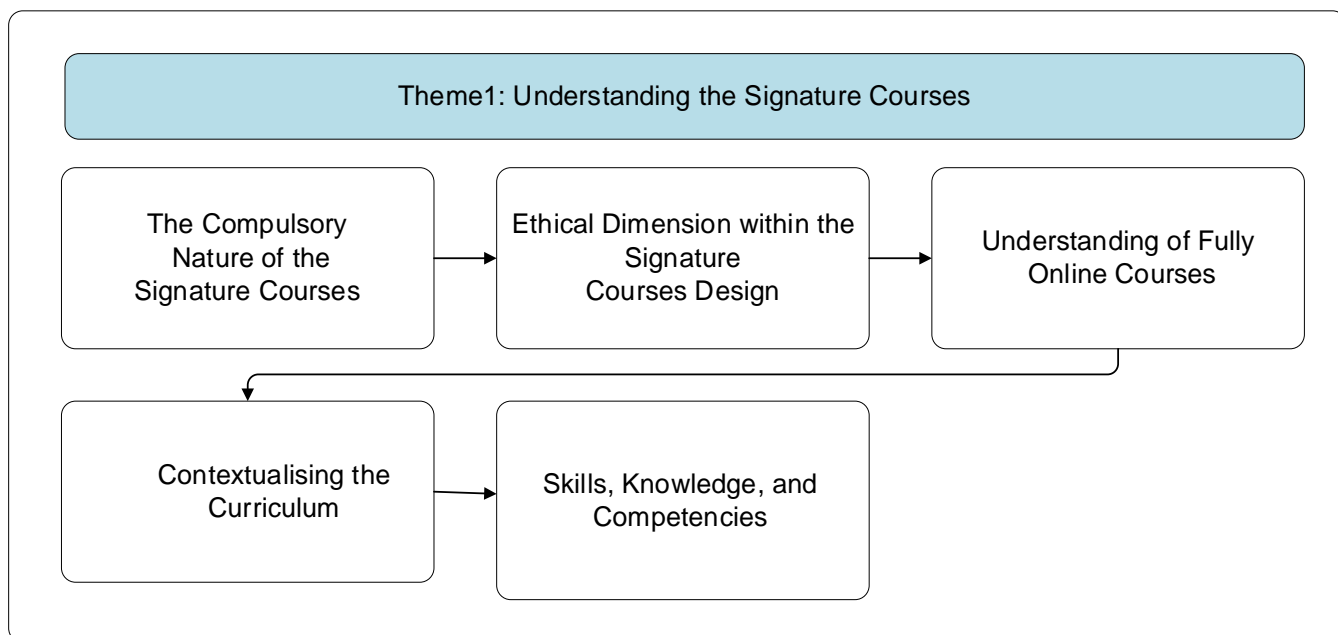


Diagram 6.2: Elements of Theme 1: Understanding Signature Courses

6.2 THEME 1: UNDERSTANDING THE SIGNATURE COURSES

Evidence from the literature analysed in the scoping review (presented in Chapter 3) indicates that a shared understanding of the conceptualisation of online learning is important for staff and students to ensure an accurate understanding of the project initiative (Andrade & Alden-Rivers, 2019). In this section, the researcher will discuss the extent to which the participants understood the Signature Courses. These elements will be discussed as follows: 6.2.1 The compulsory nature of the Signature Courses; 6.2.2 Ethical dimensions within the Signature Course design; 6.2.3 Understanding fully online courses; 6.2.4 Contextualising the curriculum; and 6.2.5 Skills, knowledge, and competencies.

6.2.1 The Compulsory Nature of the Signature Courses

As already indicated in Chapter 1, the Signature Courses were implemented in all six and, later, seven Colleges. The compulsory nature of the Signature Courses needs explication. Firstly, it refers to the fact that it was compulsory for each College to implement a Signature Course module but the content and focus of the module remained the prerogative of the specific College (P3; P8; P11; P16). Secondly, the Signature Courses formed an integral part of the degree/qualification structure of every degree offered by Unisa, and, from 2013, all new entrants

at Unisa were required to register for a Signature Course as part of their qualification offered by a specific College. For example, all students registered for qualifications offered by the College of Economic and Management Sciences (CEMS) were required to take Sustainability and Greed, the Signature module offered by that College. Although the Signature Course (Ethical Information and Communication Technologies for Development Solutions: EUC/EUP1501) offered by the School of Computing in the College of Science, Engineering and Technology (CSET) was a compulsory module for students registered for programmes offered by CSET, it was also an optional course module for students from other Colleges.

The Signature Courses served a broad purpose. Not only did they impart subject knowledge, but, as both P7 and P9 indicate, they also embedded certain values, ethics, and characteristics to improve student graduateness. It was important that the students experienced the 'signature' of Unisa through each Signature Course no matter which College they were studying through. In other words, students should ideally absorb the values of Unisa as an institution regardless of which College they were enrolled for because the Signature Courses were designed to embed cross-College disciplinaryity (P3).

6.2.2 Ethical Dimensions within the Signature Courses Design

An important feature of the Signature Course is that they presented a condensed view of what the university stood for - ethically, morally, and academically (P15).

During an initial discussion with the executive management, the Vice Chancellor, Pro-Vice Chancellor, and the Principal and the Owner of Global Ecology LLC discussed their views about the meaning of 'graduateness' in an open and distance e-learning (ODeL) context [see Chapter 1, sections 1.4.1 - 1.4.3]. In other words, what attributes are needed to produce responsible, ethical citizens, and digitally literate scholars with critical thinking skills (CIES/IIE, 2010; Global Ecology LLC, 2011a; Mischke, 2012; University of South Africa, 2010). Indeed, the graduate attributes Unisa students should aspire to were to be defined and instituted in the curriculum development of the Signature Courses (P10). The Signature Courses were different from the general curriculum (P10); they were an attempt to develop a university 'signature' in the students that would define a student as a uniquely Unisa student. In a way, this signature should differentiate them from other students and universities. P10 further explained that the Signature

Courses were similar to the idea of the 'Chancellor's module' observed in other universities which is intended to give students a 'touch' of what the university stands for (P10). There was an expressed need for Unisa to produce graduates with a certain 'signature' of gradueness (P7; P11).

Consequent upon these aims, the Colleges had to decide what their 'signature' was (P15) and how it aligned with Unisa's signature, which meant thinking about what they stood for and embedding this into the design, scope, and focus of their specific Signature Course. Although each College designated one of their departments to take the lead in proposing a curriculum and focus, the College had to approve the proposals, which often resulted in rigorous deliberations. One example of such discussions is mentioned by P10 who referred to the Signature Course proposed for the College of Economics and Management Science (CEMS). The proposed title of this course was 'Greed and Sustainability'. However, the feeling was that the name was a little too harsh and, after serious debate, it was finally called 'Sustainability and Greed' (P10). During a meeting in the middle of 2012, while the team was in the process of developing this course, a stakeholder expressed concern about the module's strong ethics component, not because of the content, but because another department felt that the course was encroaching on its disciplinary territory without prior consultation or being involved (P10). The disciplinary contestation between this department and the College showcased, on the one hand, the interdisciplinary nature of teaching the topic of ethics, and, on the other hand, the possible ways in which designing courses to ensure that students carry the 'signature' of the university questions, if not disrupts, traditional silos between Colleges and Departments.

It was also critical for the Signature Courses to raise awareness among the students about the importance of being ethical in daily life and using resources ethically. The Signature Course, Ethical Information and Communication Technologies for Development Solutions, offered by the School of Computing in the College of Science, Engineering and Technology (CSET) made the decision to ask students for input about their ethical behaviour and in particular to solicit their comments about their ethical conduct while utilising technological platforms (P9). After the first semester, CSET created a blog to ask for student feedback. The blog question prompted students to reflect on how they had used this technology for the entire semester and the impact it had on their social lives, personal lives, and work experience. Indeed, ethical behaviour is particularly important in a digitised society since a failure to operate ethically online has an impact

on the home university, possibly tarnishing its brand, but also, and more significantly, unethical digital behaviour can have a negative effect on peoples' lives (P13). D'Agustino (2012) refers to the importance of the institution's ethical code and regulations during online learning implementation. When a student interacts online, they leave behind a digital audit trail which can be referred to as the student's 'digital fingerprint'. This reflects on the ethical conduct and values that are instilled in a student, but also links to the university's values and norms. Therefore, ethical dimensions within the information society should be included in the courseware to ensure that students act ethically on online platforms (P9). This relates to 'copyrights, intellectual property right, privacy control and requirements for expectations for being ethical in the use of ICT' (P9).

Participants P8 and P9 point to the need to have trained staff in the regions to assist in preventing certain unethical actions from students. For instance, the regional computer laboratories facilitated a face-to-face examination of one specific Signature Course module, and had to be trained so that they could manage both the examination processes and supervision:

we had to also train lab staff in terms of how to retrieve files from the server onto the main computer, how to allocate exams per students because each examination had at least three different exam papers for one sitting. So that students they don't copy one another, who are sitting next to each other and ensure that the exams are different.
(P8)

6.2.3 Understanding Fully Online Courses

The conceptualisation of the Signature Courses initiative was in line with the revised institutional vision of Unisa. The process began with online learning design principles/elements (P5). The analysis from the interviews indicate that the participants had a clear understanding of the institutional vision and understood the concept of going fully online. All the interviewees expressed an understanding of the importance of the team's mandate to implement these fully online courses. One participant indicated that 'everything is developed in an online fashion' (P14) and P15 commented that one of the main features was that Unisa was going to develop its first fully online courses, implying that there would be:

no written texts, or at least paper texts, and that was something that had to be factored into the design of the courses because a lot of people were not quite ready for that. (P15)

The understanding of the online concept from P6 was to scale down work with print production and collaborate with the library to get input and support as there were to be no printed textbooks as all resources would be available electronically. P6 indicated that one College did not have the prescribed electronic books at the time and needed support from a librarian to source relevant online articles to support students.

Yet, P10, P12, and P15 recounted that online concepts were new and difficult for the staff at all levels to fully understand the concept of teaching and learning online, along with their supportive structures. Besides the difficulty in understanding the concepts, academics and support units initially did not agree with the online project, and, as one participant indicated, 'there was some resistance amongst lecturers to go online, and even some resistance to use myUnisa' (P16).

There was a perception among some respondents that the individuals who conceptualised the idea of Signature Courses were not fully aware what would be involved in the early phases of the project. Executive management had indicated that there should be a course from each College, and although the idea was that this course would be fully online, management was not cognisant of how this project would affect all Unisa departments, particularly the support departments which needed to change processes, procedures, systems, infrastructure, structures, and even policies (P16).

Institutional acceptance was lacking until people realised that something positive was happening, at which point it became easier for people to accept the concepts of the Signature Courses (P8). Once the majority of people began to support the initiative, the Signature Courses developed momentum. However, the workload was 'absurd' (P8).

6.2.4 Contextualising the Curriculum

Curriculum transformation was an urgent step for Unisa. The institution wanted to embed in its curricula the concept of Africanisation (P10; P5; P7; P16). One participant indicated that the

intention of the Signature Courses was to 'put the signature of the university onto the students that these students were graduates from this University' (P10). The main idea was that the university would have Signature Courses 'which were different from their general curriculum' (P10). Curriculum transformation was multi-faceted. Apart from instilling in its students an awareness of being a student on the African continent, Unisa wanted to move away from print-based teaching towards dedicated interactive online learning environments. 'Unisa wanted to establish its own brand of open distance e-learning and really not stick to what was before but kind of have clarity about where it is moving to' (P16). For example, one participant indicated that the Signature Courses were a 'potential radical space' (P10), where:

the curriculum in particular can be Africanised, where we can really think about decoloniality, where we can really think about how we decolonise the curriculum in a College which in many ways is resistant to any kind of meaningful world, Africanisation and decoloniality.

(P10)

It was important for one participant not to see Africanisation simplistically. This meant that academics had to think more broadly about the concept, reaching beyond the idea of using textbooks by African scholars to more compelling notions. A respondent from the College of Economics and Management Sciences warned that Africanisation should not entail using 'old economics' (P10) and 'just changing the currency' (P10), while claiming this to be an element of Africanisation.

6.2.5 Skills, Knowledge, and Competencies

Putting the student at the centre of the Signature Courses [see Theme 2: Key Design Elements, section 6.3.1 Student-Centredness as Key Design Element] required sophisticated skills and competencies from both staff and students. Not only did staff need the necessary skills to be able to implement and use the system, and provide the support that students needed to transform successfully into online learners, there was also consideration of the skills that students would need.

The Signature Course team had various discussions and debates about what knowledge, skills, and competencies should be embedded in the curriculum and how they would be assessed. These competencies included computer skills and critical arguments. Interviewees expressed the belief that these would be beneficial for Unisa students in their careers, personal lives, and within their communities (P9). One participant indicated that:

the university was receiving complaints from, or hearing rumours from employers that Unisa students were not employable because they were completely IT illiterate, they couldn't even surf the web.

(P10)

In all the Signature Courses, students were required to access all course and supplementary materials online, for example, by means of case studies and prescribed e-text books (P5). P10 believed that the majority of the students were able to navigate the Internet. One of the identified graduate competencies was the ability to use software such as word processing, spreadsheets, data bases, presentation software, and emails. These skills were embedded in all the Signature Courses as first year modules (P5) to serve as a bridging course, taking students from secondary education into distance learning at a higher level (P5). In addition, the students were continuously assessed to provide an indication of their development in becoming digitally literate (P5).

The next theme (Theme 2) will cover the key design elements of the Signature Courses.

6.3 THEME 2: KEY DESIGN ELEMENTS

A number of design elements informed how the implementation process would unfold. For instance, no printed material would be allowed (P4; P5; P8; P15); the course would be delivered, taught, and evaluated fully online; Colleges should choose modules with large student enrolments (P4); and the Signature Courses should be a student-centred initiative.

Theme 2 comprises the following five elements: 6.3.1 Student-Centredness as a Key Design Element; 6.3.2. Design Matters with Respect to the Pedagogy; 6.3.3 Teaching Assistants to Support Students; 6.3.4 Design Matters Regarding Assessment; and 6.3.5 Team Approach

[see Diagram 6.3 below: Elements of Theme 2: Key design elements].

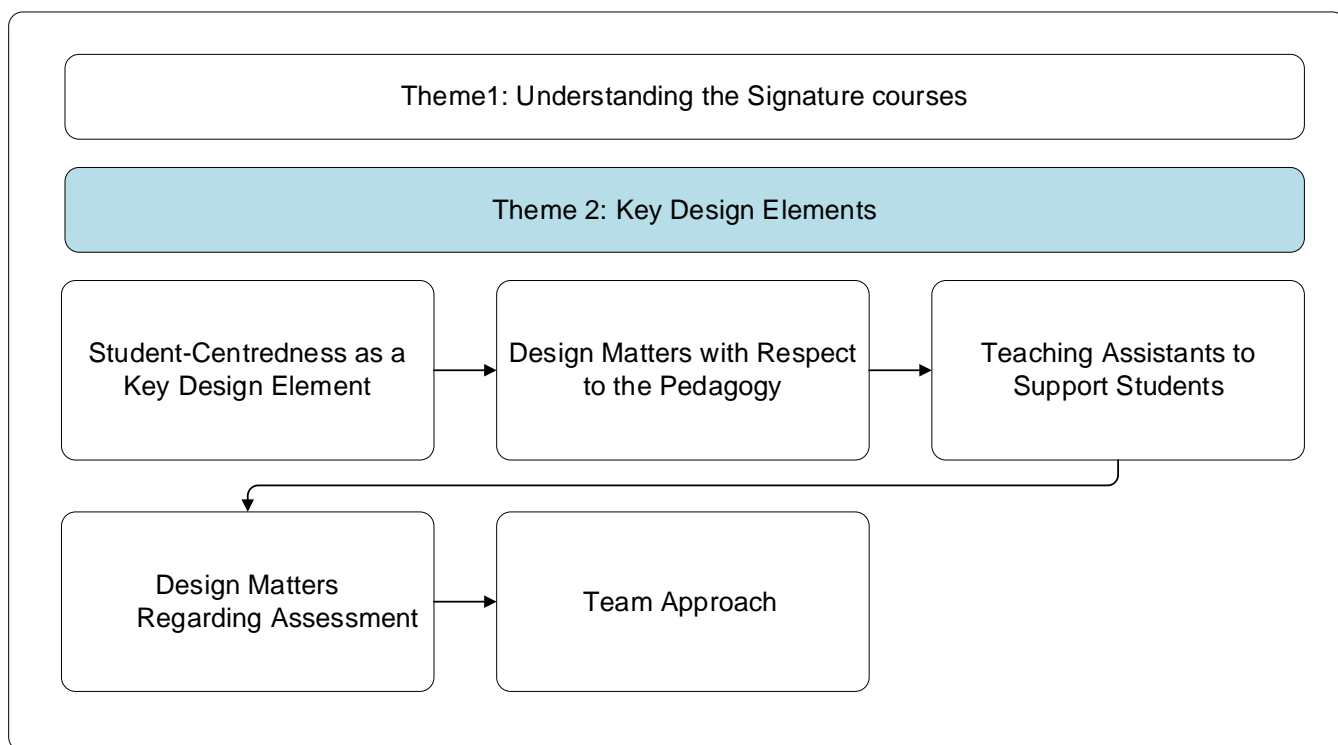


Diagram 6.3: Elements of Theme 2: Key design elements

6.3.1 Student-Centredness as a Key Design Element

Creating a fully online teaching and learning environment was a central design concern according to P15, but going fully online was informed by knowing that students were the primary stakeholders in this project and all processes connected to the Signature Courses should revolve around them – ‘for the first time students were [to be] key players in the design of the courses and that too was something that was quite extraordinary for people to get their minds around (P15).

As Colleges were the main academic owners of the Signature Course modules, they needed to ensure, according to P5 and P16, that teaching and learning should take place through interactivity; students interact with students/peers, and academics interact with the students. Reflection was key to ensuring that students could find and articulate themselves within the courses, which according to the heutagogical philosophy, encourage interaction between parties

(P13; P16). While student centredness was not new in the Unisa context, the design of the Signature Courses gave a specific emphasis and understanding to the concept.

Academics and support departments played a different role in operationalising student-centredness. Student-centeredness, furthermore, was embodied in the choice of heutagogy as pedagogical strategy (see the next section). From an academic perspective, according to P6, the concept of heutagogy supported the 'just-in-time' learning method, encouraged student debate, and by adding blogs to some of the Signature Courses, introduced a reflective component to the course. Academics would have to ensure that continuous assessment would keep students interactive and interested. A summative assessment (portfolio) would furthermore be required at the end of the year to ensure that students had understood the knowledge gained in the semester.

However, according to P11, the concept of student-centredness, and the difference between face-to-face and online distance education, were not sufficiently communicated to students, and the students were not prepared for online learning (P11). This meant that when the Signature Courses were implemented, students were not sufficiently prepared for a new form of pedagogy where more would be required from them than in other modules.

The regions were central in supporting student-centredness via this new form of course delivery but because staff at the regions were not initially trained, they did not know much more than the students and could not respond to student queries, placing them in a very difficult situation (P11). In response to both these imperatives, the need to support students in the regions, and the regions being overwhelmed by students requesting access to the computer laboratories, the Colleges visited the regions with a view to offering their support. The visits by the Colleges played a significant role in terms of change management. In addition, the regions offered support to students where they were physically located, and properly trained the students and telecentre staff so that the students could receive the required support.

Placing students at the centre of teaching and learning in the implementation of the Signature Courses brought to the fore the lived realities of students' learning journeys, and the vast inequalities in access to sustainable and affordable internet, prompting colleges and the regional facilities to think of innovative ways to support student-centred teaching and learning.

6.3.2 Design Matters with Respect to the Pedagogy

During the visit to the United States, the team was introduced to the concept of heutagogy by staff members from the University of Maryland University College (now the University of Maryland Global Campus). Connected to this approach was the idea that students could take part in designing their own curriculum through interactions with each other and with faculty (P10). The interviews with the participants revealed that after visiting a few universities in the United States, the Signature Course team discovered that inactivity or the lack of interaction from students was most probably a result of the traditional design of courses as well as the delivery format. As such, a different design and form of delivery would have an impact on the inactivity of Unisa students.

The key design elements, according to P13, inspired in part by this visit, were to make the courseware visual and interactive, and to use South African examples as much as possible. These and other design variables inevitably impacted on the Department of Curriculum and Learning Development (DCLD) whose members had to consider new ideas while implementing the process. If chosen technologies did not work, the DCLD had to find new ways to find a solution or a way to work around it. The Digi-bands (see section 6.6.2 Study Material Print Production and Distribution and ICT) constitute such an example, being a solution for those students who did not have access to the Internet.

Unisa decided (according to P10) to emulate the University of Maryland College's approach by adopting heutagogy when designing and implementing online learning. P10 explained the support for the heutagogical approach in that it enables students genuinely to reflect, discuss, and interact on the world's socio-economic issues, and to share difficulties in relation to what they learn.

Despite its being one of the most important design aspects in the thinking around the Signature Courses, not all academics accepted heutagogy and not all modules incorporated it as their design core. P13 indicated that their College's Signature Course did not implement a fully heutagogical approach, as it promoted the idea that students are co-authors and in charge of their own learning. Although this new teaching praxis assisted in designing modules that were

student-centred with high levels of interaction and peer support, students were not co-authors and or in charge of designing the curriculum, courseware, assessments, or the pace of learning (P10; P13).

Academics found different ways to implement heutagogy. For example, as mentioned by P6, the use of a threaded discussion forum to encourage interaction among students and create a platform where they could voice their own opinions was one option. The College of Science, Engineering and Technology (CSET) students' participation in the online discussion forum was used for the first Signature Course assignment, where students had to: post a piece expressing their opinion on a particular issue; read through other students' opinions; and reply to at least three students by saying, 'You know, I agree with this or I don't agree with this'. According to P6, this was a very good strategy for students to support and learn from each other. P10 and P9 remembered suggestions by the Signature Courses team that tools such as the discussion forum would become particularly important and would become valuable assessment and self-assessment tools. Indeed, P10 added that the most unique feature of the Signature modules was the discussion forum which gave students an opportunity to practice their critical thinking skills and engage in peer-to-peer knowledge construction. P9 indicated that the Signature Courses had to integrate different media elements such as social media, blogging, or blogs where students post reviews and pose questions and answers on platforms such as frequently asked questions (FAQ). To make the courseware as visual and interactive as possible (P13; P11; P6), the Multimedia Centre was used to assist with the photography and videos to assist the students (P6).

6.3.3 Teaching Assistants to Support Students

A key design element of the Signature Courses was reconsidering the role of academics in the implementation of the pedagogy. Considering the scale of the Signature Courses in terms of student numbers, and the implications of more student engagement in these courses, additional support was deemed essential for both students and academics. The Signature Courses model, according to P12, was designed to implement teaching assistants as an academic support model. The appointment of the teaching assistants was key to the Signature Courses' success (P10; P13). To ensure that the implementation of the Signature Courses was successful, the teaching assistants were trained on the digital divide, and ways in which to support students

online. P11 mentioned that teaching assistants assisted students online with enquiries, assignments, and other learning activities. P1 indicated that the role of academics in providing direction and support to assist the teaching assistants was crucial for the success of the project. Some responsibilities of the teaching assistants, according to P1, were to assist students to find their way in the online environment by supporting them to access e-resources such as study material, to gain practical experience, and to complete practical assignments using different e-tools [see Theme 3 Participant narratives of the Signature Courses implementation phases, 6.4.2.8 Roles and Functions of Human Resources Department, and 6.4.2.9 Roles and Functions of the Teaching Assistants).

6.3.4 Design Matters Regarding Assessment

Continuous assessment was one of the most important key design elements, in addition to going fully online (P4; P8; P10; P13). The impact of the decision to assess students more frequently than was practised at Unisa, according to P13, was that each topic of a module had to be followed by an assessment. As continuous assessment was a crucial component of the design and success of these online courses, it was decided that teaching assistants should play a central role in the evaluation process. Consequently, they were required to regularly grade the work after each task was completed online. In addition, the teaching assistants had to read everything the students posted online on a daily basis. This was also a new design element, as the teaching assistants were unique to the Signature Courses.

Because the increased frequency of assignments was a key element in the design of the Signature Courses, the number of assignments increased. As one participant indicated in regard to one Signature Courses, nine assignments had to be completed for this module (P8).

The university furthermore implemented e-portfolios as a summative assessment tool, as P4 confirmed: 'the whole concept was that there is no venue-based assessment' (P4). Venue-based assessment was phased out from 2013 (students took practical tests in regional computer laboratories) and e-portfolios were introduced by all Signature Courses modules from 2014 onwards (P4; P8).

With both these assessment innovations in mind, P2, P4 and P8 indicated that the consultation process between academics, administration, and ICT began immediately after the teams visited the US. The academics guided the team on the course design during the discussions with the functional units with specific reference to their needs for the online course assessments. During these discussions with the academics, the functional units accepted that the academics needed a completely new online assessment system. However, the functional units only had part of the online assessment systems in place during that time. For example, DSAA only had an online MCQ system that allowed students to submit their assignments via the Internet, with the assignments recorded on the assessment system. The new design involved an inclusive online assessment system; it was a totally new concept for functional units.

P4 indicated that the ICT department's involvement was to engage the system by addressing the primary design aspect of continuous assessment. P2 indicated that the functional units battled with another new design concept – a new way of calculating the marks of the assessment. At the beginning, no systems were in place to accommodate these requirements. There were so many general changes that the functional units and the academics reached a compromise with DSAA, as they were not able to meet all the academic demands. For instance, when the formative assessment marks were received from the academics, DSAA still had to record them manually. Later, however, DSAA set up a mechanism to help the academics. Some academics even used a system that was not affiliated with Unisa or that was not a part of Unisa systems to record student grades.

The biggest factor DSAA faced, according to P2, was to convert a paper-driven system into an online system. This would change the old way of teaching at Unisa and it would imply replacing correspondence study guides and tutorial letters with an interactive online system, teaching and assessing students online. P2 explained that the Unisa evaluation system emerged from two distinct systems, the formative assessment, and the summative assessment system:

- 1) The formative assessment consisted of written and multi-choice questions.
- 2) Summative assessments consisted of examinations written in examination centres, and portfolio assessments, which were both part of the final assessment.

These two separate systems were already challenging for DSAA as the systems needed to be integrated.

In the first three years of the implementation of the Signature Courses, all assignments and portfolios were submitted entirely online. However, disputes would arise at the end of a semester course in departments, when, for instance, one handwritten assignment or portfolio emerged. Regional offices did not realise that one is not allowed to scan and submit a handwritten assignment or portfolio on behalf of a student, and Unisa could not accept those written submissions because of the rule that students should submit online. To exacerbate matters, there was only one dedicated individual from DSAA to assist the Colleges when there was a problem with portfolio grades on the system (P6).

6.3.5 Team Approach

The team approach was not an innovation proposed by the Signature Courses, since Unisa already had accepted a team approach in the design of learning experiences a few years previously. This allowed the Signature Courses to use an established approach to designing learning experiences. The Signature Course team consisted of a broad range of primary lecturers (volunteers and/or nominated by the College) and various support staff (P10; P15). The teams were introduced to each other during the several trips between South Africa and the United States (P3). The different roles and functions of these units are discussed under Theme 3: Participant narratives of the Signature Courses implementation phases.

Most of the participants indicated that one of the most commendable and successful strategies followed was the team approach in which the planning meetings were held during the design and development of the courses and their implementation (P5; P6; P10; P15). The analysis clearly shows that the team needed to have focused objectives and aims, and that these had to be continuously updated and discussed, as the design could be affected by scope changes. Despite the notion of a team approach, an academic prior to the Signature Courses had full responsibility and autonomy over the design of their own courses (P2; P5). So it is not surprising that some academics in the Signature Courses were uncomfortable with being compelled to work in a team, and wanted to have overall control over design of the teaching process (P5). This resistance to change diminished the longer the staff were exposed to the team approach design and

development. Academics were assisted by the learning and curriculum designer from DCLD with the design and development of online courses and environments (P5; P6; P10). DCLD was involved from the initial stages of the project and played a significant role especially during the design and development phase.

It was particularly impressive, according to P13, that the team involved all the relevant departments: ICT, student administration, and the assessment department, for example, were all active participants. If these departments claimed that something was impossible or that it had never been done, the team would simply endeavour to find a way to do it regardless of unknown territory. Participant P10 did not agree with P13 and indicated that not all operational units were involved from the start of the project but became part of the group as they became necessary. Although study material print production and distribution (SMPD) as a stakeholder indicated that they were involved from the start of the Signature Courses, their participation was actually limited to the Signature Course implementation [see 6.7 Theme 6: Lessons Learnt, Personal Reflections, Successes and Challenges, and section 6.7.4.3 Involve all Stakeholders from the start].

Some respondents from different functional units indicated that it was disappointing and problematic that they were not part of the Signature Courses from the beginning. Though teaching assistants were only appointed as outcome of the first design decisions of the Signature Courses, they complained that they were also not involved in any planning or design of the online courses but were involved only when the development was in the final stage (P1). Some of the staff at the regional offices also experienced challenges with the implementation of the Signature Courses and felt that they should have been included earlier in the process so as to be kept abreast of innovations (P8; P11). HR as a functional unit was not part of the initial planning of the Signature Courses (P12) but became involved when a designated person from HR was seconded to the Signature Course team. Human resources (HR) were responsible for recruiting and appointing the teaching assistants, and later reappointing the teaching assistants (P6).

The next section will discuss the participant narratives of the Signature Courses implementation phases under Theme 3.

6.4 THEME 3: PARTICIPANT NARRATIVES OF THE SIGNATURE COURSE IMPLEMENTATION PHASES

The Signature Courses were implemented in partnership with Global Ecology LLC in the USA which included several universities and colleges including the University of Maryland University College (UMUC). Each module had a partner from a university in the United States (P10; P15). There were different opinions during the interviews about the involvement of the US partners. Although some academics and support units perceived it as very positive, there was some feedback that reported that the international stakeholders did not understand the scale of Unisa's operations (P15; P2).

Participants also clearly did not have the same experiences of the different implementation phases. As the analysis shows, not all participants had an overall understanding of the Signature Course project, but participants often commented on moments when they were intimately involved in the project (P5).

The points raised by the participants interviewed will be discussed under the following three elements: 1: Phase I Preparation and Design, Phases II Development and III Implementation [see Diagram 6.4 below: Elements of Theme 3: Participant narratives of the Signature Course implementation phases].

As explained earlier, the blue shaded block in the diagram 6.4 below, indicates where the reader is in the chapter.

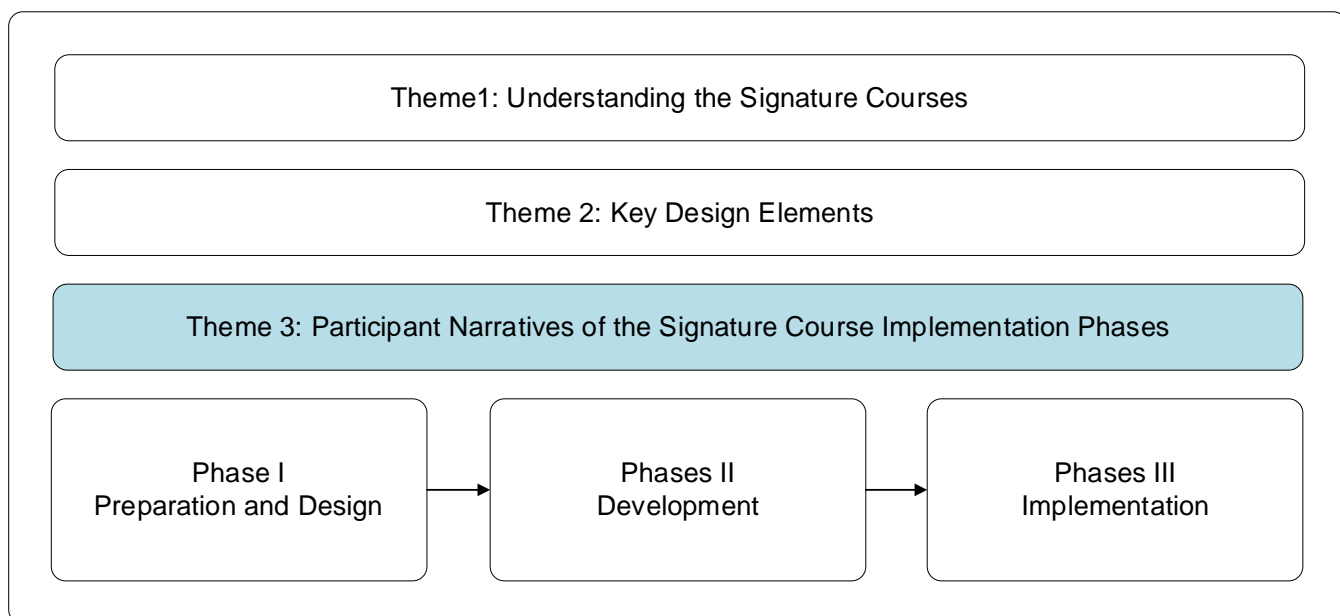


Diagram 6.4: Elements of Theme 3: Participant narratives of the Signature Courses implementation phases

6.4.1 Phase I: Preparation and Design

Several participants reflected on the key role players, e.g., ICT, DCLD, student administration and assessments, etc., in the initial phase of the Signature course design and the insights gathered from the visits to the USA pertaining to online learning management processes, courseware design and requirements for procedures, systems and infrastructure (e.g., P2; P15). These visits were also fundamental in changing perceptions pertaining to the implementation. For example, P15 reflects: 'I remember when we took a few reluctant people who did not want to change, but after they visited the American universities, they came back completely different' (P15).

There was a lot of goodwill and excitement about the Signature Courses, but there was also a lot of fear - not only with regard to the new processes that would be required, but also the idea of giving the students greater agency which was often really challenging for some administrative and academic staff because they did not want to give up their own authority. P15 indicated:

I think this is the first time I have been ever so excited and positive about anything at Unisa. I think this was the highlight of my academic life, the Signature Courses, and

that was because we were focused on the future, and with a fantastic international team which could point us the way we needed to go if only we had the money.
(P15)

In the past, according to P5, Unisa experienced some challenges with projects in the sense that roles were poorly clarified or the projects were not well defined. Therefore, it was essential to ensure that the roles and responsibilities were clearly defined in the design, development, and implementation of the Signature Courses. P5 indicated that team members had to make it very clear which roles would involve programme coordination, project management, or normal learning design work.

Interestingly, while the document analysis (Chapter 4) did not provide significant evidence of budgeting and costing decisions and discussions, there were several comments questioning whether Unisa had the financial resources available to accomplish these enhancements. However, it was more a question of allocating the resources differently to reach the future ideas, be more efficient, and manage better P15 [see section 6.4.2.11 Roles and Functions of the Department of Budgeting and Cost Management].

6.4.2 Phase II: Development

During the interviews, participants referred to the roles of different role players during phases II and III. The following discussion will explain the roles and functions these different role-players played during the implementation.

6.4.2.1 Roles and Functions of Executive Management

According to P10, there were many things that happened before the central idea of the Signature Courses was conceived, but what was most valued as a success factor was that the Signature Courses were initiated from a very high level in the institution and were part of the future vision to transform Unisa.

The instruction, according to P10, was that the Signature Courses were to be implemented regardless of any challenges. The persistence of executive management, especially the Pro

Vice-chancellor's office, helped to cascade the project downward as the steering committee reported directly to the Vice Chancellor via the Pro Vice-Chancellor's office which is the highest academic office in the university (P8; P10). Executive management and Senate were consistently involved with the Signature Courses during the design, development, and implementation phases, as they received regular updates from 2012 onward (P10).

P15 reported that at the beginning of the project the reporting lines went straight to the highest levels, for example, the executive director was responsible for projects and reported directly to the Pro Vice-Chancellor then to the Vice-Chancellor. The Signature Courses were a major project during that time, and the Executive Director to the Pro Vice-Chancellor had an overview and overall responsibility for the project (P15).

This is consistent with Daud and Farrah (2013) who emphasise in their Malaysian study the importance of management commitment and participation when a decision is taken (see also Andrade and Alden-Rivers, 2019). For example, Daud and Farrah (2013) refer to the Flexible Learning Framework of their Higher Education Academy (HEA) which includes a high-level strategic project manager to ensure the commitment and guidance of executive management as a crucial element when implementing online learning in the institution. Another example illustrating the importance of leadership occurred during the inception phase when the idea of online learning was introduced to the Colleges, and a new module leader was appointed whose task it was to introduce the concept to the College staff (P8). The appointment of these module leaders by the executive management in the Colleges was central to the success of the implementation of the Signature Courses (P15). This correlates with what the literature confirmed in Chapter 3, that management is responsible for implementing online models, and the alignment and or restructuring of human resources and processes should take place accordingly (Theresiawati et al., 2020; Annamalai & Ramayah, 2013).

6.4.2.2 Roles and the Functions of the Academics

Considering the roles and functions of academics using a new form of pedagogy was a central element in the design of the Signature Courses. Each course was hosted by a different College, with its own academic philosophies, cultures, and ethics. P11 indicated that to allow a smooth transition and prevent students from feeling lost, the institution needed to ensure that, before

implementation, the required number of staff was in place and that they were well trained and qualified to assist students.

P10 indicated that the Signature Course project was distinct, as it was not owned by a particular department in a College but was a College-based module. According to the participants, the project evoked a culture of debate and dialogue in the Colleges, which helped in the implementation of the modules, and it was the first time a module ever received so much attention and stimulation from colleagues (P10).

Participant P15 further highlighted that the team worked to develop the skills criteria for students and the skills required from the academics to adjust from academic learning-centred pedagogy to a student-centred learning pedagogy. These concepts were new, challenging, and sometimes not understood at all. The construction of the syllabus also needed to consider the context of the students and their lives, thereby facilitating:

how students could actually take part in constructing a syllabus and how important their lives were to the way that we designed each course. So, each course had to take into the account the students' lives and contexts that they dealt with.

(P15)

Academics had to ensure that the study material was suitable for online learning after which they loaded these materials onto the MyUnisa system for the teaching assistants and the students. Here, ICT had to play an important supportive role to ensure that the platform and systems were in place, and, also by supporting the academics to upload information into the system (P14) [See 6.6 Theme 5: Information and Communication Technology (ICT)].

Evaluation of the course material was a continuous process and took place from the beginning of the course design and during the development. During the development phase, the Signature Course team had constant interaction through weekly, biweekly, and monthly meetings to share progress, presented their modules, discuss challenges, resolve challenges, and support each other throughout this period (P2; P5; P6; P10; P13; P14; P15; P14). All Signature Course modules went through a review process during the development stage, after which the course was condensed and adjusted to make it as simple as possible (P10). Rigorous evaluations were

done, and during these meetings the attendees looked critically at the content to check on its interactivity and length, and so on. The academics responsible for developing the content then returned to the drawing board to improve the material based on input from the team (P13). These course evaluation presentations assisted academics with continuous improvements. These meetings were very well attended, with 30 to 50 people present, and where challenges were explained and reviewed. These reiterations ensured that the quality of the course material was evaluated throughout the implementation (P10; P13; P14).

Evaluation of the academics' progress, and debates and feedback on the development of Signature Course modules also took place on other platforms such as Executive Committee meetings, College tuition committee meetings and various other College committees (P10; P13; P14).

6.4.2.3 Roles and Functions of the Department of Curriculum and Learning Development (DCLD)

According to the participants, the DCDL was mandated to be involved in the design and development of the Signature Courses, and also needed to ensure that the courseware design environment was ready for online teaching and learning for the academics and other role players (P5):

As education consultants we are involved in the design and development of courses; implementation to me means the teaching of, so we design an environment, we design the focus of the course which is captured in the module improvement forms that go to Senate and should be in the repository of the institution as that document's basic information is captured on the institutional academic information system, the AIMS (Academic Information Systems).

(P5)

Each Signature Course module therefore received a designated or dedicated learning and curriculum designer to help with course design and development (P6; P10; P13). The DCLD staff were 'very vocal supporters, moral supporters, you know, upholding everybody's spirits, and came up with brilliant suggestions' (P6).

According to P5, the courseware development process at Unisa was guided by *The Framework for the Implementation of a Team Approach to Curriculum and Learning Development at Unisa* (FTA). In addition, DCLD developed some high-level guidelines per College to assist academics with course development. The DCLD team assisted with different assessment strategies that could be applied in their modules. DCLD was on standby to assist with any inquiries, challenges, orientation, etc., and also worked closely with the library to find resources, specifically when e-resources were to be used in the course material. The DCLD unit helped the academics understand the role of the teaching assistants and set up tutoring groups (P6; P10; P13).

6.4.2.4 Roles and Functions of the Department: Student Assessment Administration (DSAA)

Online learning demanded a shift in the teaching and learning mode that had been developed for traditional distance learning. The new paradigm with its innovative pedagogical approach (P5) had a major impact on functionalities at Unisa particularly relating to the scope and number of assignments. In this regard, the team was assisted by its US counterparts in devising new assessment methodologies, thus helping to facilitate the development of a business case for formative and summative assessments (P2; P5).

The main questions regarding the assessment process were:

- 1) How will the online assessments be done by the academics?
- 2) What adjustments are required to the ICT system to support this philosophy?
- 3) How will the processes be adjusted? (P2)

With this shift in mind and with the implementation of the Signature Courses, the assignment processes changed and Colleges faced the challenge of introducing these changes in a limited time frame. The first major change was to convert paper-based assignments to fully online assignments. This transition ensured that the courses were fully online 24/7 and, since students were required to do these assessments online, this created the need for country-wide access to computers and the Internet, relying on the computer laboratories in the regions to assist students with access and support (P8).

Another challenge that academics faced was the new concept of continuous assessment (P5; P8; P11) [also see section 6.2.1 The Compulsory Nature of the Signature Courses], which was very different from the standard current processes (P8). Continuous assessment requires that academics increase the number of assignments. For example, in one Signature Course module, students were required to submit nine assignments per semester (P8). In addition to these changes from paper-based assignments to fully online tasks, and the increased number of assignments, the Signature Courses required a shift in summative assessment, from face-to-face examinations to electronic portfolios (e-portfolios).

As already mentioned, assessment was a major area that needed proper planning and development, and for the Student Administration and Assessment Department, the main objective was to develop processes and systems that could deal with large volumes of students and transactions. To illustrate the complexity and volumes involved, P2 indicated that the DSAA dealt with between 30 000 to 35 000 assignments per course and hundreds of thousands of assignments in total (P16).

Specific assessment administrative processes, according to P2, were designed to assist with the requirements of the ICT system. To be able to manage and administer the assessment processes, the following elements were among the key considerations: 1) Students should be able to submit assessments online; 2) The assessment should be routed to the teaching assistant; 3) The teaching assistants should be able to mark the assessment online; and 4) The student should be able to access the marks online, and, if necessary, the process for aegrotat examinations should be online.

Some systems, according to P2, were already in place, as Unisa had already begun implementing certain elements of online assessment. Firstly, multiple-choice assessments were already in use and were relatively easy to integrate into the online environment. The Student Administration and Assessment Department faced challenges with the assessment of long questions, according to P13, and to resolve this challenge, rubrics were developed which made assessment easier. However, when the marks had to be captured on the system, the myUnisa/Sakai Learning management system could not accommodate them, and a new assessment administration system was developed to deal with long question assessments. The

biggest challenge or shortcoming was that myUnisa/Sakai could not meet the requirements of the Signature Courses and it proved difficult to adjust the system to do so.

Secondly, Unisa had begun incorporating e-portfolios as part of summative assessment but the systems were manual, so portfolios had to be printed for the academics to be able to mark them, and there was no system in place that could mark written assignments. In the years preceding the Signature Courses, the calculation of face-to-face examination marks was a fairly standard procedure (P4), however with the implementation of the Signature Courses, the business rules changed when students were required to submit e-portfolios as a final assessment (P4).

According to P13, the myUnisa/Sakai system was also not set up to do self-assessments, as with the Sustainability and Greed module. Here, the students needed to assess themselves at the beginning of the course and write a final assessment of what they had learned at the end of the course. ICT, however, managed to set up this functionality, and it was later identified as a success. Another huge challenge, according to P10, P13, and P11, was plagiarism. Although not unique to the Signature Courses, students could easily copy and paste when they completed the online assessment, and the students paid other students to do their assessments for them. The academics were extremely strict, and if they detected that a student was scrutinised, the assessment score would be a zero.

Further to these challenges, the Unisa student administration and assessment system used a variety of manual paper-driven quality checks as examples. The printed list from the system served as a verification mechanism, and quality checks were in place when marks were processed and captured (P2).

Apart from all the system developments and adjustments, the Signature Course assessment requirements had an impact on the student assessment and administration policy (P2). Owing to the limitations of some established policies on the systems, according to P2, the student administrations and assessment department submitted recommendations to Senate for approval (P2).

6.4.2.5 Roles and Functions of the Multimedia Centre

The Multimedia Centre (previously known as the Audio and Video department) played an important role, according to P6, as they supported the DCLD and academics with audio and visual media such as video material; they also supported these units with, for example, sourcing media such as visuals for the academics to include in their courseware. The Multimedia Centre was equipped with technology facilities to quality assure peripherals, for example, testing the Digi-bands (P3).

6.4.2.6 Roles and Functions of the Department of Study Material Print Production and Distribution (SMPD)

With the Signature Courses, the role of print production was unnecessary as students received all learning resources digitally (P3). Colleges therefore did not make use of the traditional printed Tutorial Letter 101 which normally provided an overview of modules, contact persons, important dates, and information on prescribed materials. The print production system, therefore, had minimal adjustments to make, as there was no printed material for Signature Courses. The only requirement was when additional material had to be sent to the students, and the system had to be set up with the module and dates and relevant information for additional study material (P3). Students who were already part of Unisa by the time they registered for a Signature Course could not adjust to this decision, and Unisa had to bring back the printed Tutorial Letter 101 in an abbreviated form (P6).

The SMPD however had a further involvement, according to P16, when Senate approved the Signature Course project, with the proviso that a backup plan was in place for students without access to data. Here, the SMPD played an important role in the implementation of the Digi-bands [see Chapter 5 section 5.5.1.5 Roles and Responsibilities of Study Material Print Production and Distribution and 5.4.1.10 ICT Access and Cost].

Participant P3 indicated that the SMPD was involved in sourcing companies for the manufacture of the Digi-bands, contracting the most appropriate company, and then following the procurement of the Digi-bands. The institution followed a tender procedure, and a company in China was identified to produce the Digi-bands. In consultation with the approved company, the study material was placed on the Digi-bands. SMPD worked with Unisa's Multimedia Centre, [see section 6.4.2.5 Roles and Functions of the Multimedia Centre] as they were equipped with

facilities to perform the quality testing of the Digi-bands before they were distributed to the students (P3).

6.4.2.7 Roles and Functions of the Library

In the past, academics at Unisa worked closely with the library, according to P6, to identify and source prescribed paper-based textbooks, but since the Signature Courses were fully online, this meant that the format of the textbooks needed to change from paper-based to electronic textbooks. According to P9, online textbook management software called VitalSource Bookshelf assisted students in downloading the Bookshelf application on their mobile phones and accessing the books electronically. This Bookshelf application could be accessed through Android and Apple phones, with Android phones using Market Place, and Apple phones using the Apple store to download VitalSource Bookshelf. After downloading the VitalSource Bookshelf application, students had to type in their student number to authenticate that they were a registered student. This was a challenging process, as an administrator had to extract all the student numbers from myUnisa/Sakai, register them on a system which then provided them with an access code to download the textbook through the Microsoft Office suite, and so get their online textbook from their mobile phone (P9).

6.4.2.8 Roles and Functions of Human Resources Department

The role and function of HR in the Signature Courses project was focused on the appointment and payment of the teaching assistants. It was also responsible for ensuring that the teaching assistants' student support programme was in place, which included important factors such as job descriptions, contracts, remuneration structures, recruitment, appointment and re-appointment of teaching assistants, and other processes and systems, for example, the application and appointment system, linking the teaching assistants to myUnisa, and grouping them with students (P6; P12).

As indicated in Theme 1: 6.2 Understanding of fully online courses, P12 alluded to the fact that HR was not clear what their participation would be in the Signature Course project. However, at a later stage HR's role became clear when the project team explained what the role of the teaching assistants would be. Academics had to provide input on the recruitment and

appointment criteria of the prospective teaching assistants. In addition to meeting the appointment criteria, teaching assistants had to do an online course with the Centre for Professional Development (CPD) to ensure that they had the required competencies and skills to work with these student groups (P6). After this, HR worked with academics in each Signature Course to develop a job description pertinent to each particular course (P8). Unisa recruited many teaching assistants through the advertisement process, and the teaching assistants who met the minimal requirements were placed on a database and were activated/appointed on demand. As such, HR had to 'ensure that there was always a pool of teaching assistants readily available at short notice' (P12).

Owing to the online nature of the Signature Courses, it was evident that the advertisement needed to be placed online and not through traditional advertising media such as newspapers, which was the normal practice at that time. With the support of ICT, HR, and Human Resource Information Systems (HRIS), a process and system were developed to recruit and appoint the best teaching assistants per module (P12).

The first Unisa online advertisement was very successful, and more than 5 000 applications were received from across the country. This, however, created another challenge, as it was a very labor-intensive exercise to scrutinise and shortlist applications (P12). The huge response to the advertisement forced HR, Human Resource Information Systems (HRIS), and ICT to go back to the drawing board. They asked the academics provide online questions about what exactly they want a teaching assistant to have as a minimal requirement for each module. This made it easier to shortlist applicants and allocate them to a specific Signature Course module. Only two staff members were identified to perform this very labor-intensive shortlisting task (P12). ICT developed a system to ensure that academics could receive and view applications online, and then based on experience and qualifications, the academic only needed to indicate 'yes' or 'no' on the system to approve the appointment (P12).

1) Appointments of Teaching assistants

The appointment of teaching assistants was a crucial aspect of the success of the implementation of the Signature Courses (P10; P13). Teaching assistants received a yearly contract, which was a deviation from the initial decision to provide a contract per semester. The

move to a yearly contract emerged from the increased workload on HR as they were not only responsible for teaching assistant contracts, but they needed to oversee that the required training took place for staff and teaching assistants. HR, in addition, argued that the adoption of annual contracts eased the load for HR since the same procedure could be used to provide consistency for academics, students, and teaching assistants (P12). ICT developed a new system to cater for the appointment of the teaching assistants: The teaching assistant contracts would be uploaded on the Oracle system for a specific module and a specific semester period, thereafter the students needed to register for the module to be grouped into groups of 50, after which they were linked to a teaching assistant using a computerized program. A maximum of four groups of 50 students were allocated to a teaching assistant (P11; P12). The computerised system then assigned students to a specific teaching assistant. HR had to closely monitor this complex allocation of teaching assistants to students to ensure that all students received a teaching assistant (P12). The grouping and allocation to teaching assistants did not take place in real time but was programmed to synchronise the grouping and linking of students every 24 hours. Thus, teaching assistants were updated daily on their allocated students. HR needed to further ensure that there was a sufficient number of teaching assistants available on the system and to manage the grouping of students and linking of students to teaching assistants effectively (P12). HR also needed to ensure that at short notice a pool of teaching assistants was readily available, so that when, for example, a teaching assistant resigned or a contract was terminated, there was another teaching assistant available (P12). HR was ready to nominate another teaching assistant after confirming their availability telephonically, and this saved a lot of time (P12).

2) Payment of the Teaching Assistants

In addition to the recruitment, appointment, and grouping of the teaching assistants, HR was also responsible for the payment of teaching assistants (P8; P12) after receiving confirmation from the academic that the teaching assistants performed their duties as per the contract. The latter added an administrative burden but also an extra responsibility on already overburdened academics [see section 6.7.4.1 Increased Workload]. A payment system was developed between HR, academics, ICT, and finance (P12). The monthly fixed payment of the teaching assistants and e-tutors was in line with their fixed-term contract which tabled an agreed and approved amount, and which was paid after the academic and HR approved the payment. Initially challenges were experienced with the Unisa payment system which normally paid staff

on the 25th of each month through the Oracle system. However, a new payment system was developed for the teaching assistants to process payments at the end of the month. The key players in the development of the new payment system were the ICT, HR, and the finance department (P8; P12). A communication challenge between HR and the academics sometimes resulted in late payments (P2).

6.4.2.9 Roles and Functions of the Teaching Assistants

Owing to the chosen pedagogical design of the Signature Courses with an emphasis on increased student participation as well as their heavy workload, academics were unable to teach the Signature Courses without support. The main task of the TA was basically to provide guidance and support to students in the new online environment. This entailed:

- 1) Helping students understand and approach the study material before doing assignments (P1; P12).
- 2) Supporting students with assignment challenges (P1; P12).
- 3) Posting notifications and announcements to students on online platforms (P!), and
- 4) Evaluating student learning by marking their assignments (P1).

The question of how many students should be assigned to each teaching assistant and how many teaching assistants would be needed (P12; P16) were two of the questions asked during the implementation process:

At one stage there were four groups of 50, so a total of 200 assigned to a specific e-tutor. But I also seemed to remember that at one stage there was something like 180 students assigned to an e-tutor in groups of 60, something like that.

(P6)

Teaching assistants were specifically appointed to be able to access their student groups once a week and mark the assessments (P6).

6.4.2.10 Role and Functions of the Centre for Professional Development (CPD)

Apart from training the academics in online learning concepts and pedagogy, CPD played an important part in ensuring that the teaching assistants received training on the intricacies of online teaching and learning so as to assist them in supporting students in an online environment:

The teaching assistant had to support the students as one of the major drives of the Signature Courses was to get the students involved in using electronic media to study online, and as they had to access the information on the Digi-bands ... and then reload their answers back onto the Digi-band, then offload it at the regional centres, and submit it for assessment by the teaching assistant. The whole reason for the Signature Courses was to get as many Unisa students as possible involved to be able to study electronically.

(P3)

The training of the teaching assistants required them to work through the online study material course themselves as if they were online students. All teaching assistants were trained by the CPD. This training process was a once-off process and was not required if you were reappointed as a teaching assistant (P1). However, some challenges required a Signature Course College team to invite old and new teaching assistants to meet for training to bring everyone up to speed with the technology used during that time (P9).

6.4.2.11 Roles and Functions of the Department of Budgeting and Cost Management

Although the document analysis did not provide a lot of detail about the various factors considered in budgeting for the implementation of the Signature Courses, the analysis of the interviews made it clear that the Signature Course project was presented to the Senate with an overview of the financial implications. Senate supported the concept, and the project received government funding. The budget allocated to the Signature Course project was managed by the Pro Vice-Chancellor (P5; P15). The Department of Budgeting and Cost Management worked very closely with the steering committee and played a supportive role to the Signature Courses for a number of reasons. Firstly, the Department had extensive knowledge and experience of the institution and its operations. Second, their management accountants did not only look at the numbers (the rands and cents) but at the value-adding activities behind the project. Third,

the Department looked at what generated revenue or expenditure. The Signature Course project was analysed, questions were asked, and research was done by the Department (P14).

Participant P14 indicated that with the transition to online learning certain costs would be added and/or replaced by other costs. P14 further indicated that since most of the costs at Unisa are related to salaries as a fixed component, there was not much of a cost difference when comparing online to face-to-face or paper-based instruction. Therefore, the university did not pay additional development costs as these were embedded in the staff salaries. This is because the same people are active in both the online and the paper-based models. The cost structures were adjusted for other variables, such as the delivery or distribution of materials. For example, P15 mentioned a high travel budget for the initial stages in the design of the Signature Courses. As a result, while there were savings in online tuition in postage, printing, couriers, exam sites and invigilators, there was a need for increased investment in the ICT environment which adds to the budget (P14).

6.4.2.12 Roles and Function of Department of Institutional Development (DIA)

The Department of Institutional Development was mainly responsible for the communication, branding, and marketing of the Signature Courses, and the major role this department played was to ensure that the Signature Courses were promoted on the official Unisa website, as all qualifications and courses are marketed electronically (P7). Another role of marketing is to ensure that Unisa provides professional brochures and registration brochures. The Signature Courses reflected in these brochures were integrated into the holistic source of information for stakeholders, such as prospective and current students (P7).

6.4.2.13 Roles and Functions of the Regional Centres and Telecentres

The Signature Course team did not initially plan to train and support students in skills and competency issues, nor did they initially involve the regions which could have provided help to the Colleges. As a result, implementation seemed a formidable obstacle for the regions. Although the Colleges did some training on how to navigate the Signature modules (P11), many students were on the point of deregistering because they could not cope. The regions took over the responsibility to train students after the Colleges visited the regions (P8; P11). Both P8 and

P11 indicated that the regional centres had to provide, for example, internet access and technical support (how to use computers and gadgets) for the students (P8; P9).

Regional centre involvement only started in 2013 with the implementation. The regions according to (P11) had to define their own role in the online learning space:

They interacted with the students at the computer laboratories, did regional road-shows to all computer laboratories, dealt with student challenges, liaised with Colleges to resolve challenges, and informed Colleges of what was happening on the ground in the computer laboratories.

(P11)

The regions experienced several challenges. The high load on the system from the increase in student numbers and assignments caused difficulties; they experienced staff attrition (P2) [see section 6.7.4.1 Increased Workload]; they did not have sufficient computers for students to access; and in certain regions there were computer laboratories but no lab supervisors, so the computer laboratories were locked (P8; P11). However, according to P11, the biggest challenge the regions faced was the lack of human capacity to accommodate the influx of students.

Unisa also made use of telecentres with computer specifications similar to those of regional centres to assist students. These telecentres were mostly in places geographically close to the students, where they could be easily accessed by students who wished to work on the computers. According to P15, Unisa also improved the 'toasters' so that students could download their study material at certain delivery points [Unisa toasters are minicomputers that allow internet access through a range of devices using Bluetooth to access or download data transfer to and from myUnisa].

6.4.3 Phase III: Implementation

Thus far, the analysis has dealt with the participant narratives of Phases I, II and III which forms part of Theme 3: Participant narratives of the Signature Course implementation phases. In this next section further aspects of Phase III will be discussed: 6.4.3.1 Big Bang Implementation Approach; 6.4.3.2 Number of students; 6.4.3.3 Students readiness for online learning; 6.4.3.4

Training and retraining of staff; 6.4.3.5 Psychological and Emotional Challenges; 6.4.3.6 University culture; 6.4.3.7 Change management; 6.4.3.8 Rewards; and 6.4.3.9 Structural alignment of departments.

6.4.3.1 Big Bang Implementation Approach

The implementation of the Signature Courses followed a 'big bang' approach (P10), taking into consideration that the design and development period was between 2011 and 2012 and all Signature Courses had to be implemented by the first registration date of 2013 (P6; P10). There was however an exception in the College of Economic and Management Sciences (CEMS) who limited their enrolment:

We were lucky, we chose to not implement in a big bang at CEMS. We implemented only with a certain number of programmes. I think there might have been 3 000 students in the first semester. Other colleges went big bang.
(P10)

6.4.3.2 Number of Students

It is important to note that not all the Signature Courses had large enrolments during the first roll-out. For example, the Signature Course offered in CEMS (3 000) had a relatively small enrolment compared to some of the other Signature Courses (for example 16 000 – 21 000). Despite having smaller student numbers (at least initially), even the smaller Signature Courses experienced the same technical challenges as the larger courses (P10; P13).

As indicated by P6, the registration numbers were a significant factor impacting on the implementation as the average number of students registered for a module over the first three years of implementation was approximately 16 000 students every semester. P6 further indicated that the highest number of student enrolments per semester was more than 21 000 students in 2014. The high number of students and responsibility that comes with it sparked emotions, as reflected in the following: 'I cried because I was so overwhelmed' (P6). P1 experienced the same feelings and indicated that the number of students who signed up for

Signature Courses when it first started was 'overwhelming' (P1) and s/he was not sure whether the teaching assistants would be able to cope.

The support departments shared the same sentiments as the academics and the teaching assistants but added that the assignment system could not manage the volumes. They indicated that during 1995 Unisa was able to deal with 2 - 2.5 million assignments per annum. Unisa then changed from year courses to semester courses and the assessments increased to 9 million (P2). Taking this information into consideration, when the request came to design and implement the Signature Course modules, the system needed to cater for the current as-is distance education modules as well as the online Signature Courses modules. Signature Course modules were based on continuous assessments, and this increased the assessments from an average of three assessments per semester to an average of ten assessments per semester per student (P2).

Student administration played a significant role during the implementation phase and had to continuously refine and improve systems to accommodate the increased number of assessments. Some Signature Courses which were implemented during 2013 had 13 assignments per semester initially but reduced these to 10 assignments (P6). Some Signature Course modules implemented practical examinations in regional computer laboratories and later changed them to e-portfolios (P6). For example, P6 remarked: 'we did change the way we ran the course as we learned from our rather big and terrifying mistakes' (P6):

we learn from each other and cry together. So that we can learn from each other's mistakes and what was working, you know, if X, Y or Z was working for let's say the CEMS guys, then we could say, oh maybe we should also try that or whatever.

(P6)

P8 agreed with P9 that the main focus of the implementation phase was to go fully online by eliminating any paper-based activities, so it was important to create online platforms and networks to communicate with students and regional staff.

6.4.3.3 Students' Readiness for Online Learning

The Signature Courses instituted a pedagogical shift for which some students were not prepared. However, the institution made the decision to implement the changes immediately, despite some departments indicating a lack of readiness and preparedness. Opinions from students were not considered in this decision (P3).

There were several serious debates on different platforms about the fact that students lacked data and internet access, which certain project members felt was prejudicial towards underprivileged students (P10). Participant P3 believed that the introduction of the Signature Courses was beneficial, albeit premature, for many students. The idea was to guide the student towards the digital world in the direction of technology, despite the fact that some frustrated students lacked the necessary electronic resources in their homes or places of employment (P3).

The institution planned for the regional centres to be the point of access for the students (P8), because they were geographically closer to the students and it would be easier for the student to visit them. At Unisa, there is at least one regional centre for each of the nine provinces in South Africa. The idea was that Unisa's regions would need to work toward achieving the 24/7 online support where students who required physical support might go to the regional centre computer laboratories instead of calling or visiting the department or institution. Many students travelled at great cost to the regional centres to complete their assignments. It was challenging for them because many of them were not yet technologically literate. The students thought that the Signature module would be very simple and quick to complete. However, they struggled, and requested laptops from the university [see section 6.4.2.13 Roles and Functions of Regional Centres and Telecentres].

According to P11, staff and students were completely unprepared for the Signature Courses, and regional staff expected some training to be provided to support students. It took the regions a considerable time to get up and running because they had to identify the students who had registered for the Signature Courses. They then had to log onto the MyUnisa platform to establish the courses in which the students were enrolled, and only then was the region able to provide support. As a result of their inability to access the system earlier, the regions realised that during this time, some students missed two, three, or even four assignments. This forced regional staff to spend valuable time learning and researching, while students' assignment due dates were passing by. By the time they finally got on board, the students had missed a

significant number of assignments (P11). Therefore, the regions played a crucial role in bridging that gap, acting as a conduit for knowledge that students could not access, conversing with coworkers in other functional units, and offering answers to the students.

During 2013, the College of Science, Engineering and Technology (CSET) with a large student component implemented the MyITLab system, which was a major adjustment for the students. The current LMS, myUnisa, could not provide all the functionalities that the practical end-user computing module required. Therefore, additional software was required that could integrate with myUnisa since the current functions were not sufficient for all academic needs. This complicated the implementation (P9; P10). According to P8, students from one Signature Course module had to learn how to use multiple systems, including MyUnisa, and MyITLab from Pearson. It was not easy to get acquainted with the new platform, and assisting the students with navigation online was challenging (P1). Colleges and students also experienced system downtime, which made matters worse. Students need a stable environment to complete and submit their assignments and practical examinations.

During the development phase, according to P9, the courseware development team put a lot of time and energy into the development of technology-related activities for the students. The team had to constantly consider the simplicity and usability of technology and to anticipate these elements even after they were introduced to the students. According to P9, it was important that staff and students found the use of technology user friendly. The Signature Courses could therefore not afford to implement complicated technology as that would lead to many student inquiries and complaints and challenges to adapt and adopt the new technology in time (P9; P11).

6.4.3.4 Training and Retraining of Staff

The appointment of more staff to perform the work in the Department of Student Assessment and Administration (DSAA) created another challenge, as these staff members had to be oriented and trained to work according to certain quality standards (P2). Permanent personnel had an additional work responsibility to train temporary workers and new hires. The academic units experienced the same challenge as training and re-training the academic staff, including teaching assistants, took a lot of time and increased the burden on the unit. According to P9, academics

had initial staff training but needed a refresher course because not all staff members grasped the technology the first time around. Academics also needed to be retrained in the use of technology so that they could easily apply it to their course materials.

6.4.3.5 Psychological and Emotional Challenges

Although the impact of the increased workload contingent upon the Signature Courses will be discussed in full [see section 6.7.4.1 Increased Workload] there is also a need to discuss the psychological and emotional impact that Signature Courses had on some of the staff, as suggested by comments from the interviews. According to P10, 'the first semester of delivery was a dark show' (P10). A possible example of such an emotional reaction, according to P10 is that during the first semester of 2013, students had no way to get in touch with academic support. There was no mention of the contact details of academic support, such as a phone number, email address, or location where the student could receive assistance anywhere in the course content (P10). As a result, academics were the only point of contact between students and the university, and they had to support students with a range of non-academic issues such as passwords, internet access, etc.

Before and during the implementation of the first semester during 2013, some academics and teaching assistants mentioned that they had no prior experience of online learning and the reported feelings of disorientation and confusion (P1; P6; P10). [See, in Chapter 5, the pass rate discussion under section 5.5.3.1 Monitoring Student Success].

6.4.3.6 University Culture

Institutional politics can impede on the implementation success of online learning and the institution needs to ensure that it provides a strategy to mitigate these challenges [Chapter 3 proposes some strategies to mitigate institutional strategies. See also sections 3.6.6.3 Higher Education Academy's (HEA's) Flexible Learning; and 3.7.5 Culture].

Unisa has a unique culture and some of the interviewees referred to it as 'institutional politics' (P16). As indicated previously, some units in the institution can be very territorial and a typical

silos approach existed [see Theme 1: Understanding the Signature Courses, 6.2.2 Ethical Dimensions within the Signature Courses Design]

P16 explained the culture related to the new project by providing the following context:

anything you do at Unisa, especially when you start a new project, is always accompanied by a tug of war over who will receive credit for it. Another issue was whether the project would actually succeed and whether we should take it seriously and provide the necessary support.

(P16)

The analysis furthermore points to the importance of executive management and their efforts to ensure successful implementation was seen by other units as possibly preferential. It was true that executive management consistently provided an enabling environment for the Signature Courses to succeed, but P13, from one of the functional departments, explained this perception as follows:

This had an effect on both an elite and less elite group. You know, other people who weren't working on the Signature Courses thought that we sort of got better treatment, but it wasn't really true because we were actually working much harder at that point.

(P13)

Because Unisa is a very large and complex organisation there is a degree of territoriality amongst departments which tend to operate in silos (P15). This had an impact on the Signature Course modules which were intended to be interdisciplinary in scope but, because of the silo effect, certain departments felt that the Signature modules were encroaching on disciplinary territory without prior consultation (P10). This may also explain why some Unisa staff felt that the project received preferential treatment because it had the attention of both the Pro Vice-Chancellor and the Vice Chancellor's office, and, unlike other projects at Unisa, were implemented at short notice. However, this does not detract from the significant transformational intention of Executive Management and its commitment to the project. This also corroborates the literature about the importance of the commitment and involvement of executive management in successful implementation (Andrade & Alden-Rivers, 2019; Daud & Farrah, 2013; P8; P10; P15).

6.4.3.7 Change Management

Unisa found it challenging to move quickly owing to its size and complexity (P15). One of the challenges the Signature Course team faced was to shift the mindsets of people when Unisa began the process of switching from paper to online processing. Some of the staff who had worked in a particular position for 30 years or more were unwilling to adjust as they did not see the need to change towards fully online learning concept. ICT at the time appeared to be in a management struggle and was having financial difficulties. ICT also struggled to keep up with the pace which was witnessed by the committee when visiting the US institutions. P8 noted that the workload was massive with endless challenges (Chapter 3: Theme 3). The team was overwhelmed with charting new ways of doing things, and the red tape and bureaucracies of the institution complicated the implementation. To mitigate this, they had daily engagements with stakeholders to get the job done. P8 indicated that in one day, they had to engage eight to twelve different stakeholders to stay on track.

P2 suggested that, in retrospect, more team workshops should have been conducted to provide staff with space to get used to and accept the new ideas. P8 confirmed the comments of other participants that students also experienced challenges in accepting that there are different ways of doing things, and proposed that change management discussions might have resolved the challenge. P8 further stated it seemed to be a shock to some students when they were informed that everything related to the Signature Course modules, had to be done online (through a computer). P8 indicated it was 'something unheard of', especially in a distance education university such as Unisa which operated traditionally as a correspondence university:

where you get your study pack, and you do what you need to do. You don't even have to type the assignment, you can write it and submit it in the box, but with this module we actually pushed to students to say, you have to do everything online, and that created difficulties. But because we didn't deviate from our mandate to create a 24/7 online course, some students were complaining to the exams department over exams, and assignments were on our case saying we should accept assignments.
(P8)

6.4.3.8 Rewards

Taking the above information into consideration, it would seem logical to reward academic and support staff for the extensive work they did. P16 indicated that it was not until approximately two years after the modules were established and running that management began to realise the extent of the work involved, and considered the idea of incentives. Different types of rewards exist, and Chapters 3 and 5 demonstrate that rewards and incentives motivate individuals and help institutions rapidly execute change. These rewards are not always monetary incentives but can consist of grants for research on online courses, attending conferences, issuing staff with hi tech technology, time off, and others, [see Chapter 3: sections 3.7.2: Professional Development and Collaboration 3.7.3: Change Management as well as Chapter 5: 5.4.4.1 Teaching and Learning].

Rewarding staff is in line with the literature and is supported by scholars such as Andrade and Alden-Rivers, 2019, McConnel, 2018, Ossiannilsson and Landgren, 2012, and Theresiawati et al. 2020.

According to P13, the Vice Principal discussed rewards for academics and learning and curriculum designers but nothing was ever formally recorded. Therefore, despite the fact that the staff worked harder, they were not informed that they would receive additional compensation, paid time off, or anything else to motivate them.

P6, indicated the College of Human Sciences received the Award for Excellence as indicated in Chapter 5 [see section 5.9.2 Teaching and Learning]. The award was presented during the Seventh Pan-Commonwealth Forum on Open Learning in Abuja, Nigeria, 2-6 December 2013.

P16 indicated that all Signature Course academics received some sort of reward, albeit a small token of appreciation. Despite the fact that all the Signature Course academics were recognised, these individuals nevertheless put in considerable effort which could have received more recognition.

6.4.3.9 Structural Alignment of Departments

This is the ninth element that arose from Theme 3.

The sheer numbers and responsibility of being the academic responsible for a Signature Course made it clear that academics involved in Signature Course modules would not be able to teach any other modules, and that consequently, support staff would have to be channeled into those modules. This had an impact on all of the support departments. To prepare for implementation, the Signature Courses had to ensure that some structural realignments were done, for example, the academics needed some administrative support, especially to assist with the teaching assistants. As a consequence, the Centre for Professional Development was established.

P15 referred to discussions to decentralise more authority to the regions as they were the 'coal face' (P15) for the students. However, this was supposedly never addressed as the regions still do not have autonomy, plus they have limited authority. At the time, according to P16, the Department of Tuition and Facilitation of Learning had to equip the regional offices for online education, adding additional computers, and providing access for those students who were in prisons.

A significant management decision in the EUC/EUP1501 module in the College of Science, Engineering and Technology (CSET) was to appoint a new manager to drive the change process in the College. Some realignment and restructuring took place within the College, and staff were allocated directly to the Signature Courses to ensure that administrative processes were covered [see Theme 3: 6.4.3.7 Change Management].

Another example of structural realignment as a direct result of the Signature Course project occurred in the College of Science, Engineering and Technology (CSET). Because the practical examination for the Ethical Information and Communication Technologies for Development Solutions (EUC/EUP1501) module was discontinued from 2014, the test supervisors and booking officers' positions at the regional centres become redundant and those staff members were placed on the HR structure positions as computer laboratory supervisors (now called Digital Learning Advisors).

Other new positions were instituted, as previously mentioned in this chapter, for example, the appointment of a legal advisor to deal with student complaints [see section 6.5.2

Interdependencies between Functional Units]. One College had to appoint junior academics to assist with the management of the teaching assistants (P10).

According to P6, by 2015 it was clear that in order to manage a Signature Course successfully, the following personnel are needed: 1) a dedicated administrator; 2) a skills developer/trainer dealing with assignment skill requirements; 3) a qualified lawyer to assist with student complaints; and 4) three to four junior academics to assist the module leader to manage the operations of the module (apart from the management of 100+ teaching assistants as mentioned previously).

6.5 THEME 4: INTERDEPENDENCIES BETWEEN FUNCTIONAL UNITS AND MANAGEMENT DECISIONS

Theme 4 is divided into two elements. Element one consists of important management decisions, and element two consists of the interdependencies between functional units. The following section will discuss the importance of the management decisions on the Signature Courses.

6.5.1 Important Management Decisions

According to feedback from the participants, the ideas that emerged from the Signature Courses team meetings eventually found reflection in important Management, Senate¹³, and Senex¹⁴ decisions (P14).

The university's mission informed the major management decision that Unisa should migrate from ODL to ODeL. Making an informed decision required looking at the elements that had to be incorporated or implemented, and how they influenced processes. Questions such as how the Signature Course team would guarantee access, which technology would be used, and how to impart technical skills and personal experience to students to become computer-literate were on the agenda. The objective of Unisa was to develop students who could compete on a global scale in the workforce (P9).

¹³ Subject to the Higher Education Act, 1997, and the statute of the institution Senate is accountable to Council for all academic related functions for example 1) teaching, learning, 2) community engagement, research and or any other delegated or assigned function from Council.

¹⁴ Senex is the Executive Committee of Senate and is responsible for implementing resolutions adopted by Senate

The Pro Vice-Chancellor was committed to the success of these Signature Courses and succeeded in getting the support of Unisa's executive management in terms of resources and other support. To this end, the Pro Vice-Chancellor was highly involved in the process, including attending meetings and interacting with individuals, and persuaded management to cooperate in finding innovative ways to overcome challenges. The key management decision was to simply make this work and to demonstrate to the rest of the world that Unisa was capable of doing so (P13). The most crucial managerial commitment was to adhere to the decision to implement the first fully online undergraduate programmes despite challenges and uncertainty (P10).

The significant decisions were, first, the decision to endorse the Signature Course project. Secondly, that the Signature Course module would represent each College's signature (P16), as each College had the mandate to decide which module would be selected to be the Signature Course module in their College (P15; P16). Thirdly, the decision to implement a fully online teaching and learning model, and fourthly, the major decision that assessments would increase, continuous assessment would be implemented, and that all assessments, formative and summative, would be fully online (P16). The last major decision was to implement a support system for the students, which the academics would also benefit from, in the form of the teaching assistants, who would support the academics and the heutagogical principles of the Signature Courses.

There were many teething issues with the teaching assistant contracts in the first two years, and an important decision made by management was for the teaching assistant contracts to be annually renewed, instead of starting up a recruitment process afresh. Management also made the decision to standardise the remuneration, which resulted in all teaching assistants receiving a fixed remuneration which prevented the administration from having to complete unnecessary paperwork. It was crucial to have people working together as Signature Course team, having the process in place, and then also being guided by one set of rules, one understanding (P12).

6.5.2 Interdependencies between Functional Units

As P5 and P16 explain, the Signature Course project had a number of different functional units linked to it. The Signature Course representation was from leadership and entities such as

Colleges, ICT, DCLD, student administration and assessment, and SMPD. However, it was clear from the feedback of the participants (P3) that not all functional units were part of the initial inception and planning process of the Signature Courses. According to the literature, planning (Andrade & Alden-Rivers, 2019; Fernandes et al., 2020) is an important part of the process; it needs all responsible stakeholders to participate. Other important stakeholders are referred to in Theme 2: Key design elements, 6.3.5 Team Approach as well as Theme 3: Participant narratives of the Signature Course implementation phases, 6.4.2 Phases II and III (Design and Development).

The diagram below provides an overview of all the departments and functional units that were part of the Signature Course programme.

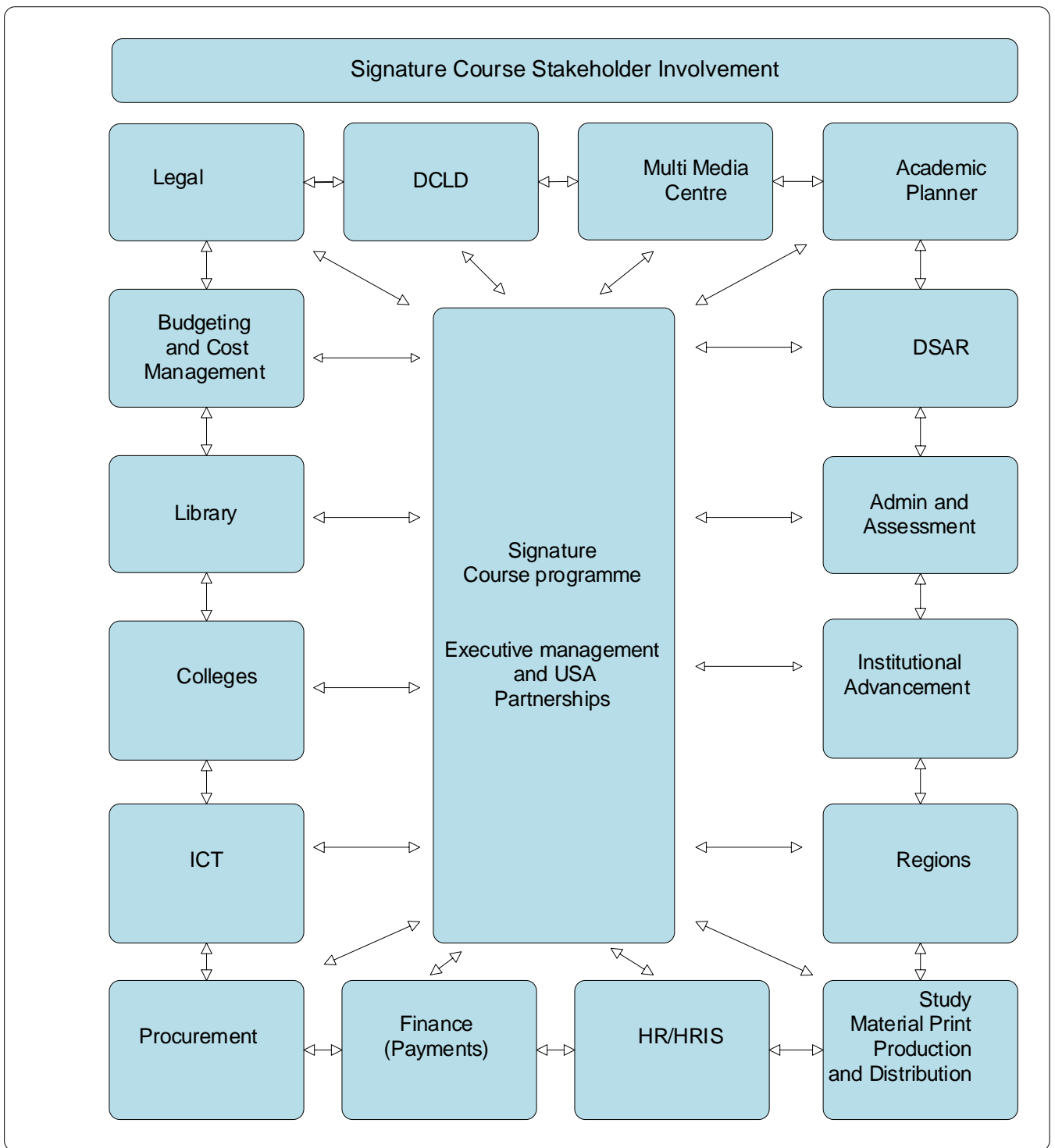


Diagram 6.5: Signature Course Stakeholders involvement

The success of the Signature Courses, according to P16, depended on how quickly the different support divisions could put measures in place to support and implement the fully online learning model. The Signature Course team had less than two years to implement the project: they conceptualised the course in 2011 and designed and developed some systems during 2012 to

get everything set up for implementation at the beginning of 2013. As a result, getting the different support divisions/projects together to align their thinking with the requirements of the Signature Courses was quite challenging.

The following discussion gives a representation of all the functional units involved in the Signature Courses, and reflects their interdependencies.

The Signature Course project would have failed if the different support and administrative divisions had not been considered from the beginning (P15). Although creating, developing, and theorising the Signature Courses was exciting, the team eventually encountered processes, according to P15, which were either not ready, or which required significant amendments. The Department of Student Admission and Registration was involved from the start of the project, because no manual paper based registration forms and assessments would be permitted in any of the Signature Course elements, and this department would need to change its processes accordingly.

The Department of Student Administration and Assessment, according to P2, also had to capture all the modules in the student information system before students could register with the Student Administration and Registration Department (DSAR). Signature Course modules had an identifiable code linked to them as they were fully online and had to go through a unique administration process because the switch to online had a direct influence on assignments, assessments, study materials, and so on. These two Departments, therefore, had strong interdependencies.

There were also other interdependencies that were either part of the value chain or integrated in all the processes such as the Academic Planner, the Academics, Budgeting and Cost Management, and ICT, all of whom were required at the beginning of the process, even before a student could register for a module (P14).

Unisa has Programme Qualification Mix (PQM) module structures which reside in the office of the Academic Planner (Mischke, 2012a; P14). As the Signature Course modules became a compulsory course in all the degree programmes offered by Unisa, any changes to the PQM

would also change the budgeting and costing plus the ways in which resources were allocated to the module and support divisions.

The Signature Course project used specialists from the USA and needed to pay for the consultations, workshops, meetings, accommodation, and travel. Funds expenditure was coordinated through the Vice Principal's office. Participant P14 explained the interdependency between the Budgeting and Cost Management Department, the academics, and the Academic Planner as a:

very strict interdependency with the academics but also then with the office of the Academic Planner, because there are these module structures, the PQM within Unisa, so it may have applied changes to the PQM and that would then have resulted in changes in how we do the pricing and how we allocate resources and then also ICT.
(P14)

Another interdependency that emerged from the analysis is that between the Student System, the Department of Student Administration and Assessment, and the Department of Student Administration and Registration. The assessment system would not have been able to process a student's assessment if a course was not registered as a Signature Course on the student system. The Department of Student Administration and Assessment (DSAA) had to capture the assignment information after the module was registered by the Student Administration and Registration Department (DSAR). Similarly, the engagement between Student Administration and Assessment and the academics was crucial as it allowed academics to figure out how everything would function within the student system, how grades would be delivered, captured, calculated, and other related issues (P10; P13).

Developing and implementing new assignment processes and systems was a considerable responsibility which entailed complex engagement with the systems. However, this was eventually approved by all the role players such as the Senate, the ICT Director, the DSAA Director, the Deans of the Colleges, and the Signature Course committee (P2). The Signature Courses were excluded from any extensions on registrations or assignments by management since, as previously indicated, between 10 -13 assessments per course did not allow any time for extensions. For this reason, late student registration would impact on student progress since

the students would miss the first three or four out of ten assignments, or 40% of the curriculum (P6).

Academics also indicated a major interdependency with Human Resources (HR) which was involved in the recruitment and appointment process of the teaching assistants (P9; P10).

The Department of Courseware and Learning Development (DCLD) worked in close synergy with the Unisa Library and with the Multimedia Centre since e-resources sourced for the academic courseware stemmed from the Library and media support stemmed from the Multimedia Centre (P5). A learning designer at the DCLD, according to P5 and P10, had to become accustomed to working across disciplines since the Signature Course project spanned various qualifications. The learning designers were allocated to a specific academic within a College and worked with different functional units. When modules needed improvement, according to P5, the module improvement forms needed to be approved by Senate, the document's information had to be captured on the institutional academic information system (AIMS), and the document would thereafter be stored in the institutional repository. Unisa has a course design and development list. According to P5, the list at present details between 300-350 modules, and since the DCLD directly influences the design and development of modules, this entailed significant time and labour.

The main objective of the Department of Institutional Development, according to P7, was to ensure that the modules were published on the institutional website. The department relied on the Academic Planner and the Department of Student Application and Registration (DSAR) to provide them with information through the AIMS system.

Although the Executive Director of the Department of Tuition Support and Facilitation of Learning was responsible for driving the traditional tutor model at Unisa, the Signature Course project adopted a different approach with the HR representative reporting directly to the Pro Vice-Chancellor concerning the appointment of the teaching assistants (P10). Teaching assistants could not operate effectively if HR did not load their contracts, because without loaded contracts the students could not be grouped and linked to a teaching assistant. Similarly, teaching assistants were dependent on ICT to install the necessary software on their computers (P1). In

sum, the major interdependencies for these various processes were between the academics, HR and ICT departments, who had to work closely together.

Academics, according to P8, closely collaborated with HR when the teaching assistants' job description and task agreement were developed, to ensure that all stakeholders were satisfied and working well together. Human Resources processed a significant amount of paperwork for the Signature Course project, as they helped the Colleges in preparing the contracts. HR also played an informative and supporting role, according to P8, to ensure that the teaching assistants received the correct salary, as the project would not be able to attract well-qualified and experienced teaching assistants if the salary was not competitive. HR, in turn, was dependent on the Finance department to support them with the teaching assistants' payments and payments to suppliers (P8; P10).

Apart from ensuring that the teaching assistants' contracts were in place, HR was also responsible for the staff resourcing structures. According to P2, the Department of Student Administration and Assessment submitted multiple motivations to get more staff positions from HR but could not get approval to appoint more staff. A shortage of staff leads to problems such as late capturing of assessment marks, and mistakes in capturing marks, among others. There were certain periods when the DSAA struggled to capture the formative and summative assessments, and sometimes the mark capturing was delayed by up to seven days. This is just one example of the close dependency between HR and other administrative departments, and the impact certain decisions had on the functioning of the Signature Courses. Since the DSAA reported to the Deputy Registrar it had considerable weight in key project matters especially when the Deputy Registrar intervened in key functions such as assessment.

After the project plan to develop and implement online modules was accepted, the team realised that since teaching assistants were required to function online, there had to be HR involvement, and negotiations ensued to get a dedicated HR representative on the team. This HR representative was removed from his normal HR activities so as to focus solely on getting the teaching assistants in place for the Signature Courses (P12).

Another interdependency was between the Colleges and, specifically, the School of Computing which relied on the regions to assist students with access and support to computers. In turn, the

regions relied on the Colleges for information, communication, and orientation as well as on ICT to provide sufficient computers (P11).

The business analysts were dependent on the ICT system development unit, as they needed to test what was developed. ICT, on the other hand, was dependent on the academics to provide the specifications and input for the system change (P4).

Various other interdependencies were in play. The Unisa Legal Department, according to P8, occasionally participated in the tender process. The supply management system was another ICT system used by the purchasing department, since the software needed to be paid for. The legal department was part of the MOA with the US institutions, and as P12 and P16 indicated, the legal department assisted in finalising and approving the teaching assistant contracts. According to P6, a dedicated legal person was appointed to deal with student complaints.

P16 indicated that equipment was purchased by ICT through the purchasing department, and P3 indicated that the Digi-bands were also acquired through purchasing department.

Diagram 6.6 below illustrate the interdependencies. The lines in the diagram represent *some* of the interdependencies - as a visual representation of *all* the interdependencies would be impossible to recreate.

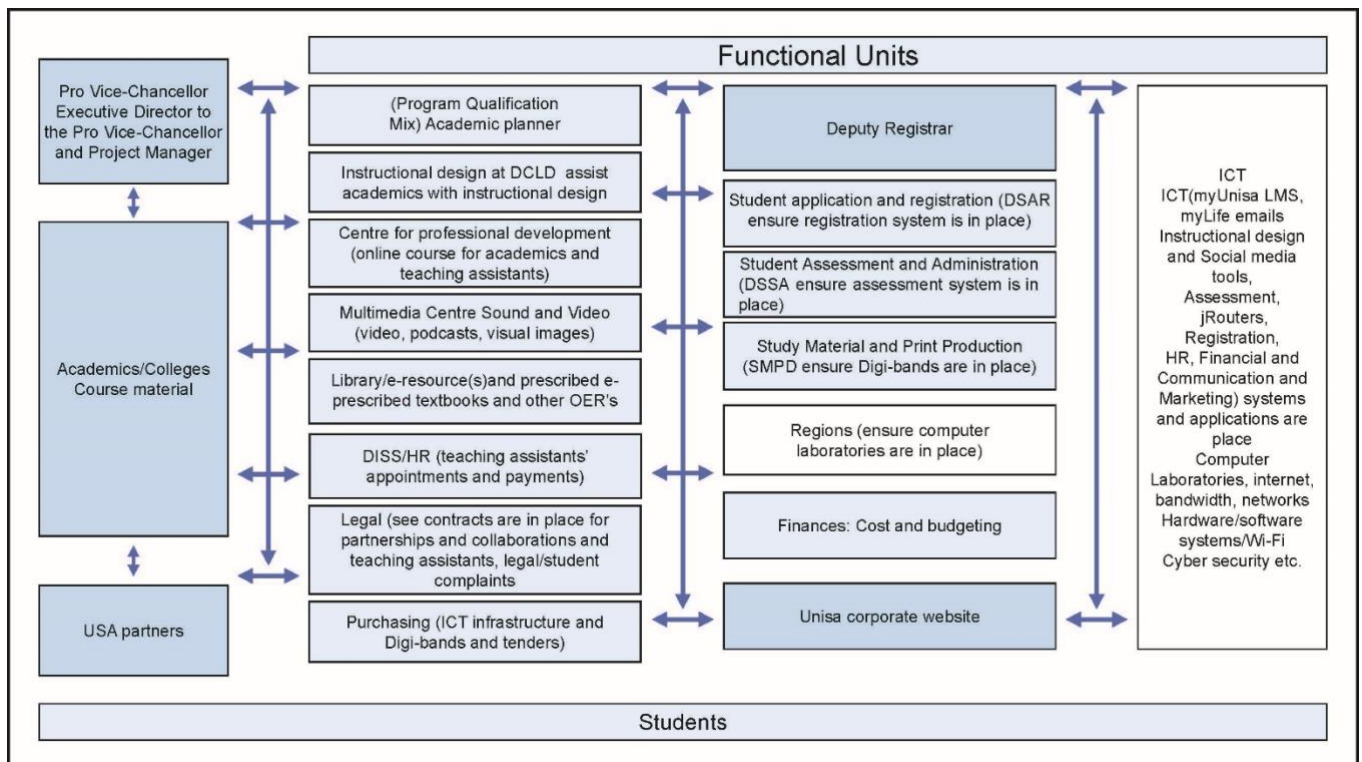


Diagram 6.6: Interdependencies

6.6 THEME 5: INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

The interview participants confirmed the information provided in Chapter 5 [see section 5.9.7 Information and Communication (ICT) Matters]. A department that had a major impact on the Signature Courses, one that directly affected the success or failure of the implementation, was ICT (P8; P10; P14). As already indicated earlier, all the units were dependent on ICT to ensure that the necessary systems were in place (P14). ICT was involved through all the phases of implementation of the Signature Course project, particularly in the upgrade or adjustment of existing systems and the development of new systems. Where it was not possible to develop a system, they were involved in sourcing software applications from outside the institution. For example, with the first intake of Signature Course students in 2013, academics discovered that ICT had to make essential changes, create capacity, and expand their services to serve the Signature modules (P8). ICT was represented by business consultants who assisted with the design, development, and implementation of all systems, software, networks, and hardware required for the success of the Signature Courses project.

Because of the centrality of ICT to this project, this theme has six elements and will be discussed in the sections below as follows: 1) academics and ICT; 2) study material and print production and ICT; 3) student administration and assessment and ICT; 4) human resources and ICT; 5) ICT challenges; and 6) system overload [see Diagram 6.7: Elements of Theme 5: Information and Communication Technology (ICT)].

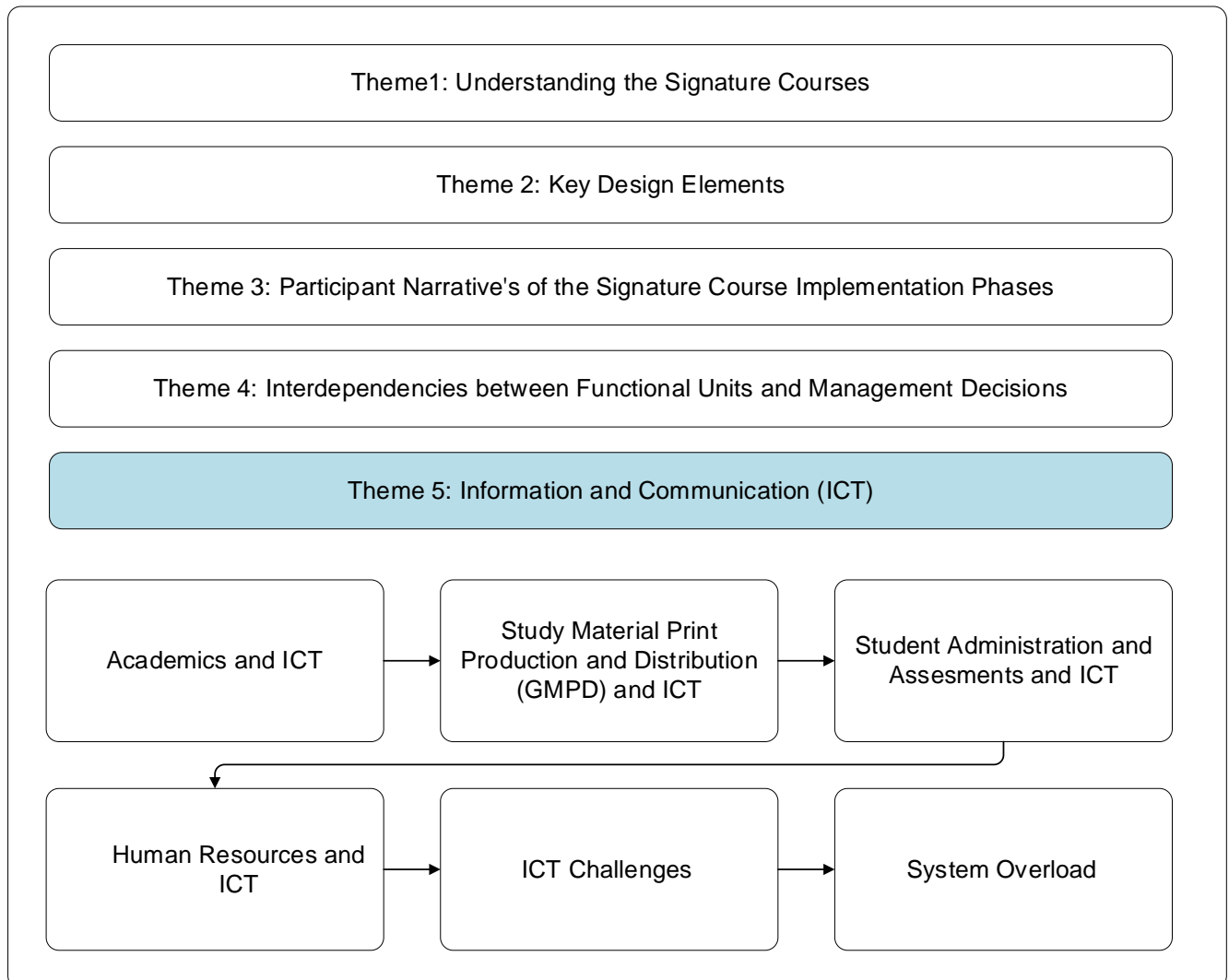


Diagram 6.7: Elements of Theme 5: Information and Communication Technology (ICT)

6.6.1 Academics and ICT

During the development of the courseware ICT had to provide an online platform for students and staff to communicate with each other. Unisa's formal learning management system (LMS) was hosted on the Sakai platform (Sakai is an open source learning management system and is referred to at Unisa as the myUnisa learning management system). The Sakai platform included

a variety of learning management tools, although not all Unisa courses could use them. These tools include discussion forums, forums for questions and answers, tools for reflection, and tools for assessments. The team realised that they could not implement heutagogy effectively if they did not make the significant decision to transform the Sakai/myUnisa platform to include all of these tools and add many more to make the courses more interactive (P9; P16). The Sakai/myUnisa platform had to be adapted to cater for those Signature Course modules that required practical online lab software called MyITLab which was provided by Pearson and integrated with Sakai/myUnisa. Further, some modules needed specialised software to assist with online textbook management called Bookshelf, which was provided by VitalSource.

The three software applications, Sakai/myUnisa, MyITLab, and Bookshelf used a VitalSource Learning Technology Interoperable Application (LTI) to integrate the applications with each other so that the e-Textbook could also be accessed through MyUnisa (P9). A tender process was used to acquire the software. Four different national and international companies submitted tenders, and it was up to the team to apply the requirements and criteria. The Directors of School in the relevant Colleges and the Signature Course team collaborated to screen the companies that showed interest (P9). The process was intensive to ensure that the most able MyITLab provider was appointed. Eventually, Unisa appointed Pearson to assist with the software. Students could access the tertiary online platform containing materials, related documents, and information from anywhere, at any time.

Students in the Signature Courses also received free Microsoft Office software licenses (P8), and the Colleges issued codes to students (initially students received a disc that they loaded on their computers).

As already indicated, ICT was an integral partner in the Signature Course project and the interdependency functioned in several ways. For instance, the academics were first dependent on ICT for the grouping of students (P6). Second, the linking of students with teaching assistants was a critical element of the design of the Signature Courses, and for this function, the teaching assistants needed a log-in code from ICT. Third, the teaching assistants had to mark the assignments, and if there was a delay in the capture of student marks by ICT, the academics were powerless to intervene, as they depended on ICT for a solution (P6).

The Signature Course team also worked closely with ICT to put mechanisms in place to ensure that students could have access to information 24/7, and they, therefore, supported the idea of a MyUnisa online platform which, in theory, enabled ubiquitous online support (P8) and immediate access to the study materials. In addition, the academic departments and IT were involved in providing the study material to Study Material Print Production and Distribution (SMPD) in a format that could be loaded onto wristbands, called Digi-bands, to be distributed to students to access their course material (P3).

6.6.2 Study Material Print Production and Distribution (SMPD), and ICT

The feedback from the participants corroborates with the literature in Chapter 5 [see section 5.5.1.5 Roles and Responsibilities of Study Material Print Production and Distribution (SMPD)]. After SMPD received the Digi-bands back the approved international company, and the Digi-bands were distributed to students after random checks were done (P3). However, during implementation, some students received faulty Digi-bands, which led to some animosity. The SMPD then had to reissue the bands to the students which was difficult seeing that many students lived in remote places. Unisa used a company in Florida, South Africa, to issue the Digi-bands. At a later stage, Unisa attempted to address the issue by giving Digi-bands to the registration department and the regions so that they could assist the walk-in students, but they struggled to maintain control over the situation.

P3 indicated that the production of the Digi-bands was not prohibitively expensive, and indicated that, in hindsight, it would have been better if Unisa had purchased the machinery and copied the content onto the Digi-bands so as to have better control over the process and thereby ensure reliable quality.

6.6.3 Student Administration and Assessment and ICT

During the planning of the assessment system constant consideration was required to ensure that the assessment system was integrated with the different online platforms, for example, the course content platform, the technology platforms to support the different assessment strategies, and support structures to capture and calculate the assessment marks and the final marks (P5). The other consideration was that although the Signature Courses were relatively small in

comparison to the total number of courses at Unisa, the assessment administration system needed to be designed to be able to accommodate not only the Signature Courses but also other online courses which could emerge after the successful implementation of the Signature Courses. Therefore, it was clear that the assessment system could not be designed for a small number of students but for a wider spectrum.

According to P13, the assignments department played a central role in collating and sending assignments to the teaching assistants so that they could be marked online. There were many challenges in this regard. At one stage, the teaching assistants' emails were lost, or a teaching assistant would be appointed but would never receive the appointment email. They would then not have access to student assignments and would have to catch up. The academics had to be very alert and monitor all these processes constantly (P13).

6.6.4 Human Resources and ICT

Human Resources had to synchronise their operations to produce independent contracts for the teaching assistants (P16) and provide training on how to use myUnisa and mark assignments online. No teaching assistants' systems were in place so ICT had to assist [see 6.3.3: Teaching Assistants to Support Students and 6.4.2.8: Roles and Functions of Human Resources Department].

6.6.5 ICT Challenges

Firstly, both participants P2 and P15 spoke about management/leadership challenges in the ICT section. During 2011-2012, ICT had undergone major management changes (P2) which had an impact on the Signature Course project which needed the committed support of ICT to adjust existing systems and to develop new ones (P2).

Second, the Unisa ICT systems were outdated and were unable to handle the high volume of transactions from different transaction points which were a requirement to administer the Signature Course assessments effectively (P2). [Theme 3: Participant narratives of the Signature Course implementation phases 6.4.2.4, Roles and Functions of the Department: Student Assessment Administration (DSAA) also refers to the increased number of assignments].

Third, several interviewees reported mixed reactions regarding the support received from ICT. For example, the Department of Student Administration and Assessment (DSAA) experienced several challenges with ICT. Indeed, they indicated that if it were not for the support from a specific programmer they would have failed (P2): 'you rely heavily on ICT; the networks at the beginning were not friendly; ICT itself was not welcoming of our requests; we were taking them out of their comfort zone' (P8).

Another challenge was that the digital security systems such as the institutional Firewall, only allowed a certain number of students at a time through the 'gate' into the Unisa system, and owing to the high volumes of transactions, the system could not cope and stalled (P2).

In addition to the management and system challenges, there were factions of staff within ICT that had their own opinions on how Signature Courses should be implemented and administered within Unisa (P2).

In addition to these challenges, the assignment process and system team consisted of one management member and a programmer, so the amount of work with this limited capacity was a serious challenge (P2). The programmer had to develop code in-house, and also implemented and oversaw technical details and challenges to get systems to work according to Signature Course requirements (P4). Another issue was that the ICT programmer was not involved in the planning and design phase and was thus compromised when requested to implement the envisaged design (P4).

In contrast to these remarks, there were responses that expressed appreciation for the support of ICT: 'tight relationship with ICT was incredible' (P10); and 'we had full support of ICT and more especially we had the business analysis team, which was champion at that time' (P9). ICT helped one College develop a reservation system allowing students to make advance bookings (P8).

6.6.6 System Overload

According to P4, no hardware challenges were experienced with the Signature Courses despite the high volumes of transactions entailed in their operations, so they were still relatively manageable compared to the rest of the Unisa system transactions, and the impact on the overall load test was insignificant. Other users, however, had a different experience, as P8 indicated:

The College had to schedule practical exams on the system. Because the system could not manage the high load of summative examinations, the College had to reconfigure their booking schedule to accommodate the practical examinations in such a way that the centres with high numbers of student bookings, for example, Durban, Johannesburg, Pretoria, and Cape Town, could be scheduled on different days to ensure that the ICT system was not 'overloaded'.

(P8)

In conclusion, the support units and systems played a considerable and crucial role in ensuring that the academics could have a seamless transition when teaching the students online. The project would have failed if all team members were not willing to be part of, and support, the Signature Courses (P12). When considering the numbers over time, one can see how academics and students increased and how their performance improved (P12). This is mainly because the support systems were fully behind the academics. The biggest achievement was that the team worked together, and no single team member perceived themselves as more important than their peers (P12).

6.7 THEME 6: LESSONS LEARNED, PERSONAL REFLECTIONS, SUCCESSES AND CHALLENGES

This theme covers the following elements as per the diagram below: 1) the lessons learnt; 2) personal reflections; 3) successes from the Signature Course implementation; 4) challenges of the Signature Courses implementation; and 5) what they would have done differently [see Diagram 6.8: Elements of Theme 6: Lessons Learned, Personal Reflections, Successes and Challenges].

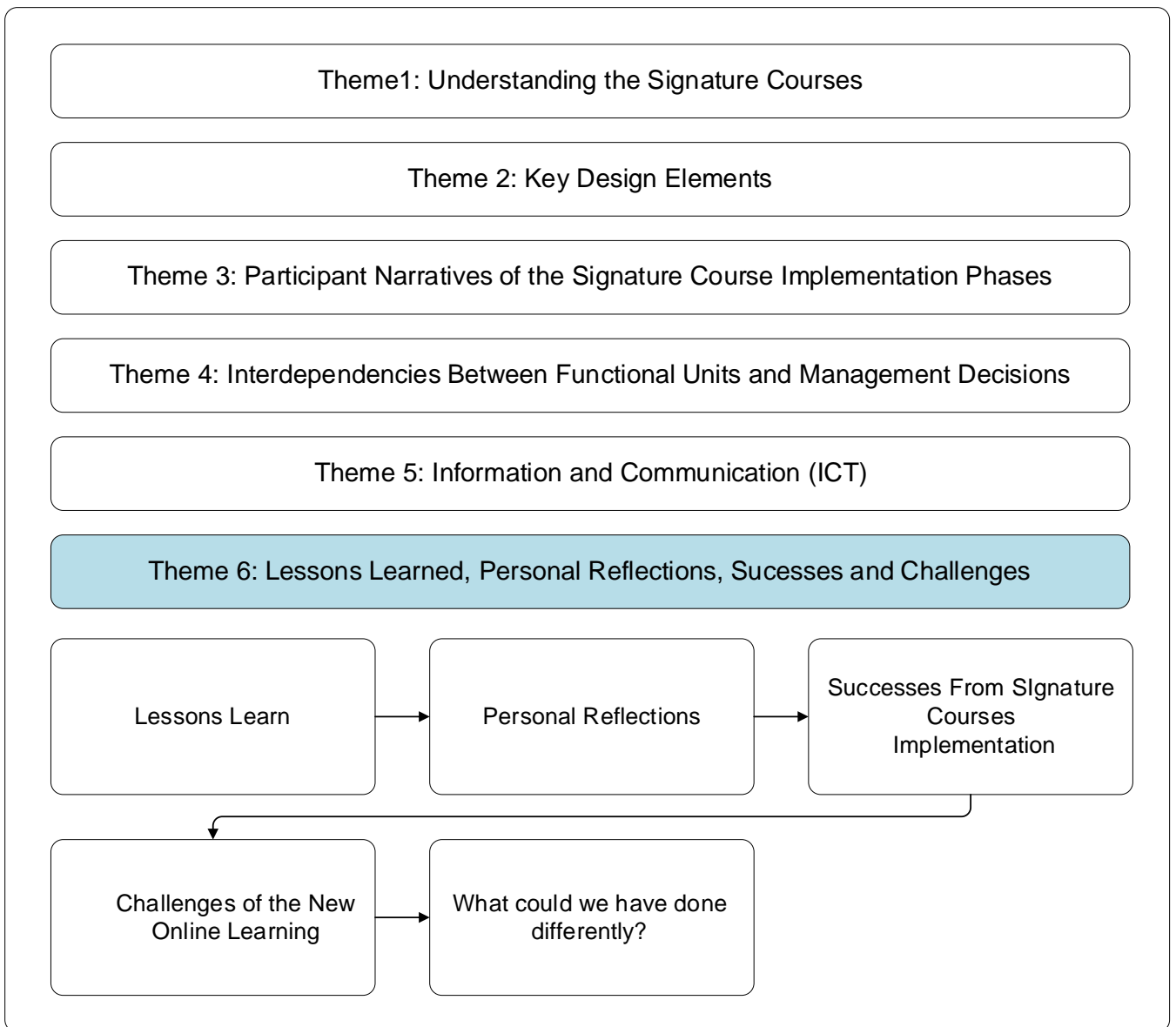


Diagram 6.8: Elements of Theme 6: Lessons Learned, Personal Reflections, Successes and Challenges

6.7.1 Lessons Learnt

The preceding analysis has provided insights into several lessons learned during the design, development, and implementation of the Signature Courses. The following narrative highlights specific lessons mentioned by participants in the last part of the semi-structured interviews.

Although the design of the Signature Courses was solid (P10), there were challenges related to implementation which needed immediate action to ensure that the Signature Courses could run smoothly. One of these, according to P13 and P15, was the difficulty students experienced in accessing their course material through the internet. In mitigation, the Digi-bands were

introduced to address the issue of access, as discussed earlier. However, another major obstacle, according to P5, was that the institution had not run induction courses, introducing new staff to ODeL and the teaching and learning space at Unisa for the better part of the last ten years. Participant P5 indicated that this matter was resolved with the institution of the Centre for Professional Development ensuring that staff and students were oriented and trained in the concepts of ODeL. Participant P15 indicated that the Signature Course team collaborated closely with an external USA company to develop the required skills and skill sets, especially considering the new design to move from a teacher-centred focus to a student-centred teaching and learning concept. This proved difficult for academics to implement as they had hitherto no experience in this model and could not understand how students could actually contribute to the curriculum (P5).

Further, P11 explained that although the students could access the Learning Management System (LMS), there was no communication to and suitable assistance for the computer laboratory staff in the regions. Regional staff could only access the content in the LMS through a student login which made it difficult to assist the students and orientate themselves on the LMS system. This had a serious impact, as regions could not properly strategise, and could offer only limited assistance to students.

Dealing with 340 000 students at that time made Unisa the largest university the US counterparts ever dealt with, so the USA partners had no concept of the kind of condition Unisa's students found themselves in (P15). Although the US counterparts carried out initial quality control of the design of the Signature Courses, their approach was not fully aligned with the reality in Africa, so Unisa's department of quality assurance and strategic planning worked with the Higher Education Quality Council in South Africa to examine the Signature Courses (P16). Unisa would have done much better with the design and implementation of the Signature Courses if wider benchmarking and research on more online models from, for example, Australia had been done (P2).

The Signature Course project had significant ramifications for both staff and systems at Unisa so DCLD's role in ensuring that curriculum and instructional design expertise formed an integral component of the transition to fully online delivery was necessary and helpful. For example, the DCLD department was crucial in advising, guiding, and mentoring the Colleges to implement

continuous assessments. High level guidelines were developed, which also helped Colleges to choose from several options (P5).

Though there was very little evidence in the document analysis regarding the exact costing of the implementation of the Signature Courses (see previous discussion as well as Chapter 2 section 2.3.6 Brief Background: Cost, Quality and Access) several participants questioned the cost of the project with specific reference to the implications of making use of teaching assistants (P13) and specific costs in relation to learning resources/software (P9).

Initially, there was significant resistance from academics and support departments to the Signature Course project. It was clear that if the team had to implement the Signature Courses successfully, buy-in from key stakeholders was essential. About 70% of academics, for example, were reluctant to move fully online according to the prescribed instruction. However, with the visits to the USA, the team started to become more positive, and as they gained more experience, they became more confident. The number of people interested in taking the Signature Courses increased significantly, and many individuals wanted to know more about the project from the team members (P12).

6.7.2 Personal Reflections

During the interviews, many participants indicated that they experienced an overall feeling of accomplishment, despite the many challenges that the team encountered. Some team members who were part of the Signature Course project had very positive experiences with the Signature Courses. It was the first fully online module implemented in the institution. P10 recalled that members experienced the Signature Courses as a 'career-defining' module, and P9 indicated: 'Signature Courses would be beneficial to students at Unisa in their career and their personal life' (P9).

The Signature Course project, according to P7, 'made me very happy' since it was crucial to the transformation of Unisa, and, for P15, it was the pinnacle of their academic career since the courses were future-focused and the project had a talented international team who could guide them in the right direction. P15 vividly recalled the visits to the USA:

I still remember going to one of these universities and seeing their equipment, their digital equipment, and thinking they are so lucky, you know, we can't do that, we just didn't have the money and or maybe the money could have been divided differently at Unisa to have given us more money, and get the IT.

(P15)

One of the personal objectives of an academic involved in the project was the ability to shift the expectations and attitude of the students, resulting in life-changing moments and changed perspectives on what they are learning and how the world functions: 'The success is, let's say it is 1% of 250 000 students, we've had that moment, they've just, their world has shifted a little bit that is the big success' (P10).

Participant P8 indicated that if the Signature Courses project was: 'a trial-and-error implementation, there is no better teacher like trial and error because that exposes you to other problems that you didn't think of in the design' (P8).

P12 indicated that by working together as a team they could work step by step to try to resolve the challenges they had. Solving these challenges brought the team closer together, and made the team stronger: 'the team, a great team to work together and fight for each other, support each other because as we saw the challenges, we tried to overcome the challenges together' (P12). and:

we would brainstorm, even the lecturers from the academic side, when they had challenges, we would all sit together and say how we can help each other, and I think from step by step that is how we progressed, and I think that was a success.

(P12)

P10 summarises this positive experience by indicating that after they had moderated all the failures and dealt with all the challenges, they could still confirm that the Signature Courses were really well constructed, and the project managed to achieve what it set out to do. P6 felt s/he was part of a major accomplishment: 'We were known as champions' (P6).

The workforce was placed in an extremely challenging situation, but they learned from their mistakes and became better as a result and, as (P6) recalled, unless one was working there,

one could not have imagined the difficulties involved. In addition to being a very inspired team, P13 indicated that 'The project leader leading the team was very good'. P12 supported P13, indicating that the leadership of the Pro Vice-Chancellor's office and the project leader contributed to the success of the Signature Courses.

6.7.3 Successes from the Signature Course Implementation

The participants from the interviews provided some discussion of the successes of the Signature Courses development and implementation. These will be briefly discussed in this section.

The success of the Signature Courses was the introduction of fully online learning model to students and the support provided to students (P1; P9). The implementation of the Signature Courses was achieved with the support and back up of the leadership, the project manager, and executive management (Vice Chancellor, Pro Vice-Chancellor and Executive Director to the Pro Vice-Chancellor), and all indications show that they performed effectively. They were able to implement initiatives at short notice and with everybody's support (P12). The Signature Course design, as P10 indicated, was innovative yet solid, and as the academics became more experienced in teaching online modules, they recognised their potential as a radical space. Part of the design success was that students could access their material offline and work offline if they needed to which indicates sensitivity to the student context, allowing for differentiated access to teaching and learning. An example of this was the issuing of the Digi-bands to students who were offline. This worked well, regardless of some challenges mentioned previously.

Another success of the Signature Courses was that the design included student support in that the students had access to a teaching assistant for guidance and support (P5). The effect the Signature Courses had on the institution was transformative.

Another success, according to the participants, was the privilege of gaining experience, skills, and competencies while engaged in the project. P6 said that the academics and the functional units learned a lot through the Signature Courses, and after many years, the lessons that they had learnt are still being implemented by other units and people. Participant P6 mentioned that one of the academics who was part of the team is now at another College, and applies the experience and knowledge gained from the Signature Courses modules there. P6 further indicated that the exposure to online teaching and learning created an interest in new online concepts and modes of instruction.

Another success was the performance of the students in the Signature Courses indicated by the systems that were in place to monitor student performance (P2). Data was available to track

how many students took the final exam, failed, or dropped out. Performance could also be measured, P13 indicated, owing to students' constant access to academics. Both P12 and P13 indicated that student success was excellent, and the pass rate was very high. The number of people interested in taking the Signature Courses increased significantly, and a large percentage of those students passed (P12).

The overall success must also give credit to the regions because they played a significant part in providing access to students (P11). The regional centres were geographically closer to the students and the institution planned for students to access resources across distributed points, for example, the regions and the telecentres (P8).

The Signature Courses prepared Unisa for the international pandemic in 2020 thus paving the way for future online courses. The participants felt strongly that it effectively prepared Unisa members to be ready for the effects of the devastating Covid 19 pandemic (P7; P16). The pandemic forced everyone to be innovative and adjust, not only to a fully online university, but to a fully online correspondence university. Unisa would not have as many online courses at the time of writing, had the institution not initiated the Signature Courses (P7). During the Covid-19 period a Unisa representative discussed the assessment challenges on national radio. They referred to the Signature Courses and assured the audience that because of the experience gained from the Signature Courses, Unisa would be able to implement online assessments effectively (P16).

In the next section the challenges connected to the implementation of the Signature Courses are discussed.

6.7.4 Challenges of the Signature Courses Implementation

As with any innovation, there are always challenges. These challenges assisted the participants to improve, and to create a culture of continuous improvement. The following discussion provides details on the most salient challenges.

6.7.4.1 Increased Workload

P5 provides some background on the core focus areas of an academic's responsibility. In any academic's career, success depends on teaching and learning, research and innovation. With this in mind, the Signature Courses put a considerable burden on academics and support staff. The Signature Courses were time and labour intensive since a completely new programme required new systems (P6; P9; P13). The design, development, and implementation of the Signature Courses, according to P9 and P13, entailed a lot of work that needed to be done in a short time, which created pressure on the staff. The semester deadlines provided limited time for preparation and the necessary adjustments, resulting in additional work needing to be done between the semesters. One College had to recruit junior academics to assist with the management of the teaching assistants (P10).

Although the teaching assistants contributed significantly in the process of teaching and learning, the implementation of the Signature Courses was fraught with difficulties, according to P6. The management of the Signature Courses posed challenges owing to the large number of student enrolments, and the burden on the academic who was responsible for managing large number of teaching assistants and staff (administrative, professional and academic staff) collectively. Since not all academics are skilled managers, this created a challenge, according to P6: 'I learned that I am not a people manager that is not my strong point,...' (P6).

P1 indicated that some teaching assistants had to work with double student groups and ended up with 400 students. If due dates were changed, the teaching assistants had to work under extreme work pressure. Therefore, it was recommended that due dates for assignments were fixed. Moreover, as P1 indicated, these due dates plus the number of assignments should also be realistic. If the dates are too closely packed, it is not possible to assess the assignments effectively and would also does not allow room for the unforeseen. For example, the Signature Courses became unmanageable when there were postponements during registration. The team learned not to provide any due date extension to the Signature Courses.

The Colleges needed more human resources to support the management of the teaching assistants [see Theme 3: Participant narratives of the signature courses implementation phases, 6.4.3.9: Structural Alignment of Departments]. The support units also faltered under the workload and pressure. There were a few departments who indicated that their HR capabilities were under pressure because of the increased student numbers and assignments. The Department of

Student assessment and Administration (DSAA) indicated that the increase in assignments resulted in an increased workload (P2). The per semester student numbers were very high resulting in one academic managing 16 000 students in Colleges with large student intakes. The systems were strained when academics used offline systems to capture assignment marks, leaving the Department of Student Assessment and Administration (DSAA) the job of manually entering Signature Course marks on the system (P2).

6.7.4.2 Student Complaints

During the implementation phase between 2013 and 2015, there were many student complaints (P6). The complaints from students ranged from faulty Digi-bands, lack of support owing to the late grouping of students and the late activation of teaching assistants, intermittent downtimes on the system, challenges loading assignments, and logistical challenges such as having no Internet or data. According to P6, the university had to appoint a dedicated legal person to deal with these student complaints. P6 pointed to the impact on the institution when something goes wrong and there are about 21 000 students registered for a module during one semester. Many students were frustrated and used different platforms to vent their frustration. One well-known national platform that the students used was an online complaint platform called HelloPeter.com. The students also directed their complaints to the Unisa ombudsman, leaving the lead academic and the lawyer to work closely with the ombudsman to resolve the challenges of the students (P6).

6.7.4.3 Involve all Stakeholders from the Start

P8 commented that it would have been better to have involved all stakeholders from the start, as they would have been party to certain decisions that could have addressed some glitches before implementation took place (P11). Different LMS platforms and software were used owing to myUnisa's limited functionalities, putting more pressure on students who had to work on multiple platforms (for example, MyITLab, VitalSource, and Bookshelf) [also see Theme 2: Key design elements, 6.3.5 Team Approach].

6.7.4.4 Communication

Teaching assistants, according to P1, indicated that, in hindsight, communication and guidance could have been better. Clear guidelines and communication were sometimes lacking. Communication from the academics was not always timely and clear (P1). As mentioned, some teaching assistants did not receive confirmation that they were appointed and therefore did not start working in time.

6.7.4.5 Facilitating Engagement

Grouping the students timeously, and linking them to a teaching assistant, according to P1, was crucial. At times when registration dates were postponed, the students were grouped late, which meant that certain groups of students could not complete their assignments in time. Because registration dates for the courses that were operating according to traditional distance education parameters (not online) could be extended without much ensuing fallout, students had to be made aware that the Signature Courses did not operate in the same way. Extending registration dates caused a lot of confusion for online courses, according to P7, because they operate differently, and the Department of Institutional Advancement had to constantly clarify to students that Signature Courses or fully online courses were excluded from any extensions or postponements.

6.7.4.6 Reliability of Systems and Networks

Unisa has a software tool called jRouter which is used to route the marking of assignments to dedicated staff who mark offline. However, with the Signature Courses, the myUnisa platform was used to mark assignments since the teaching assistants could not mark offline and needed to have access to reliable internet and data to mark assignments (P1). The assessment department, according to participants P2 and P13, experienced challenges with ICT support. The Sakai learning management platform did not meet some of the Colleges' requirements and needed to incorporate additional software such as MyITLab (P8 and P9) which were not always compatible with the current systems, and adjustments were needed (P1). These integration incompatibilities and constraints impacted on MyITLab practicals (P8) for example, e-text plugins were needed on myUnisa (P9).

While the student administration and assessment department experienced a challenge with systems, the IT systems were the biggest obstacle for the HR department (P12). HR worked hard to find a solution by installing a new system that would allow them to have everything required to support the academics. HR needed a system that could accommodate advertisements, grouping students, linking students to teaching assistants, and so on.

P2 indicated that if things could have been done differently, more time would be spent obtaining buy-in from academics and management. Also, the administration and information technology systems should be fully in place before implementation takes place since this is a crucial success factor. There were also concerns and doubts about Unisa's choice of Sakai as learning platform (P2), and the responsiveness of ICT systems and processes (P8).

6.7.4.7 Plagiarism Challenges

There were also concerns that not all students who plagiarised were caught. According to P10, 30% of students are found to be cheating to some extent. There was no apparent resolution to this matter except the 0% awarded for an assignment or examination if the student was caught. P11 indicated that the integrity of Unisa's courses is at stake, as there are: 'entrepreneurs who started a business of writing assignments for others (P11). This information was brought to management's attention but no formal legal disciplinary steps were taken against these so-called entrepreneurs. P13 referred to: 'peer plagiarism as they get it from their friend', but also indicated that plagiarism was not initially a serious challenge, as students who copy and paste directly from Google were easily detected. Although plagiarism cannot be isolated only to the Signature Courses it is easier for students to plagiarise/cheat when the course is online. Further to this, the traditional face-to-face examination sessions with the appointed invigilators although not 100% successful had more control over minimising 'cheating' as opposed to the e-portfolio where there were no mechanisms in place to authenticate the work of the student.

6.7.4.8 Institutional Culture and Transformation

The initial idea was to implement the Signature Courses across all modules in the institution, as it was, according to P7, a project that was crucial for transformation. There was, however, as indicated by some participants, initial resistance not only from students but also from all levels of staff to the implementation of fully online learning (P10; P14). There was also the concern that Unisa's student needs were not understood:

I think also there was a total lack of appetite in the larger Unisa community for an uptake on the Signature Courses, the reason I do not know. I think it was really mainly perception based, and I think there was simply not an appetite at almost all levels at

Unisa, and maybe also not understanding our own students and their needs. That would be my take on that question.

(P14)

Another challenge, according to P16, was that the Signature Course management and team were acutely aware of all the shortcomings, but the institutional environment made it very difficult for mistakes to be corrected, or may have involved a major reconsideration of current institutional forms of organisation such as choices between centralisation or decentralisation of certain key functions (P16).

During the first several years, the Signature Courses enjoyed a privileged position owing to the substantial assistance they received from executive management and other stakeholders. According to participant P6, the Signature Courses, at the time of writing, are gradually losing their original form because of the departure of key management and other stakeholders from the organisation. For example, the remuneration scale of the teaching assistants has been lowered.

In conclusion, online learning is more likely to fail if one does not have a strong administration and ICT infrastructure to lean on (P2).

6.7.5 What Could we have Done Differently?

Apart from some minor aspects that the participants would have changed, in retrospect, they felt that there was not much that they would have done differently if they had the chance to implement the Signature Courses again (P9; P10; P12; P14; P15).

As already indicated, one of the key pillars of academic responsibility is research (P5). During the planning, design, and implementation phases, there were regular reports from academics on the Signature Courses which were mainly directed to Management and Senate, but these reports were not suitable for publication as research articles. P16 indicated that academics had no time for research owing to the workload and pressure related to the Signature Courses. This was supported by P6 who agreed that it was not possible to write any research articles while working on the Signature Courses, and research articles were only possible after the participant was released from the management of a Signature Course (P5). In Chapter 1, however, there is

concrete evidence that the Signature Courses sparked interests from 2014 onwards, as published research on the Signature Courses included Louw (2014), Baijnath (2014), Mbatl and Minnaar (2015), Hülsmann and Shabalala (2016), Mafenya (2016) and Goosen and Naidoo (2018). Despite this, there should have been much more research done on the Signature Courses by the academics themselves.

In conclusion, the design elements discussed had a major role in the successful implementation of the Signature Courses. The teams were agile and worked very hard to implement the design concepts effectively. However, some challenges were encountered. As discussed, some of these challenges were successfully addressed, but other challenges persisted.

CHAPTER 7

PRESENTING AND TESTING THE PROPOSED FRAMEWORK FOR THE IMPLEMENTATION OF ONLINE LEARNING

7.1 INTRODUCTION

This penultimate chapter is the result of profound reflection on the ways in which local and global issues, along with current trends in higher education, have impacted on thinking about the implementation process of online learning, particularly in the global South (Chapters 1 and 2). The preceding chapters: the literature review (Chapter 3), the chosen research design and methodology (Chapter 4), the document analysis (Chapter 5), and the analysis of the interviews (Chapter 6), have laid the groundwork for the development of a framework for understanding and steering the implementation process of online learning, with specific consideration for distance education contexts in the global South.

This chapter is divided into two parts. The first part will provide the summative result of thematic analyses of the literature (collated from Chapter 3), the documents and interviews (collated from Chapters 5 and 6), and the final attempt to present a framework for the implementation of online learning. The framework suggests that online learning implementation can be best understood as comprising three distinct, but overlapping phrases [see Diagram 7.2: Schematic presentation of a framework for the implementation of online learning] and thereafter provides several principles to guide the implementation process of online learning. As explained in Chapter 3, there are different models and understandings of the implementation processes, with each of these models conceptualising implementation processes differently, for example, see 3.6.6.1 Integrated model; 3.6.6.2 Laurillard's Conversational Framework: Quality for Online Learning; 3.6.6.3 Higher Education Academy's (HEA's) flexible learning Framework; 3.6.6.4 the e-Maturity Model; and 3.6.6.5 the Hybrid model. In the document analysis (Chapter 5) as well as in the analysis of the interviews (Chapter 6), the three phases of design, development, and implementation were used to cluster the emerging themes, and, as such, the developed framework presents the implementation process in three phases [Diagram 7.2].

The second part of this chapter presents the analysis of the usability testing through a pluralistic walkthrough focus group discussion. As discussed in Chapter 4 (Research Design and

Methodology), the design of the pluralistic walkthrough focus group discussion was aimed at involving several key stakeholders at Unisa to engage with the framework and to provide feedback on its logic and usability.

Below is a visualised map [see Diagram 7.1 Outline of Chapter 7] that the researcher developed to indicate which areas will be covered and discussed in this chapter.

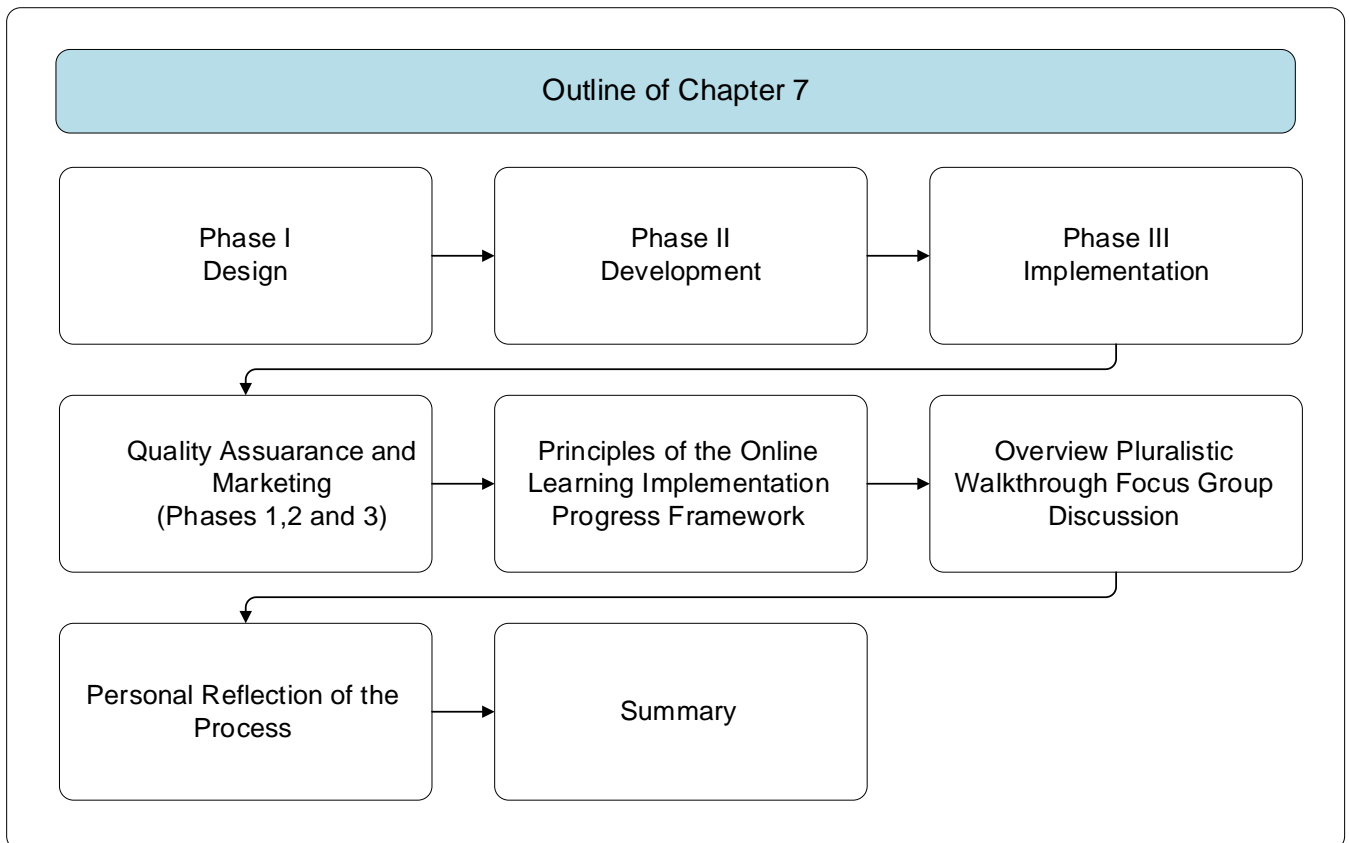


Diagram 7.1: Outline of Chapter 7

The next section will present the outcome of the research aim of this study: a framework for the implementation process of online learning in the global South. Phase I - Design; Phase II - Development; and Phase III - Implementation of the framework will be discussed, followed by the remaining two components, quality assurance, and marketing, and principles developed from the framework.

7.2 A FRAMEWORK FOR THE IMPLEMENTATION PROCESS OF ONLINE LEARNING

This is the culmination of the research done in this study. The framework is presented in Diagram 7.2 (below), demarcated into three phases - design, development, and implementation.

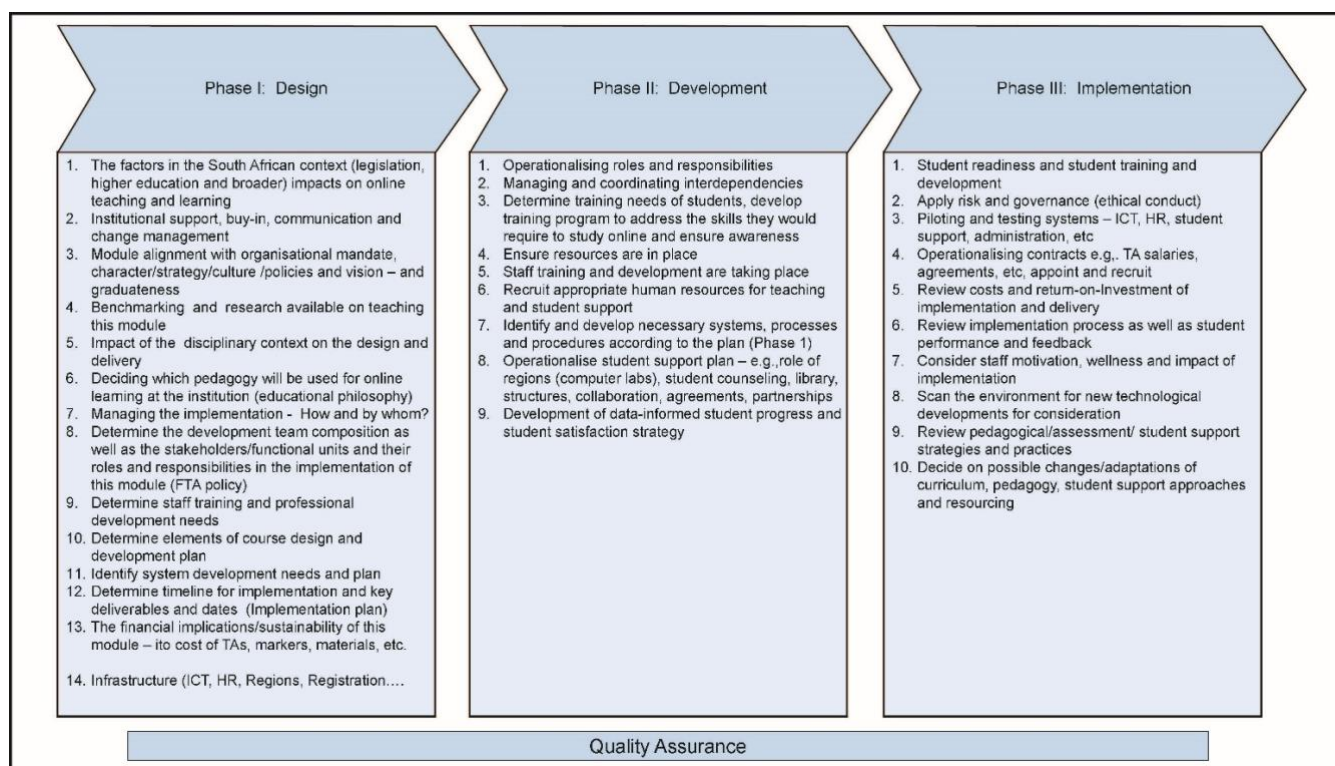


Diagram 7.2: Schematic presentation of a framework for the implementation of online learning.

As mentioned previously, the three phases, while distinct, are also overlapping. While they present a sequential unfolding of the implementation process, some of the elements in a particular phase may be found in other phases as well, albeit with a different scope and purpose. While each of the phases presents a range of elements, with some occurring earlier in the process than others, the purpose of the illustration in each of the phases is to provide an overview of the elements in a particular phase, and not, necessarily, their sequence.

7.2.1 Phase I - Design

The diagram below illustrates Phase I - Design of a framework for the implementation process of online learning.

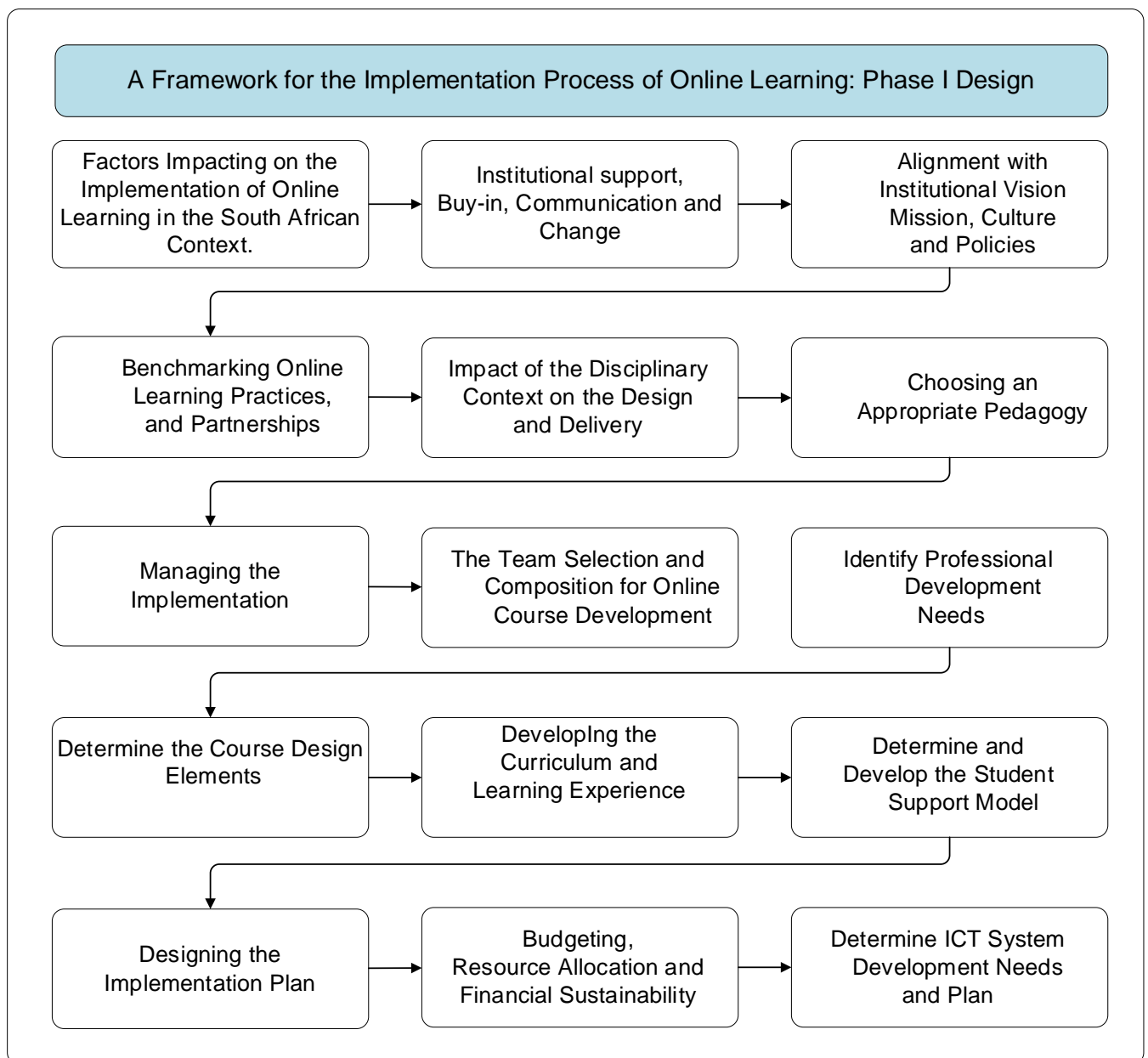


Diagram 7.3: A Framework for the implementation process of online learning Phase I – Design

7.2.1.1 Factors Impacting on the Implementation of Online Learning in the South African Context

Open distance learning focuses on access, equity, affordability, and quality programmes and courseware to enable flexibility of learning, student-centredness, and student support, using modern technologies (University of South Africa, 2018). Access, affordability, quality, and technology advances will be discussed briefly as broad macro-societal factors that impact on the consideration and design of online learning for the online learning framework:

Access: Broadening access to educational opportunities, particularly at the higher education level, is central to the discourses surrounding online learning (Haigh, 2014; Mihăescu & Frăticu, 2016; Theresiawati et al., 2020). In the South African context, the vision of the Department for Higher Education and Training (DHET) is to promote equity and access, which requires HE institutions not only to increase the range of their courses and qualifications but also to provide sustainable access (Department: Higher Education and Training, 2014b). Distance education and online learning offer opportunities to reach students where they are geographically situated (Department: Higher Education and Training, 2014b). This corroborates what is happening internationally where institutions seek to attract increased numbers of students for a number of reasons: profitability and/or competitiveness (Andrade & Alden-Rivers, 2019; CIES/IIE, 2010; Global Ecology LLC, 2011a; Ryan, 2011; Vaganova et al., 2018); to provide access to a wider range of students, particularly those who cannot attend face-to-face institutions (Andrade & Alden-Rivers, 2019; D'Agustino, 2012; Karataş & Tuncer, 2020; Vaganova et al., 2018); to provide access to under-privileged students (Daniel, Kanwar & Uvalić-Trumbić, 2009; Department: Higher Education and Training, 2014b; Karataş and Tuncer, 2020; Vaganova et al., 2018); and to address economic, business, or industry needs (Andrade & Alden-Rivers, 2019).

Affordability: The literature, the document analysis, and the interviews recognise the impact of changes in funding, affordability and cost-effectiveness in higher education (CIES/IIE, 2010; Department: Higher Education and Training, 2014a; Global Ecology LLC, 2011a; Ryan, 2011; Vaganova et al., 2018). The literature also reveals that the change in funding regimes has increased the tension between providing high-quality access as opposed to providing affordable education at scale (Altbach, Reisberg & Rumbley, 2009; Cleveland-Innes & Garrison, 2010; Daniel, Kanwar & Uvalić-Trumbić, 2009; de Wit & Altbach, 2021; Haigh, 2014). As the funding structures changed significantly in public higher education institutions, several universities have experienced substantial budget cuts (Altbach, Reisberg & Rumbley, 2009; Bates, 2019; de Wit & Altbach, 2021). HE institutions, and distance education in particular, need to manage increased access with a decrease in funding and institutional resources. Consequently, when considering the implementation of online learning to address access and affordability, institutions should take care to allocate enough funding to design, develop, and implement courses that are suitable for online delivery as they require substantial investments, particularly in infrastructure (Annamalai & Ramayah, 2013; Chipere, 2017; Clearinghouse for Labor, 2014; Global Ecology LLC, 2011b; P5; P15; Theresiawati et al., 2020).

Quality: Providing quality educational offerings that are competitive and cost-effective is challenging and should be attended to carefully (CIES/IIE, 2010; Department: Higher Education and Training, 2014a; Global Ecology LLC, 2011a; Ryan, 2011). Daniel, and other authors, indicate that DE institutions can increase access, improve quality, and decrease cost when applying technology and implementing online courses under certain conditions (CIES/IIE, 2010; Daniel, Kanwar & Uvalić-Trumbić, 2009; Global Ecology LLC, 2011a; Hill & Lawton, 2018; Lane, 2014; Uvalić-Trumbić, Daniel & West, 2008; Power & Gould-Morven, 2011; Ryan, 2011). HE institutions face a need for high-quality services, products, procedures, and methods, but the challenge does not lie in the invention of new complex technologies, rather in the implementation thereof (Santally et al., 2020). In this regard, and to ensure quality, the gathering and analysing of data can assist planners and designers to improve products, processes, procedures, and systems (Moore, Lockee & Burton, 2002). The application of quality frameworks and standards has the potential to enhance the quality of online learning implementation processes and audits (Chipere, 2017; Govindasamy, 2001; Moore, Lockee & Burton, 2002; the Institute for Higher Education Policy, 2000). Monitoring and evaluation of online learning implementation focuses on whether the intended improvement of quality was achieved (Chelimsky, 1997; Gómez-Rey et al., 2016; Toor and Ogunlana, 2010; W.K. Kellogg foundation, 2017), and a culture of continuous improvement and evaluation should be created in an institution (Leahy et al., 2009).

Advances in Technology: HE institutions can take advantage of positive macro-environmental developments as they expand their online course offerings, supported by advanced technologies, to be more competitive and to provide access to students (Abuhassna et al., 2020; Daniel, Kanwar & Uvalić-Trumbić, 2009; Sarder, 2014; Stefanovic et al., 2011; Theresiawati et al., 2020; Vaganova et al., 2018). The growing use of technologies, the increased application and integration of ICTs, the need to open access opportunities for students, and the blurred roles of universities, offer confusing choices on how best to infuse these changes in higher education (Chernish et al., 2009; Santally et al., 2020; Vaganova et al., 2018). Online learning has, furthermore, become synonymous with easy access to the internet and technology, by means of web-enabled devices such as personal computers, mobile phones, and tablets (Vaganova et al., 2018). The literature review, document analysis, and interview data indicate that the technology footprint needs to be expanded for students to have access to effective internet and bandwidth (Department: Higher Education and Training, 2012; Global Ecology LLC, 2011b; Heydenrych,

Higgs, and Van Niekerk, 2003; Mischke, 2013b; Prinsloo et al., 2011; P2; P13; P10; P15; (University of South Africa, 2012b). The fact that some students lack data and internet access, may, however, result in feelings of prejudice towards underprivileged pupils (P10). Student needs are different as their demographics differ (for example urban areas are more resourced than rural areas in South Africa), and institutions need to address those needs in providing support to lifelong students (Boticario et al., 2012).

7.2.1.2 Institutional Support, Buy-in, Communication, and Change

The literature, document analysis, and interviews confirm that before implementation proceeds, buy-in for online learning implementation needs to occur at the institutional level, and it should include all stakeholders (Kordnaeij, 2016; Moir, 2018; Tawse & Tabesh, 2020) so as to preclude flaws in the design of the implementation. The success of the implementation process depends not only on buy-in but also on the identification and commitment from different stakeholders (Andrade & Alden-Rivers, 2019; Burke, 2013; Group 2; Holmberg, 2005; Meyers, Durlak & Wandersman, 2012; Ryan, 2011; Varonis, 2014), and, especially, from executive management (Burke, 2013; Global Ecology LLC, 2011a; Global Ecology LLC, 2011d; Meyers, Durlak & Wandersman, 2012; Ryan, 2011; University of South Africa, 2011a). This last was especially the case with Unisa, where the support of executive management (Vice Chancellor and Pro Vice-Chancellor) was central to the success of the project, as was confirmed by the cited documents and several interviewees. Buy-in from executive management is also foundational in ensuring an enabling ICT infrastructure and a supportive ICT environment for both academics and students.

Communication: Evidence from the analysis shows that communication plays a significant role in the success of the implementation process in multiple areas, for example, communicating the overall vision to all stakeholders, sharing online teaching and learning strategies and goals, and related strategic plans and ideas (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013; Mabert, Soni & Venkataramanan, 2003; Moore, Lockee & Burton, 2002; University of South Africa, 2012a; (University of South Africa, 2012b). Different communication strategies may be used to create a common understanding and awareness of online learning in the institution, and to the students. Some of these may include strategic campaigns, presentations to College Deans and other stakeholders, workshops, internal and external media campaigns using newspaper and radio, social media (Twitter and Facebook), and different communication platforms such as

emails, websites, brochures, flyers, online bulletin boards, etc. (Andrade & Alden-Rivers, 2019; P7; P3; P7; (University of South Africa, 2012b). Effective communication to stakeholders should factor in staff and students' favourite communication preferences (D'Agustino, 2012; Sun & Chen, 2016).

According to Annamalai and Ramayah (2013), regular feedback to all stakeholders is crucial for the success of the implementation process. Communication also forms an integral part of quality assurance management, and a communication policy with communication guidelines should form part of the quality management online course design standards (Salama et al., 2015; Zimmerman et al., 2020).

Change: Resistance to change from stakeholders influences the implementation process of online learning which may result in project implementation failures (Annamalai & Ramayah, 2013). To mitigate this, executive management needs to institute change management processes across the institution to encourage all stakeholders to adopt online learning (Andrade & Alden-Rivers, 2019; Ossiannilsson & Landgren, 2012). Policies, rules and reporting, according to Bolman and Deal's theory-based human resource framework (2017), assist in supporting change management (Andrade & Alden-Rivers, 2019).

Several interviewees referred to a reluctance to change by those academics who are used to more traditional ways of teaching, and who do not see the need to change towards a fully online learning concept (e.g., P15). Evidence shows that benchmarking with other HE institutions as well as professional development help to support staff in adjusting to online learning concepts (AIRN, 2020; P11; P15; University of South Africa, 2011d). For the design team, learning from mistakes and design errors in the implementation process is key to successful implementation and adapting to change (Meyers, Durlak & Wandersman, 2012; P6).

7.2.1.3 Alignment with Institutional Vision, Mission, Culture, and Policies

Alignment with vision and mission: Planning and design of online teaching programmes should be aligned with the institutional vision and mission. To ensure that digital transformation takes place, the institution's mandate should be visible in the vision and mission, and should be relevant and suitable for online offerings with integrated institutional plans, and processes for the

development, implementation, evaluation, and sustainability of online offerings (Bajinath, 2015; Global Ecology LLC, 2011a; P5; P15; Salama et al., 2015; University of South Africa, 2004). As an example of such, Unisa's mission included fostering collaborative ties with its stakeholders and external partners to meet the requirements of a globally competitive society.

Culture:

Evidence from the analysis suggests that the implementation process of online learning is affected by culture. The literature distinguishes between national and institutional culture, as well as differences between cultures in the global north and south (Annamalai & Ramayah, 2013). For example, factors impacting on national cultures in developing countries may be the growth and status of the economy, the status of the infrastructure (Abuhassna et al., 2020; Annamalai & Ramayah, 2013), specific government regulation, IT development, firm size, and absence of process management (Annamalai & Ramayah, 2013; McConnel (2018), Theresiawati et al., (2020). Examples of different institutional cultures are a culture of quality assurance (Santally et al., 2020), a culture of critical reflection (McConnell, 2018; P16) a culture of innovation (Varonis, 2014), and a culture of autonomous, independent, and self-directed students (Andrade & Alden-Rivers, 2019; P6). McConnell (2018) points out that although China has a robust economy their teaching culture is relatively rigid as the lecture mode dominates. According to Annamalai and Ramayah (2013), institutional culture is shaped by values, beliefs, and traditions which impact on relations, policy developments, business systems, and principles. Andrade and Alden-Rivers (2019) indicate that shared goals and trust between the process owners, managers, staff, and all partners and stakeholders are key factors to the successful implementation of systems. Several interviewees referred to the role of executive management in shaping institutional culture as well as the impact of Unisa's character as an open distance learning institution on the African continent on the design and implementation of online learning (P6; P10; P15).

Policies:

The impact of policies on the implementation processes of online learning is evidenced in the literature, document analysis, and interviews. National (governmental) policies need to be in place to provide context and guidance to HE institutions in South Africa. These policies guide decisions on the increased demand for affordable educational access and the increased use of technology (Department: Higher Education and Training, 2014a). Institutional policies are used to guide effective online learning implementation (Andrade & Alden-Rivers, 2019; D'Agustino,

2012; Sun & Chen, 2016; Santally et al., 2020; Salama et al., 2015; P2; P5; Sudarwati, 2018). In the case of Unisa, the Pro Vice-Chancellor's office was encouraged to oversee a comprehensive review of online teaching and learning policies during the initial stages of the project (CIES/IIE, 2010; Global Ecology LLC, 2011b; P2). The literature also provides evidence of the role of policies in the implementation process such as a curriculum policy that needed to be adjusted to cater for the university's vision, pedagogy, and technology goals (D'Agustino, 2012; Global Ecology LLC, 2011d). The implementation of online learning also necessitates the revision of policies dealing with designing online learning courses and the use of appropriate technologies such as desktop computers, laptops, mobile phones, tablets, and the internet (Sun & Chen, 2016). Using Unisa as an example, the university also prepared and finalised human resource policies that govern the HR processes when implementing a recruitment strategy to advertise for permanent or part-time candidates (Global Ecology LLC, 2011b).

7.2.1.4 Benchmarking Online Learning Practices and Partnerships

The second element in Phase I: Design refers to the role of benchmarking, research, and collaborative partnerships in online learning. The literature review, document analysis, and interviews corroborate the need to ensure that the necessary market research, engaging with research findings, and benchmarking take place (Ossiannilsson & Landgren, 2012). During the pluralistic walkthrough focus group discussions, Groups 1 and 2 underline the significance of benchmarking and research, recommending it as a prerequisite when designing the content for online modules. Benchmarking, furthermore, assists with the implementation of best practices, for example, how online learning modules are designed and developed at other institutions (Global Ecology LLC, 2011a; P2; P4; P8; Ryan, 2011). Research assists in collating information for decision making and is a necessary partner in the ongoing improvement of teaching and learning practices. The literature review and the document analysis indicate that a dedicated research unit and/or centre could assist not only in supporting academics with specific research but also with the arrangement of conferences, research forums, and logistical and financial support (Andrade & Alden-Rivers, 2019; Mischke, 2012c). Forming collaborative partnerships adds to available expertise and experience when considering the implementation of online learning. As underscored by several practitioners, collaborative partnership is high on the international and national higher education agenda (Altbach, Reisberg & Rumbley, 2009; Department: Higher Education and Training, 2014b; Leahy et al., 2009; Ryan, 2013).

Ossiannilsson and Landgren's study predicted new paradigms of globalisation, learning collaboration and networking as part of the revolutionary changes for the future (Ossiannilsson & Landgren, 2012). Evidence from the literature, and the analysis of documents and interviews, emphasise that partners/stakeholders are an important part of the online learning vision by influencing the direction of the institution and building supporting partnerships across the university to address communication and coordination (Andrade & Alden-Rivers, 2019; P13; P15).

7.2.1.5 Impact of the Disciplinary Context on the Design and Delivery

Evidence from the analyses shows that designing the courseware is not only an important element in the success of the implementation process of online learning but that it also requires a deep understanding of the characteristics of the institution, the disciplinary context, its students, and the limitations and scope of ICT infrastructure and support. D'Agustino (2012) and some of the interviewees (P6; P10) refer to the way in which disciplinary requirements may vary as some courses will require more resources due to their practical nature, or to the specifics in the discipline, the former exemplified by the module called Ethical ICTs for Development Solutions (EUC/EUP1501), and the latter by the approach to sustainable development in Sustainability and greed (SUS1501), (P6; P10). The interviews also revealed that the disciplinary context may have an impact on the training provided to the teaching assistants because they will be required to be knowledgeable on the different software applications that are used within a specific course, and will need different training (P9). Disciplinary contestation between departments and the College may be experienced due to silo management and territorial cultures (P10).

7.2.1.6 Choosing an Appropriate Pedagogy

The literature, document analysis, and interviews indicate the importance of adopting an appropriate pedagogical approach that will enhance the development of quality online courses (Daud & Farrah, 2013; McConnell, 2018; Ossiannilsson & Landgren, 2012; Santally et al., 2020) since there are specific pedagogies for, and theoretical approaches to online learning (Bates, 2019; Cleveland-Innes & Garrison, 2010). For instance, connectivism refers to a pedagogy/learning theory that promotes interaction through the internet by sharing information and learning from it, while the Community of Inquiry approach (COI) (Bates, 2019; Cleveland-Innes & Garrison, 2010) is grounded in a collaborative constructivist view where learning takes place when social, teaching, and cognitive presences intersect (also see Garrison, Anderson and Archer, 2000).

The choice of learning theory/pedagogy accords with a student-centred approach, where courseware that promotes high interaction and participation levels from students and academics should be specifically designed and developed, depending on the disciplinary context (see previous discussion) (D'Agustino, 2012; Global Ecology LLC, 2011a; Songkram, 2017). In the

approach chosen by Unisa, it was foreseen that students should be in control of their learning and become self-directed learners (Global Ecology LLC, 2011a; P10). Pedagogical strategies to promote social presence in online learning include 'introductions' in the course, and compiling assessments through collaborative group projects, to allow students to reflect on their own experiences during interaction and online discussions with other students (P5; P16; Trespalacios and Perkins, 2016). Another component of the pedagogical strategy evident in the Unisa case study is the role of reflection which is seen as key to ensuring that students are able to articulate what they learned in the online courses, but also to encourage interaction between students/peers, and academics (P13; P15; P16).

Thus far the researcher has discussed the following Phase I design elements, coloured in blue (see illustration below). The remaining design elements will be discussed in the following section.

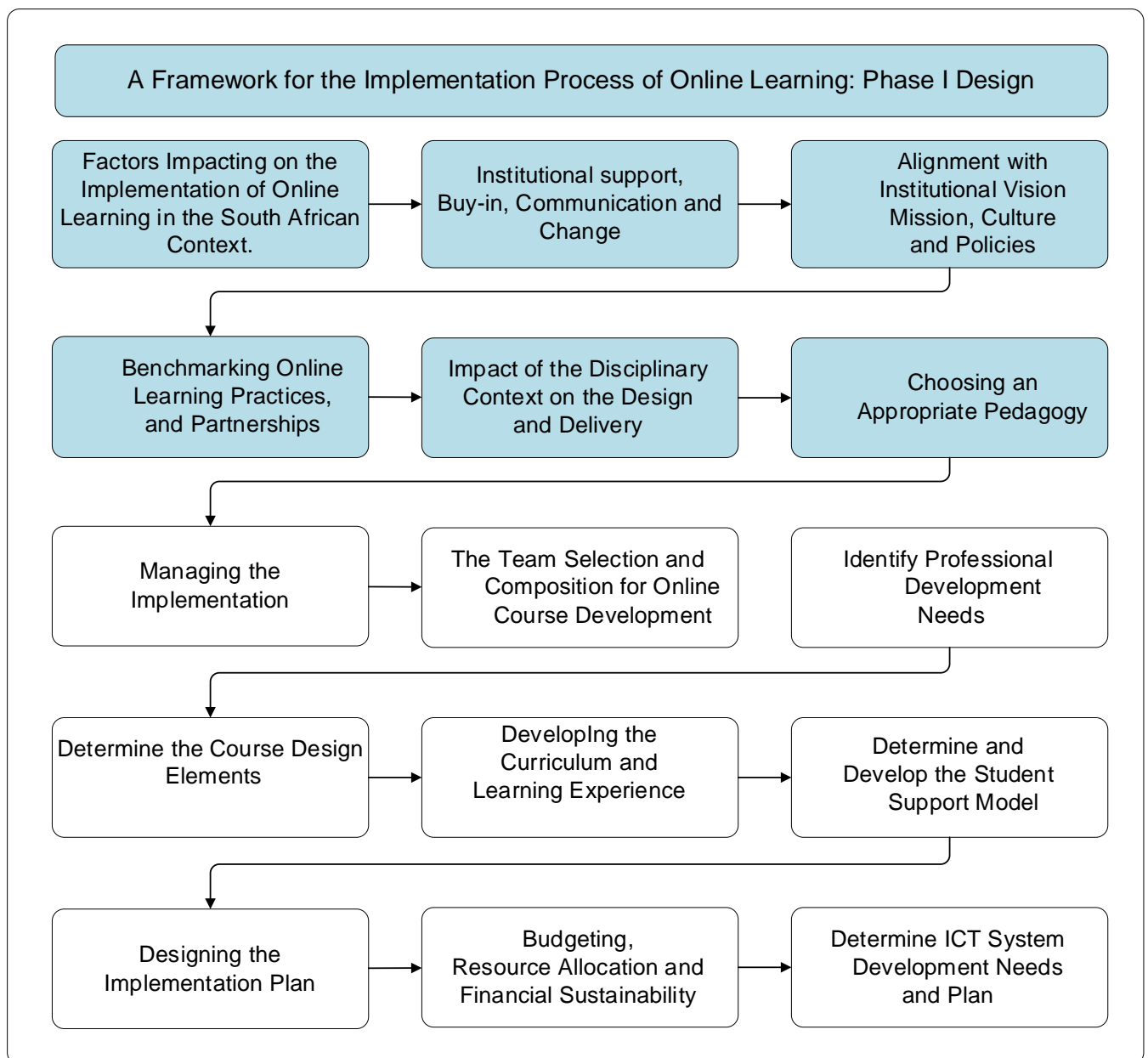


Diagram 7.3: A Framework for the implementation process of online learning Phase I – Design

7.2.1.7 Managing the Implementation

While the role of institutional buy-in and specific support by executive management was mentioned earlier (section 2.1.2), the evidence from the analysis also points to the need to clarify roles and responsibilities as well as ensure oversight and project management. In the case of Unisa, the management of the implementation process of the online courses was done with the support and backup of the leadership, the project manager, and executive management (Vice Chancellor, Pro Vice-Chancellor and Executive Director to the Pro Vice-Chancellor) and

indications are that they performed effectively (P12). Mabert et al. (2003), in a case study on the implementation of Enterprise Resource Planning (ERP), indicate the commonalities in a management approach: commitment and support from senior executives; executive leadership steering cross-functional steering committees; and empowerment to make crucial decisions during all stages of planning [also see 7.2.1.13: Designing the Implementation Plan].

7.2.1.8 The Team Selection and Composition for Online Course Development

While designing online courseware is one of the major priorities of academics as they are ultimately responsible and in control of the teaching, learning, and delivery process (Andrade et al., 2022; Sun & Chen, 2016; Theresiawati et al., 2020), a central concept that emerged in the analysis of the literature, documents, and interviews was that courseware design and development is not an isolated activity but takes place by means of a team approach (Andrade & Alden-Rivers, 2019; Andrade et al., 2022; D'Agustino, 2012; Govindasamy, 2001; McGuinness & Fulton, 2019; P10; P15; Varonis, 2014). A key objective is to select a highly qualified and balanced team consisting of professionals with exceptional experience and knowledge so as to apply best practices in the design and development of online courses (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah 2013; Global Ecology LLC, 2011a; P10; P15). Teams should consist of a combination of internal and external specialists who will train, support, and motivate all the functional members to acquire the relevant online learning knowledge and the technical skills required. The team may consist of the following members (Annamalai & Ramayah, 2013):

- 1) Management (executive and functional) (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013; Global Ecology LLC, 2011a).
- 2) Academics (subject specialists) focusing on the course content, objectives, and outcomes (Andrade & Alden-Rivers, 2019; D'Agustino, 2012; Global Ecology LLC, 2011a; Govindasamy, 2001; P3; P15).
- 3) Instructional designers (or, in the context of Unisa, education consultants or learning designers) assisting with the application of appropriate teaching and assessment strategy choices and technologies during the course design, for example, web design and LMS, and who should ensure that the educational technologies support the course content, learning objectives, and assessment strategies (D'Agustino, 2012; Global

Ecology LLC, 2011a; Govindasamy, 2001; Mischke, 2012c, 2012d; Moore, Lockee & Burton, 2002; P5; P6; P10; P13).

- 4) Media and technical specialists who should identify appropriate applications of media, for example, video and audio recordings and presentations, web navigation and LMS support, for example, plug-ins, to support the learning outcomes (D'Agustino, 2012; Global Ecology LLC, 2011a; Lockee & Burton, 2002; Mischke, 2012c, 2012d).
- 5) Management consultants/specialists to assist and guide online implementation and course design (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013; Global Ecology LLC, 2011a).
- 6) A functional team to ensure successful implementation, to be represented by ICT personnel and consultants, suppliers, and staff (Annamalai & Ramayah, 2013; P13).

Team member's roles need to be clearly defined, for example, deciding which roles would involve programme coordination, project management, or normal learning design work (P5). During the document analysis and the interviews, the following departments and units discussed the roles and responsibilities of the teaching assistants, Human Resources Department, the Centre for Professional Development, the Department of Courseware Learning and Design (DCLD), the regions and telecentres, ICT, and the Library. However, in the interviews, the following additional support roles were identified: video and sound, the department of student registration, the department of academic planning, the legal department, and the budgeting and costing department. Other functional units can be the departments of study material print production and distribution, corporate communication and marketing, student registration, and the departments of student administration and assessment (Global Ecology LLC, 2011a). ICT worked with all the role players (Annamalai & Ramayah, 2013; Global Ecology LLC, 2011a; Mischke, 2014b; P5; P10; P13).

7.2.1.9 Identify Professional Development Needs

Central to designing the online learning experience as well as the process for the implementation of online learning is professional development (PD) which is required for academics as well as teaching assistants. A training needs analysis should be conducted during the design phase to be able to develop the specific online training programmes. These include training in best practices and standards in ODL curriculum development and course delivery (CIES/IIE, 2010;

Global Ecology LLC, 2011c; Mischke, 2012d; Ryan, 2013). Academics need to be knowledgeable about the appropriate online pedagogy and pedagogical strategies that were chosen, and how to implement these (Andrade et al., 2022; McConnell, 2018; Northcote et al., 2019; P15). Technical training may include: how to download materials onto a learning management system, software training in how to work with learning management systems, and ICT integration in the courseware by means of discussion forums, and announcements (Daud & Farrah, 2013). The literature consulted as well as the interviews refers to training needs that are required for digital computer skills, marking assignments online, and language development training (Daud & Farrah, 2013; P11).

In the case of Unisa, the teaching assistants' training requirements were identified and an online learning training programme was developed on a virtual learning environment (VLE). The teaching assistants received training certificates after completing the online training course (University of South Africa, 2012a). Strict quality assurance protocols were put in place to prohibit teaching assistants from tutoring or marking if they did not complete the VLE training programme (College of Economic and Management Sciences, 2013; College of Law, 2013).

The Centre for Professional Development (CPD) at Unisa developed a series of academic-certified training programmes for academics, instructional designers and teaching assistants (Mischke, 2012c, 2012d).

7.2.1.10 Determine the Course Design Elements

The literature consulted for this study shows that there are shared elements in the design of online courses, such as: curriculum aspects; course content; course delivery; student learning tasks; interaction/how much engagement/what kind of interaction; integrated and responsive student support plan; the use of teaching assistants; continuous assessment (how many assignments, type of assignments, summative/formative assessment); and user experience, satisfaction, and readiness (Andrade et al., 2022; Govindasamy, 2001). The document and interview analyses provide evidence that the online courses at Unisa followed a standardised design applicable to all Unisa courses, and included a focus on the development of content, assessment formats and number of assignments, and consideration of student support, online prescribed textbooks, multimedia aids, and course interactivity.

The document and interview analyses indicated that the number of assignments increased to accommodate continuous assessment, and ranged in some modules from 9-13 formative assessments (Mischke, 2012a; P6; P8). The number and due dates of assessments need to be realistic, otherwise it would not be possible to assess these assignments effectively and provide timeous feedback to the students (P1). No printed prescribed textbooks are allowed (P6), and where possible, the use of OERs should be encouraged (Global Ecology LLC, 2011a). The modules should make use of multimedia, for example, visual presentations, supplementary videos and audio (podcasts), and visuals. Assessments should be as interactive as possible through group work, e-portfolios, assignments, discussion forums, and blogs (Andrade et al., 2022; Boticario et al., 2012; P6; P11; P13; Theresiawati et al., 2020).

All of these elements, as well as the issues raised in the subsequent paragraphs, need to be considered in designing the implementation plan and strategy for online learning implementation. The importance of online learning concepts and context should be well understood (P1; P2; P5; P6; P10; P8; P12; P13; P15; P16).

7.2.1.11 Developing the Curriculum and Learning Experience

One of the internationally accepted top priorities for involving academics in the design of online courses is to develop a transformed curriculum that is academically sound, embeds context relevance, and is flexible and consistent/rigorous (Andrade & Alden-Rivers, 2019; Global Ecology LLC, 2011b; Salama et al., 2015; Sun & Chen, 2016; P10, P5, P7; P16). Evidence from the interviews suggests that there was a clear commitment to curriculum transformation by moving away from print-based teaching to interactive online learning (P16). In the local context, the curriculum needs to be designed so as to integrate the South African context to give it its own brand identity. The courseware has to include, for example, the economic and technological developments impacting on the South African context to make the online learning curriculum relevant (Global Ecology LLC, 2011b; P7; P10; P13). The case study revealed that the online learning team developed resource databases to assist with 'context material' and 'instructional strategies', and these resources assisted with the ongoing efforts to improve the curriculum (Global Ecology LLC, 2011b).

When online courseware is designed and developed academics should use different online instructional methods to meet students' diverse needs (Suderwati, 2018 Sun: & Chen, 2016). Course design should consider students' technology skills, preferred learning styles, and communication preferences (D'Agustino; 2012; Global Ecology LLC, 2011b; P2; P15). Online material should be accessible to students and should adhere to the institution's ethical, moral, and academic values, codes, and regulations (Chaeruman, Wibawa & Syahrial, 2020; P15). Academics should organise the content, assessments, and resources, using chunking and scaffolding techniques (release information and or assessments when required) (D'Agustino, 2012; P6). When the institution promotes a self-directed learning process the assessments should be 'front-loaded': students receive the material and work at their own pace (Global Ecology LLC, 2011b). Teaching and learning material could include additional resources, for example, MS PowerPoint lecture notes, mini lectures, and discussion platforms for reflection (Sun & Chen, 2016). Learning objectives and outcomes should be clearly defined in the course content (Global Ecology LLC, 2011b; Ossiannilsson and Landgren, 2012; University of South Africa, 2011e) and the design team should ensure that the learning objectives and outcomes are reached. During course design and development academics need the support of instructional designers, learning specialists, and language, graphic and layout specialists (Mischke, 2012c, 2012d).

Delivery modes of online learning can be synchronous (real-time) and/or asynchronous, or a combination of synchronous and asynchronous activities (Chaeruman, Wibawa & Syahrial, 2020; Neuwirth, Jović and Mukherji, 2021; Chan, Bista and Allen, 2021). Academics and instructional designers should use user-friendly methods and multimedia materials, for example, audio and visual media, videos podcasts, and visuals (Theresiawati et al., 2020; P6), and social networks including blogs, Twitter, websites and learning management systems (LMS) (Abuhassna et al., 2020; Global Ecology LLC, 2011b; Sarder, 2014; University of South Africa, 2012b; University of South Africa, 2013a). To address concerns about students' access to the internet, innovative solutions should be sought out, such as memory sticks (Klobas and McGill, 2010) or, in the case of Unisa, issuing students with Digi-bands which were central in providing the students with their courseware if they did not have access to the internet (Myburgh, 2012; P3; P5; P16; University of South Africa, 2012b) [see 7.2.1.10 Determine the Course Design Elements].

Learning tasks and interaction form a critical part of the course material. Academics are encouraged to make the courseware as visual and interactive as possible and to assist students to reflect and articulate their own experiences. Learning can take place using different learning strategies, for example, group work, discussion forums, announcements, tutorials, assignments/quizzes, and social media, blogging and links to other resources, for example, frequently asked questions (D'Agustino, 2012; Daud & Farrah, 2013; McGuinness & Fulton, 2019; P6; P9; P11; P13).

A threaded discussion is one example that encourages interaction and allows students to reflect on their opinions (P6). The online discussion forum was used for assessments where students had to: post a piece expressing their opinion on a particular issue; read through other students' opinions; and reply to at least three students [See 7.2.1.6 Choosing the Appropriate Pedagogy]. Course material should be developed in such a way that it enhances effective online instruction, interaction and communication between the academic and the students individually or in groups (Andrade & Alden-Rivers, 2019; Northcote et al., 2019; Sun & Chen 2016; Theresiawati et al., 2020) [see 7.2.1.10 Determine the Course Design Elements].

Two categories of assessments, summative and formative, should be based on purpose, validity, fairness, reliability, significance, and efficiency (D'Agustino, 2012; P2). Assessment should have schedules and timelines (Sun & Chen, 2016). Stefanovic et al. (2011) and the University of South Africa (2012b) indicates that academics should design different assessment methods, for example, computer-based assessments and e-portfolios (Mischke, 2012c; 2012d; Ossiannilsson & Landgren, 2012; P6; University of South Africa, 2012b), and online cooperative learning (McConnel 2018; Northcote et al., 2019).

Evidence from literature and the interviews suggests that a central design element in successful online learning implementation is to increase continuous formative assessments fairly early in the course as this ensures that expectations from students and teachers are met (Mischke, 2012a; Northcote et al., 2019; P4; P8; P10; P13; University of South Africa, 2012b). Plagiarism structures should be implemented to ensure that students do not plagiarise, for example, Turnitin (Ossiannilsson & Landgren, 2012) [see 7.2.1.10 Determine the Course Design Elements].

The demand for online course offerings and the development of these courses are increasing and the quality concerns of administrators and colleges have motivated the development of standardised online quality standards (Srinivasa et al., 2012; Varonis, 2014). Course standards are used as a blueprint for designing and enhancing all online courses and programmes, and to avoid varying levels of quality (Srinivasa 2012). The standards document and complementarity policies help ensure that programme goals and outcomes are being met (Srinivasa et al., 2012). Consistency in the design of online courses is an important goal, and, with that, in mind, the online course standard module template was created (Global Ecology LLC, 2011b; Santally et al., 2020).

Evaluation of the course material should be a continuous process and should start at the beginning of the course design continuing through to development. The Signature Course team had weekly evaluation meetings which were well attended with an audience of between 30 and 50 people who presented and explained how the courses work, warned of the challenges, and continuously ensured quality by evaluating the implementation consistently (P10; P13; P14).

7.2.1.12 Determine and Develop the Student Support Model

Integral to designing online learning and its implementation is that student support should intentionally be designed and embedded in the courseware for students to be successful (Andrade & Alden-Rivers, 2019; McConnell, 2018; Salama et al., 2015; P12). There are various innovative ways to support students, for example, by creating short videos or by integrating a 'Learning Unit Zero'¹⁵ to explain institutional and course expectations and orientate students towards 'learning online' by using the learning management system (they should be able to navigate the LMS system prior the commencement of the course). Other ways are by providing online tutorial access, and instituting a Help Desk for technical support using various strategies, for example, face-to-face walk-in, telephone and/or call centres, electronic mail and social media live chats (Andrade & Alden-Rivers, 2019; Global Ecology LLC, 2011b; P11; Salama et al., 2015). Other ways to support students are assisting with online module registration, online library access, and e-tutors/tutorials (Ossiannilsson & Landgren, 2012; Salama et al., 2015). Apart from determining the student support model Group 3 in the pluralistic walk through discussion forum

¹⁵ Learning unit zero was a proposal to embed a unit in the beginning of the study to prepare, inform and orientate the students on elements of online learning before they start the academic journey

indicated the importance of determining the student training needs to be part of the design phase to ensure that the institution develop customized training and orientation programs to address the skills they would require studying online environment. Group 2 in the pluralistic walkthrough discussion forum indicated that more focus should be placed on student involvement in phases I, II and III. Group 1 added the need to have information about students with special needs who should be catered for differently, for example, physically impaired students should not be required to travel to examination venues or regional offices (Andrade & Alden-Rivers, 2019; Boticario et al., 2012). Language barriers were also noted, particularly by Group 1, which advocated the development of online courseware to assist in English language facilitation, not only for the academics but also for the students, who need to study and write examinations, often in their third language. Caution should therefore be taken not to use unnecessary or difficult language terms to make it as easy as possible for students to function. After Covid, Unisa implemented a MOOC to cater for first-year students, which, according to Group 1, was a good initiative. However, this covered advice only for registration and there were no feedback reports to key people.

Teaching assistants

During the design phase, the decision to implement teaching assistants as part of the student support model is important as it influenced the activities in the design and implementation phase. According to the document analysis, the implementation of teaching assistants was key to the online learning model's success in the case of Unisa (P1; P10; P12; P13). The envisaged roles of these teaching assistants were to assist students online with enquiries, with assignments, and, most importantly, with finding their way in the online environment by helping them to access e-resources, gaining practical experience in the use of digital soft- and hardware, and complete practical assignments using different e-tools (P1; P6) [also see 7.2.3.3 Operationalising Contracts e.g., teaching assistants' salaries, agreements, etc, appointing and recruiting]. There were questions around such issues as the number of students assigned to each teaching assistant and how many teaching assistants would be needed per module (P12; P16), and, after many deliberations, it was decided that a teaching assistant should have a total of 200 students, divided into groups of 50 students (P11). There should therefore be a Human Resources plan in place to guide the recruitment of teaching assistants, one which includes the HR requirements for teaching assistants (Groups 1 and 3).

7.2.1.13 Designing the Implementation Plan

The development of an implementation process or plan to clarify roles and responsibilities with defined milestones is crucial for successful implementation (Active Implementation Research Network, 2020, Mabert et al., 2003; Meyers, Durlak & Wandersman, 2012). According to Group 2 of the pluralistic walkthrough focus group discussion, there should be terms of reference in place between those who manage the implementation and the functional units and their roles and responsibilities. The implementation plan should consist of the following key components: define goals/objectives; provide a milestone schedule which is inclusive of deadlines and project timelines; ensure adequate resources by allocating resources to tasks and milestones, allocating team members to roles and responsibilities; define how to measure success; ensure that a plan is in place to adapt if plans need to be changed; and determine how often progress and success will be evaluated through, for example, quarterly reports and/or reviews (Eby; 2017; Mischke, 2012c) [also see 7.2.1.8 The Team Selection and Composition for Online Course Development].

As stated in Section 7.2.1.2 (Institutional support, buy-in and communication), all stakeholders must be involved/consulted in terms of the implementation process. Evidence from the interviews suggests that some stakeholders felt that they had not been consulted. These included staff from the regions (P6; P11), HR (P12), and the teaching assistants (P1). Further, the implementation plan should factor in all the interdependencies between functional areas, as illustrated in 2.2.1.1 Operationalise roles and responsibilities.

7.2.1.14 Budgeting, Resource Allocation and Financial Sustainability

In the literature referring to the implementation of online learning, cost has always been a central consideration (Awang et al., 2018; Awang et al., 2018; Bates, 2019; D'Agustino, 2012; Hülsmann & Shabalala, 2016; Power & Gould-Morven, 2011; Santally et al., 2020; Zawacki-Richter & Jung, 2023). This includes the cost of infrastructure, the development of online courses, and/or cost to students. The principal notion of 'economies of scale' results in a decrease of cost per unit as more students enrol in courses. Distance education has always been regarded as more affordable than traditional face-to-face education (Department: Higher Education and Training,

2014b; Daniel, Kanwar & Uvalić-Trumbić, 2009; Hülsmann & Shabalala, 2016). Apart from economies of scale, effective cost management can be achieved through effective curriculum design, careful material development, selection of appropriate media, and by avoiding spending on major physical infrastructure such as buildings (Department: Higher Education and Training, 2014b). In this light, costing models are required to ensure effective cost management, and should be used when buy-in from leadership is required for the implementation of online learning (Chipere, 2017; Cox, Issa & Ahrens, 2003).

Online learning can be costly and time-consuming for the academic making it imperative that cost-effective media are chosen (Andrade & Alden-Rivers, 2019). In some cases, costs can be justified by following the principle of student-student interaction as against student-academic interaction (Hülsmann & Shabalala, 2016).

It is important to have the financial resources available to accomplish online learning enhancements and to divide the resources differently to reach future ideas, be more efficient, and manage better (Andrade & Alden-Rivers, 2019; Daud & Farrah, 2013; P15; P18). Leadership and team member involvement is required on an ongoing basis during implementation to ensure that cost and time are monitored effectively (Annamalai & Ramayah, 2013; Baijnath, 2015; Global Ecology LLC, 2011a; Group 4; P5; P14; P15).

The budgeting and costing department in the case study demonstrated that there is not much of a cost difference when comparing paper-based instruction with online learning instruction (P14). The analysis of the interviews shows that participants believed that when courseware is designed the institution does not pay additional development costs as these were embedded in the staff salaries as a fixed component (P14). This is likely the case at many other universities because the same people are active in both the online and the paper-based models. The time invested in the design and development of the study material and the salaries of the academics are fixed costs; it is only other variables, such as the delivery or distribution of materials that adjust the cost structures. According to the response from a participant during the interviews, before the implementation of online learning, implementation expenditures included costs for the printing of study material, distributing formative and summative assessments, paying courier fees to distribute assessments to and from different destinations, and examination venue costs. These savings need to be considered when determining whether online modules are cost-effective

(P14). But reverting to technology also means investing in it. As a result, while there might be savings in postage, printing, couriers, examination sites, and invigilators, there is also a vital need for increased investment in the ICT environment and the salaries of teaching assistants (P14).

The budgeting and costing department in this case study played a supportive role in online learning implementation owing to their extensive knowledge and experience of Unisa's operations. Management accountants do not only look at the numbers (the currency), but also at the value-adding activities behind the project in order to decide what generates revenue or expenditure (P14). During the pluralistic walkthrough focus group discussion Group 4¹⁶ indicated that financial implications/sustainability should be measured throughout the project. Activity-based costing assists in budgeting, and costing specialists can provide statistical revenue and expenditure reports, and provide information on payments, for example, to vendors (P14).

Interestingly, early in the design of the online courses at Unisa, there was an assumption that staffing costs, which are typically driven by the high personnel costs associated with hiring full-time academics, would be reduced as there would be less need to rely on permanent staff, a logical consequence of the philosophy of self-directed learners and co-instructors (Global Ecology LLC, 2011a; Global Ecology LLC, 2011b). Unisa did not save money since, despite the expectation, the permanent academic staff appointed did not decrease. In addition, teaching assistants are hired on a part-time basis, and are remunerated at an hourly rate which makes the appointment of teaching assistants more sustainable (Mischke, 2012b).

7.2.1.15 Determine ICT System Development Needs and Plan

Planning and designing online learning courses and the processes that guide their implementation is a complex task that includes many factors (Stefanovic et al., 2011), and institutions are compelled to develop a well-crafted ICT institutional plan and a specific online learning ICT plan (D'Agustino, 2012; P8). ICT needs to be integrated into the entire project, and ICT involvement in the upgrade or adjustment of existing systems and the development of new systems is essential. Where it is not possible to develop a system in-house, software applications need to be sourced externally (Mabert et al., 2003; Mischke, 2012c; P2; P16; University of South

¹⁶ The pluralistic walkthrough focus group discussion responded as groups and not as individuals, therefore the researcher will reference the groups

Africa, 2012b). For example, some of the factors that would need to be considered when developing ICT systems are: which software applications are required to make essential changes and/or adaptations, create capacity in the ICT environment, expand ICT services to serve the online modules (P2: P8; P16), and keep abreast of new technology advancements (Mischke, 2012c).

Effective online learning requires access to student data – both historical, demographic, and/or behavioural. If such a system is not in place or does not allow seamless integration of student data from a variety of sources, the system(s) would need to be changed/upgraded to allow the retrieval of user information such as personal needs and preferences. It is, therefore, important to have a system in place to provide personal information, accessibility preferences, goals and competencies, qualifications, certificates, licenses, and psychological profiles and skills (Boticario et al., 2012). To corroborate this essential service, multiple analytical resources can be used as supporting evidence to obtain buy-in from leadership, for example, quantitative and qualitative reports such as statistics, successes, challenges and trends (Andrade & Alden-Rivers, 2019). These reports can include the at-risk students, and information on the student profile such as student characteristics, learning pathways, specific needs, and expectations (Santally et al., 2020).

Factors that may influence the design of the online learning experience are the choice of specific media and learning management systems that are easy to use (Theresiawati et al., 2020). The degree to which a student is willing to use an online learning system depends on its dependability, and responsiveness (Theresiawati et al., 2020). This document analysis provides evidence of an institutional commitment to ensure that ICT delivers systems that are effective, with minimum downtime (University of South Africa, 2012a). The LMS should furthermore be efficient and capable of supporting teaching and learning interactivity (Mischke, 2014a; University of South Africa, 2013c). Interviewees suggested that it is essential that the online learning management system should allow for a range of new or alternative assessment opportunities at scale (P2; P4; P8).

In the Unisa case study, Myburgh (2015) reported the need to ensure that browsers on mobile devices are compatible, and that discussion statistics software are reliable. In addition, effective teaching and learning cannot take place through a virtual learning environment if the ICT systems

are intermittent or down (Myburgh 2015). Implementing a computerised system can be challenging and can lead to failure if not done properly (P2). Lastly, the importance of online security systems to ensure safe and effective online learning platforms cannot be overstated (Heydenrych, Higgs, and Van Niekerk, 2003).

Central to the design of online learning experiences as well as the implementation process of online learning is to ensure that an effective and appropriate institutional ICT infrastructure is in place for online learning. Effective online learning relies on a well-resourced, consistent, and reliable technical infrastructure, but, frequently, institutional and local infrastructure is either not accessible or is unstable and/or not well maintained (McConnel 2018; Mischke, 2012c, 2012d; Theresiawati et al., 2020). It is imperative therefore that management can guarantee that the required ICT infrastructure and systems are in place, and that they are capable of supporting the online model. Online interactivity between student and academic, student and student, and student and course content requires a reliable, effective and appropriate platform that can support online teaching and learning (CIES/IIE, 2010; Global Ecology LLC, 2011b; University of South Africa, 2011c; University of South Africa, 2011d; P2). A learning management system (LMS) is a computer-based environment that provides access to multiple resources for staff and students (Awang et al., 2018). These resources should be accessible anytime and anywhere (Chaeruman, Wibawa & Syahrial, 2020) and should be supported by additional social networking components (Abuhassna et al., 2020). In Unisa's case, an alternative was put in place to ensure that students could have access to the LMS. As previously mentioned, the Digi-bands were Unisa's alternative, a simple device that can replicate the LMS on a memory stick for students (Baijnath, 2013) allowing students to work offline on their assignments, using the Digi-bands as a temporary measure to upload their assessments despite not having access to the internet ((Mischke, 2012c); University of South Africa, 2012b) [see discussion on Digi-bands 7.2.1.11 Developing the Curriculum and Learning Experience, and 7.2.2.4 Resource Allocation and Recruiting HR Capacity].

Best practices, and lessons learned from international universities, indicate that computer laboratories with well-equipped computers, resources, internet, and sufficient bandwidth, with a support person to assist with enquiries should be available for students (Mischke, 2012c, 2012d). In the case of Unisa, the demand for computer resources increased when online learning was implemented. Unisa's solution was to create partnerships between the regional computer

laboratories and the telecentres (also known as multi-purpose community centres), and to install Toasters (P6; University of South Africa, 2013d). Because the Signature Courses are entirely online, students need access to computers and the internet, and one of the main access points for many students was the regional offices and the regional computer laboratories (University of South Africa, 2013d; P6; P7; P8; P16) where the facilities are furnished with computers with internet access, printers, photocopiers, and scanners.

Toasters provided the option for students to download their course materials on CD, DVD, and USB during the enrolment and registration periods. Students could also have access to all additional content such as marketing material, additional study material, lecture notes, podcasts, and video lectures after registration (P8; University of South Africa, 2013d) [see Chapter 5; 5.5.1.7 Phase III; Roles of the Regions and other Stakeholders].

The following section will discuss Phase II – Development of a framework for the implementation process of online learning [see Diagram 7.4].

7.2.2 Phase II – Development

The diagram below illustrates Phase II – Development of a framework for the implementation process of online learning.

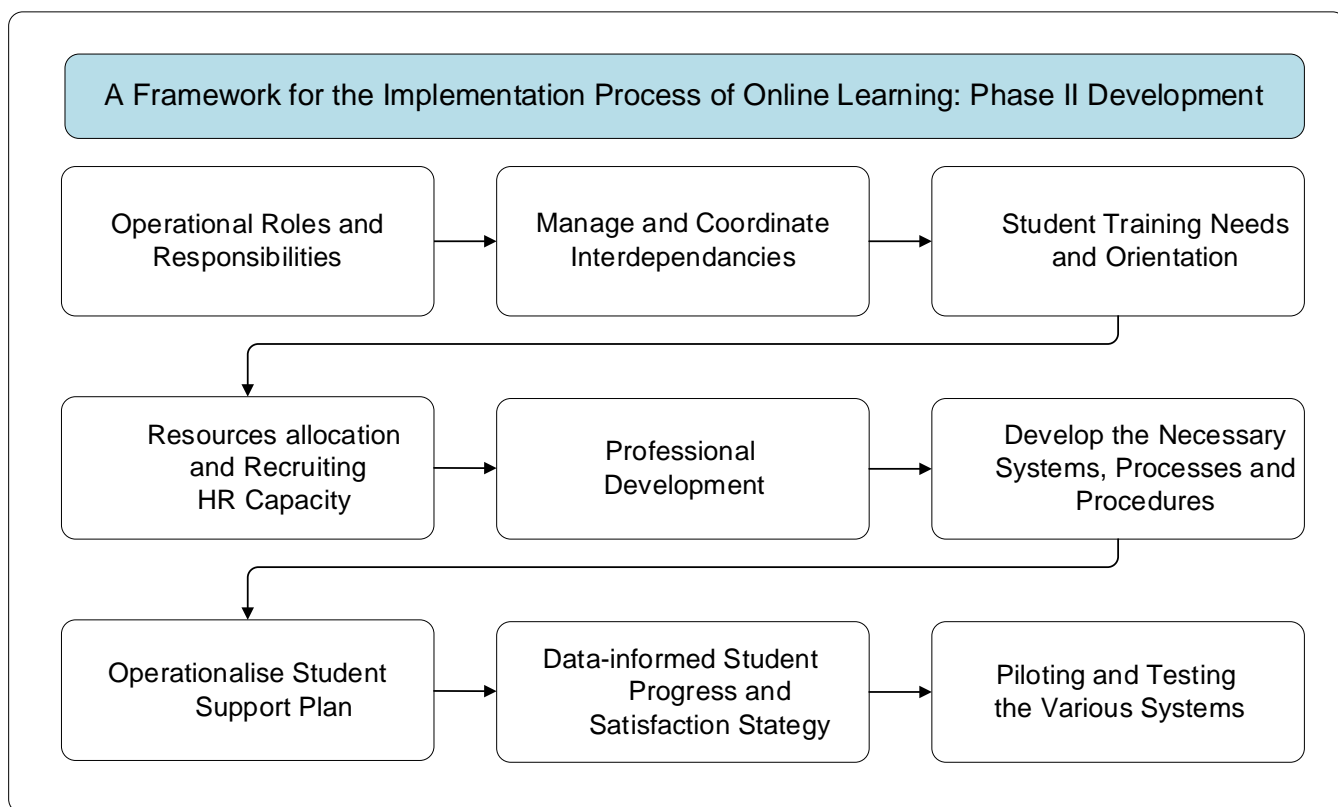


Diagram 7.4: A Framework for the implementation process of online learning Phase II - Development

It is important to reiterate that the different elements in this phase may be overlapping and that their representation in the above diagram suggests a sequential process which may not be the case.

7.2.2.1 Operationalise Roles and Responsibilities

The first phase (Phase I: Design) was mainly identified as a preparation phase with the identification of the key role players in each College and the different role players in the administrative functions. The administrative functions identified in Phase I: Design were represented by ICT, student administration and assessments, study material and printing and the DCLD (P15) [see 7.2.1.7 Managing the Implementation; 7.2.1.8 The Team Selection and Composition for Online Course Development; and 7.2.1.13 Designing the Implementation Plan]. In this second phase of the implementation plan the responsibilities identified during Phase I: Design should be operationalised according to the activities of the responsible person/section, time frames, and deliverables [see 7.2.1.13 Designing the Implementation Plan]. It is also crucial that the operationalisation of these roles and responsibilities should be monitored by working in

teams, scheduling regular meetings and workshops, and providing comprehensive feedback reports and other interventions, for example, benchmarking visits and implementation progress reports (Andrade & Alden-Rivers, 2019; Awang et al, 2018; CIES/IIE, 2010; Global Ecology LLC, 2011b; Mischke, 2012c; P10; Ryan, 2011).

The objectives, according to the implementation plan, are reached through a collaborative team approach (Andrade & Alden-Rivers, 2019; Awang et al., 2018; Unisa, 2011a). An example of such would be to develop the courseware according to online criteria. The interview participants confirmed that the team approach which encompassed the planning meetings, the development of the courses, and the implementation of the courses, was a commendable and successful strategy (P5; P6; P10; P15), and this corroborates with Andrade and Alden-Rivers (2019), and Awang et al. (2018) in the literature.

The operationalisation requires some structuring and alignment involving new reporting lines and processes which need to be established and adopted as this will ensure greater accountability, and communicate these changes across the institution (Andrade & Alden-Rivers, 2019; P15). In the Unisa case study, evidence from the document and interview analysis suggests that from the beginning of the project, the reporting lines were directed to the highest levels, for example, the Executive Director was responsible for the project, and reported both to the Pro Vice- Chancellor and the Vice Chancellor. This corroborates Andrade and Alden-Rivers (2019) and Daud and Farrah (2013) who indicate that the first very important element is to guarantee that executive management is on board both to support the project and to appoint a high-level strategic project manager to oversee the project.

7.2.2.2 Manage and Coordinate Interdependencies

From the literature, as well as the document and interview analysis, it is clear that well-trained stakeholders need to be involved in all the processes, and that interdepartmental cooperation is required to manage the interdependencies of functional units to ensure successful implementation (Brevis, 2008; Global Ecology LLC, 2011b; Kordnaeij, 2016; P3; P15; Tawse & Tabesh, 2020; Verweire, 2018; University of South Africa, 2012c). In the Unisa case study, while members from different constituencies worked very closely with one another as a team, there is not much reference to the impact of interdependencies in the implementation process of

online learning (see Chapter 3, Theme 3: Managing the implementation process; 3.8.6 Stakeholders and interdependencies). Elsewhere, the research on the impact of interdependencies is well-documented. It shows that there are many dependencies, for example, academics are dependent on updates on student progress from the teaching assistants, and can then make educated decisions on how to improve course material and student outcomes (Global Ecology LLC, 2011b; University of South Africa, 2012c). According to the analysis of the literature and the interviews, planning is an important part of the process, needing the participation of all responsible stakeholders (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013; Fernandes et al., 2020; Global Ecology LLC, 2011a; P3; P15; P16). Participants in the interviews also indicated the following interdependencies which were integrated into all processes and which were required at the beginning of the project, for example, the academic planner, the academics, budgeting and costing, study material, student administration and assessment, the DCLD, print production, and ICT (P14, P15; P16). As would be expected, ICT was seen to play a significant role in delivering the systems, particularly the student support system (University of South Africa, 2012b). The academics, student administration, and the assessment department were dependent on ICT to ensure that all teaching and learning systems were in place, for example, the learning management system and the assessment system, and that the assessment system was integrated into the LMS (Global Ecology LLC, 2011). The regions were also dependent on ICT to assist with extending and equipping the regional computer laboratories with the necessary ICT resources to provide computer and internet access to the students (Mischke, 2013b; Mischke, 2015; Prinsloo *et al.*, 2011).

ICT and study material and print production and distribution (SMPD) were dependent on procurement to approve tenders and to ensure that the necessary infrastructure and expertise were acquired to support the ODeL model (Nkhumeleni, 2014; University of South Africa, 2013c). The dependency between student administration, assessment, and the academics was a crucial one as it allowed academics to determine how everything would function within the student system, how grades would be delivered, captured, and calculated, and other related issues (P10; P13). The Signature Courses were excluded from any extensions on registrations or assignments by management as late student registration would impact directly on the student learning pace and progress if they missed the first three or four assessments (P6). Academics were dependent on the centre for professional development (CPD) to assist with professional

development, curriculum, and courseware development (Nkhumeleni, 2014; University of South Africa, 2013c).

Participants from the interviews indicated that the academic planner, who oversees the Unisa Programme Qualification Mix (PQM), the academics, the CPD, study material and print production and distribution, budgeting and cost management, and ICT were all required at the beginning of the online learning planning process. The online learning case study indicated a very strict interdependency between the academics and the office of the academic planner (P14), since changes to the PQM have a direct impact on the budgeting and costing process, and the ways in which resources are allocated to the course module and support divisions. HR was dependent on the finance department to support them with the payments for the teaching assistants (P8; P10), and the academics were dependent on the CPD to train the teaching assistants (P9).

HR was dependent on the legal department to assist with the teaching assistants' contracts (P12; P16). The legal department occasionally participated in the tender process with paperwork. The academics relied on the legal department to assist with tenders and student complaints (P6).

As can be seen from the above, the Signature Course project was situated within a web of interdependencies.

7.2.2.3 Student Training Needs and Orientation

While Phase I entailed the design of online learning experiences for students, the second phase of the implementation process was concerned with the preparation of students through awareness and training.

The successful implementation of online learning depends not only on student awareness of what online delivery entails, but also on the institution's responsibility to equip students with the required skills and competencies to participate effectively in the online learning experience. Without sufficient and appropriate preparation, students will be likely to drop out (Lane, 2014). Evidence from the literature and the interviews suggests that institutions have a responsibility to orientate students who are not familiar with higher education (Andrade & Alden-Rivers, 2019;

P5). Students' background, gender, study level, financial income, internet and computer competence and skills contribute to their level of readiness towards online learning platforms (Abuhassna et al., 2020). Students should ideally be ready for online learning before they begin the learning process as they will struggle with assessments if they are not yet technologically literate (D'Agustino 2012; P11). Even though some students have access to technology, they need the skills to use the technology (D'Agustino, 2012; McConnel, 2018; P9), and this includes technology skills, generic skills such as time management, and study skills (D'Agustino, 2012).

Student language proficiency levels need to be taken into consideration when deciding on which medium to be used (Karataş & Tuncer, 2020). Though the document analysis did not provide any evidence that student training was envisaged and/or implemented, some valuable information was shared in the interviews. A fundamental concept was that students should be equipped with knowledge, skills, and competencies, and that these should be embedded in all the first-year module curricula. The interviewees expressed the belief that these skills and competencies are beneficial for students' careers, personal lives, and communities (P9). Graduate competencies include the ability to use the appropriate software, for example word processing, spreadsheets, databases, presentation software, and emails (P5). At Unisa it was compulsory for each College to implement a fully online module for first-year registered students to ensure they could master digital knowledge and skills (P3; P8; P11; P16).

7.2.2.4 Resource Allocation and Recruiting HR Capacity

Institutional support in providing sufficient resources and access to a delivery system(s) for the implementation of online offerings plays a significant role in the implementation process of online learning (Moore, Lockee & Burton, 2002; Salama et al., 2015). This corroborates what was found in the document analysis providing evidence that institutions must integrate specific resources and an ICT infrastructure to be able to implement, successfully, a fully online teaching and learning model (University of South Africa, 2012a). At Unisa, the demand for computer resources increased as the institution moved toward online teaching and learning [see phase I, Design: 7.2.1.15 Determine ICT System Development Needs and Plan]. Experienced ICT and design staff can enhance the successful implementation of online teaching and learning (Nkhumeleni, 2014; Setlhako, 2015; University of South Africa, 2013c) so sufficiently experienced instructional designers need to be in place to train academics and teaching assistants in course design and

development and academic support (Mischke, 2012c, 2012d); P13). Academics need to be supported in terms of designing an online curriculum, understanding systems, and courseware development. If the institution is under-resourced in terms of staff and physical training facilities this can lead to implementation failures (Nkhumeleni, 2014; University of South Africa, 2013c). To prepare for the implementation of online courses structural realignments may be required, for example, the academics needed HR and administrative support to assist with the administration of the teaching assistants (P12). According to P2, the department of student administration and assessment at Unisa required more staff positions from HR. The lack, or shortage of staff leads to problems such as late capturing of assessment marks and mistakes in capturing marks, among others. In this regard, Group 1 indicated that there was no HR resource plan for the Signature Courses, and Group 3 indicated that the HR requirements needed to be determined for the Signature Courses.

Questions around the choice of learning management systems is another issue that requires attention. For instance, some members of the online learning team for the Signature Courses felt strongly that the Colleges should be able to choose a specific learning management system for a particular College, However, this could have a negative effect on students as the Signature modules at Unisa are interdisciplinary, making it somewhat awkward for students to have to navigate different LMSs.

An important resource that could be a useful component of an institutional online learning implementation framework is the question of adjunct staff. In the Unisa case study, evidence from the analysis suggests that the teaching assistants were an integral part of the pedagogical assessment and student support strategy, and their appointment was decided upon in Phase I: Design with the need to operationalise the decision during Phase II: Development.

The rationale for the appointment and use of teaching assistants is twofold: the alleviation of work pressure on the academics and increased teacher presence in the learning environment, allowing academic staff time to design courses, develop assessments, and generally guide and direct the learning process (Global Ecology LLC, 2011b). This was confirmed in the interviews by P15 who emphasised that there should be a balance between the amount of marking assigned to teaching assistants and the amount of time spent communicating online with students (P15). According to the pluralistic walkthrough focus group discussion, groups 1 and 3 indicated there

should be an HR resource plan in place to guide the recruitment of teaching assistants and to include the HR requirements for teaching assistants.

HR indicated the need for administrative support. Here, the academic support coordinators (ASCs) who were responsible for supporting the academics with administrative tasks in the Colleges, assisted HR with the administrative tasks attached to the teaching assistants, for example, recruitment, appointment, payment, and basic management (College of Economic and Management Sciences, 2013; Mischke, 2013a). The ASCs were actively involved in the setting up of myUnisa group sites, and linking students to a teaching assistant who would mark the students' online assignments (Eloff, 2013; Mischke, 2013b). Tutors could also alleviate some of the burden on the academic staff but they need to be well-versed in the course content and the institutions' processes, and have the required technical knowledge and interpersonal skills (McConnel 2018; Mischke, 2012c; Northcote et al., 2019; Theresiawati et al., 2020; Global Ecology LLC, 2011b).

The need for these various remedial resources for the Signature Course project confirms Salama's et al. (2015) observation that institutional support should ensure that sufficient resources are provided for online offerings. The interviews indicated that a recruitment process ensured that the prospective teaching assistants met the minimal requirements of the position. Placing the teaching assistants on a database was also advantageous as teaching assistants could be activated/appointed on demand (P12).

7.2.2.5 Professional Development

The main focus in the second phase of development is to design, develop and train the academics. Whatever the pedagogical strategy (see the previous discussion 7.2.1.6 Deciding which pedagogy will be used for online learning at the institution), academics need to be knowledgeable about online pedagogies and how to implement them (Andrade et al., 2022; Global Ecology LLC, 2011a; Global Ecology LLC, 2011b; McConnell, 2018; Mischke, 2012c, 2012d; Northcote et al., 2019). Therefore, professional development (PD) is required for those academics who adopt constructivist, student-centred, online teaching pedagogies (Northcote et al., 2019). Academics need to embed the pedagogy in the courseware design and develop courseware that is interactive (Northcote et al., 2019). Here, supporting guidelines and

pedagogical training are required to capacitate especially novice academics (Northcote et al., 2019). Zimmerman et al. (2020) indicate that professional development is required for academics on online course design standards and course design quality assurance processes and procedures apart from course design and online instruction. Academics need to be trained in digital literacy and other technology-related platforms such as web design, network and multimedia tools so as to be able to apply these to their course materials (Daud & Farrah, 2013; P9). Some staff may also need training in academic writing in English (Daud & Farrah, 2013). Should the pedagogical strategy involve sharing the teaching responsibility with teaching assistants, it is important to note that the institution also has a responsibility to train the teaching assistants. In the Unisa case study, the teaching assistants' contractual agreements included a clause that they should attend an online four-week training programme (Global Ecology LLC, 2011b; University of South Africa, 2012a). The document analysis corroborated the literature review and the interviews regarding the need for training of whoever is involved in the teaching role. The once-off training of the teaching assistants requires working through the online study material course themselves as if they were online students, thus exposing them to the learning strategies as well as the learning management system from the perspective of a student. In addition, they are trained on the digital divide and how to mark the assessments online (College of Economic and Management Sciences, 2013; College of Law, 2013; P1; P3; P12; P16). The teaching assistants, according to Group 4 in the pluralistic walkthrough focus group discussion, indicated the need to be trained in digital skills and other related IT knowledge as these are instrumental in student support.

It is also important to note that administrative staff have to be included in Phase II: Development. In the case of Unisa, the training of the administrative staff on specific assessment methodologies helped the administration and assessment team to develop a business case for formative and summative assessments (P2; P5). The appointment of temporary administrative staff to alleviate the work pressure, however well-intentioned, may put a burden on the permanent staff as they needed to train the new staff to perform their job according to certain standards (P2; P9).

The diagram below shows what has been discussed thus far and which sections will follow.

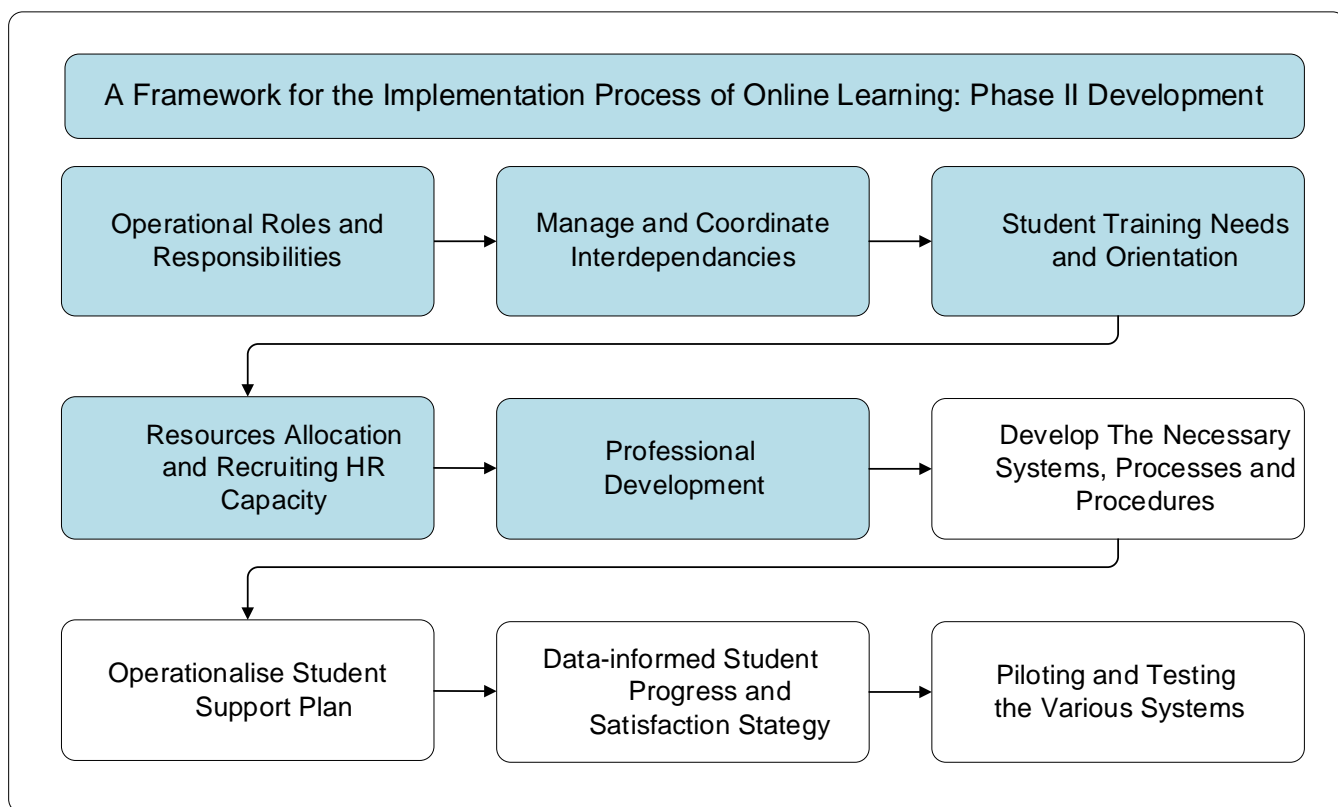


Diagram 7.4: A Framework for the implementation process of online learning Phase II- Development

7.2.2.6 Develop the Necessary Systems, Processes and Procedures

A critical success factor in the online learning implementation process is the alignment of all affected business processes, and the restructuring or re-engineering of these business processes according to the organisation's requirements. The development of necessary systems, processes, and procedures during this phase (Phase II: Development) links back to two essential aspects noted in Phase I, namely, the identification of system development needs (2.1.15) and giving due consideration to the institutional infrastructure necessary for online learning (7.2.1.16). Constructive alignment methodologies can be used to ensure the integrated alignment of all business processes (Annamalai & Ramayah, 2013; Ossiannilsson & Landgren, 2012; Theresiawati et al., 2020). With the adjustments and realignment of the business processes in place, the next step is to align and integrate the required systems using cross-functional teams. Through cross-functional team collaboration, the exchange of information resources takes place (Annamalai & Ramayah, 2013). For example, in an online environment the online courseware development process should integrate with the assessment process, the student support planning and activation process, and the delivery process, using ICT platforms

etc. Cross-functional teams make online learning models more efficient and effective while ensuring that business processes and strategic goals are met (Annamalai & Ramayah, 2013). Examples of the three major processes that need re-engineering are human resource systems to appoint teaching assistants, assessment systems to cater for continuous online assessment, and the learning management system to facilitate online teaching and learning activities.

Human Resource Policy, Procedures and Processes

The document analysis and the interviews were clear that processes and procedures need to be aligned in order to develop, for example, the HR system for the teaching assistants (Global Ecology LLC, 2011b). First, the human resources policies that govern the HR processes were finalised. Thereafter, the HR processes and procedures were engineered and mapped for ICT to develop a system for the teaching assistants that integrates with other systems, for example, a recruitment system to advertise for the positions, and a database to capture information on the teaching assistants. At Unisa, a system was developed so that academics could view the prospective teaching assistants online, needing only to indicate yes or no on the system to approve the appointment. The system also allowed for monitoring the teaching and learning activities, payment of the teaching assistants, and the reporting of the teaching assistants' activities and performance (Global Ecology LLC, 2011b; P12).

Assessment Policy Procedures and Processes

The document analysis and the interviews indicated that the specific assessment requirements envisaged for the Signature Courses impacted on the assessment policy as they deviated from the existing student assessment and administration policies, procedures, and processes (P2; University of South Africa, 2012a). The venue-based examination systems were not in alignment with the new business requirements of continuous online assessments (Mischke, 2012c, 2012d; P4; P8; P10; P13), and system requirements for different methods of assessment, for example, discussions, blogs, self-assessments, e-portfolios and so on, were required. In addition, the system should be able to allow students to work interactively in groups of +30 (P10; University of South Africa, 2012b). System flexibility was required as these assessments could take place at anytime during a semester. For example, a self-assessment occurred before students began reading the courseware, and a self-assessment occurred at the end of the module to allow students to determine and reflect on their learning (P10).

7.2.2.7 Operationalise Student Support Plan

The operationalisation of the student support plan includes several elements including the need to ensure that the computer laboratories, telecentres, libraries, and teaching assistants are functional.

Computer laboratories

The Unisa case study provides evidence that the regions were seen as an essential part of the implementation of online learning since the regional centres were envisaged to be a crucial point of access for students (P8). The computer laboratories in the regional centres provide internet access for students (P8; P9) because they are geographically closer to many students, making it easier for students to visit them rather than travel to the campuses in Pretoria. The idea was that Unisa's regions would provide online and face-to-face support for students, relieving the burden on the academic departments, and assisting students who might otherwise have to travel long distances to visit the main campuses in Pretoria.

Owing to the design decision to implement continuous assessment in the online courses at Unisa (see Phase I: Design), the demand to access the regional computer laboratories increased, especially in cases where students needed to work on specific software, for example myITLab or MS Office 2013, to complete their formative and summative assessments. Apart from access to computer laboratories for computer and internet services, the students also need technical support with their computers and so visit the computer laboratories for assistance. If the application software that is prescribed by the academics is not easy to install or operate, the students are 'forced' to visit the computer laboratories for technical support (Rampe, 2014; University of South Africa, 2014b).

The regions supported, interacted with, and trained the students in ODeL principles and in how to start using online tools and digital literacies at the computer laboratories, with the support of the academics in the Colleges (P11).

Telecentres

Operationalising student support was also possible by making use of community centres, and by forging partnerships with local stakeholders through the telecentres, which had computer

specifications similar to those of regional centres to assist students. These telecentres were also placed geographically closer to the students, allowing them easy access to work on computers [also see 7.2.1.15].

Previous studies indicate that appropriate infrastructure, accessibility, facilities and required support for students all enhance students' readiness to use a learning management system as an educational tool (Abuhassna et al., 2020) [see 7.2.1.15 Determine ICT system Development Needs and Plan to ensure that institutional infrastructure is in place for online learning].

Library

According to Salama et al. (2015), online libraries are an essential part of effective student support. Libraries are responsible for securing educational resources and working closely with instructional staff who are responsible for pedagogical development. In the Unisa case study, the central role of the library in supporting the pedagogical and curriculum decisions (Phase I: Design) was confirmed in the analysis of the literature, document analysis, and interviews (Global Ecology LLC, 2011b; Global Ecology LLC, 2012; P6). Some educational resources, for example, downloading of videos, require special licensing, and it is the responsibility of the library to facilitate these approvals (University of South Africa, 2013d; P6). The library identifies and sources prescribed online textbooks for academics and instructional designers (P6). If the module requires online textbook management software, for example, Vita source, the institution assists the students in downloading the Bookshelf application on their mobile phones and accessing the book electronically. The Bookshelf application (app) can be accessed through Android and Apple phones. Android phones used Market Place, and Apple phones use the Apple store to download Bookshelf (P9).

The library trains students and telecentre administrators with the tools they need to support the students. Administrators of telecentres had to become versed in online courses and learning management platforms, library services, and technology requirements (University of South Africa, 2014b). The orientation of students in terms of the requirements of online learning and accessing online resources provided by the library is an essential part of a successful implementation process (Salama et al., 2015). In the Unisa case study, several orientation workshops for students were held (University of South Africa, 2014b). Data collated from these

workshops indicate that students use most of the community telecentres (University of South Africa, 2014b) to access counselling services for career and academic guidance and support.

Teaching assistants

As mentioned before, the decision to use teaching assistants in the delivery of online learning is a key design decision that needs to be considered during Phase I: Design. Not all online learning implementations consider teaching assistants to be an essential element in online learning since this depends on choices about learning theory and pedagogical design decisions. In the Unisa case study, teaching assistants formed an integral part of the design of online learning and, as such, during Phase II: Development, this decision had to be operationalised.

During Phase I: Design, it was decided that the teaching assistants should assist the students with numerous activities such as preparing for assignments, help with any challenges students may face (P1; P12), provide academic support by posting notifications and announcements to students on online platforms (P1), and play an active role in supporting and evaluating student learning by marking assignments (P1).

During Phase II: Development, the interviews confirmed the importance of the Human Resource (HR) department in operationalising the teaching assistants' support programme, which included the development and alignment of procedures, processes, systems and workflows. The decision to employ teaching assistants had several ramifications which include the practicalities of finalising job descriptions, the recruitment and appointment process, fixed-term contracts, remuneration structures, resignation/termination and extension of contracts processes and establishing criteria and performance agreements (P8; P12). ICT, HR and the finance department worked together to develop the payment system (P8; P12) [see 7.2.1.12 Determine and Develop the Student Support Model].

7.2.2.8 Data-informed Student Progress and Satisfaction Strategy

The literature and interviews point to the need for data to be available to check the implementation process, to evaluate the overall performance of online learning (Santally et al., 2020, Theresiawati et al., 2020), and to monitor teaching effectiveness and academic performance (Global Ecology LLC, 2011b; P12; P13). Data evaluation systems should be available to track how many students perform, from where they enrol, how active they are in formative assessments and in the final summative assessment, how many failed or passed, the drop-out rate, and cancellations (P12; P13). Group 3 advised that the identification of criteria

plays a significant role when implementing data-informed student progress and a student satisfaction strategy.

The literature provides some information on what factors satisfy students. 'Satisfaction' is defined as the degree to which a student is content with their choice to use an online learning system, as well as with its dependability, responsiveness, and willingness to be used repeatedly (Theresiawati et al., 2020). The choice of the LMS has a major influence on student satisfaction (Theresiawati et al., 2020). The academics, therefore, need to choose media and systems that are easy to use (Theresiawati et al., 2020). Because of this, online services should have evaluation systems in place to evaluate the following criteria: ease of use, user-friendly structure, layout and appearance, linkage, and content (Theresiawati et al., 2020).

Academic presence, support, and timely responses (D'Agustino, 2012; Stefanovic et al., 2011), online learning course quality (Stefanovic et al., 2011), interaction, flexibility, and using different assessment methods all have an impact on student satisfaction (Theresiawati et al., 2020). When universities plan, implement, and evaluate online learning models, student satisfaction is positively affected by the student's background, experience, collaborations, interactions and autonomy (Abuhassna et al., 2020).

7.2.2.9 Piloting and Testing the Various Systems

The literature is clear that an essential part of the implementation process is providing enough time to review and test the course before the students interact with the course materials (McConnel, 2018; Salama et al., 2015). Reviewing and testing the course before implementation will ensure that technical problems are eliminated and that students have a positive learning experience (McConnel, 2018). In the Unisa case study, the document analysis refers only to piloting, testing, and refining the learning management system training application for the teaching assistants (University of South Africa, 2012a; P10). According to P4, testing ICT systems according to specifications is essential for successful implementation. In the Unisa case study, the Digi-bands were a crucial element in the design of the delivery of online learning. Evidence from the interviews (e.g., P3) shows that the Digi-bands needed to be quality assured before they were distributed to the students. While the piloting of newly designed courses and/or technology is essential to the success of the implementation of online learning (McConnel, 2018; Salama et al., 2015), the Unisa case study provides evidence of a 'big bang' approach to

implementation (as discussed in Chapter 6, section 6.5.1] that had implications for the unfolding of the implementation process. Group 2 from the pluralistic walkthrough focus group discussion suggested that it should be compulsory that students be part of testing systems to ensure that the systems are easy to use. When systems are easy to use the user is more ready to adapt to change, and when students are part of this initiative this can have a positive impact on the branding of the university as most of the challenges will be addressed before the course is rolled out to students.

The following section will discuss Phase III: Implementation of A Framework for the implementation process of online learning [see Diagram 7.5: A framework for the implementation process of online learning Phase III implementation].

As pointed out earlier, while each of the three phases (Design, Development, and Implementation) contains distinct elements, some of the elements are found in more than one phase, albeit showing changes as they move from design to development and then implementation. It is also important to note that the success of the implementation process in Phases II and III is linked to and depends on the key design decisions taken during Phase I.

7.2.3 Phase III – Implementation

The diagram below illustrates Phase III – Implementation of the Framework for the implementation process of online learning.

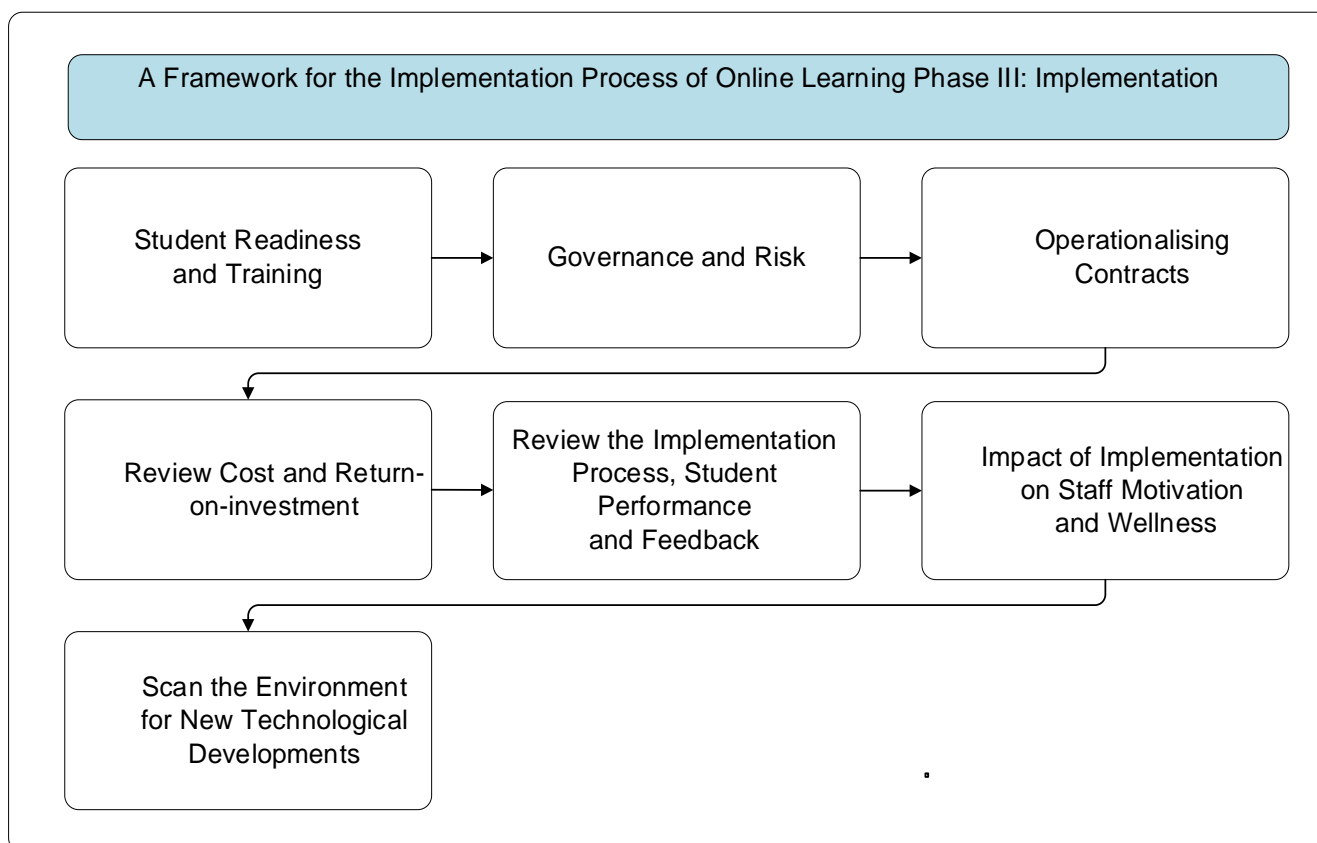


Diagram 7.5: A framework for the implementation process of online learning Phase III implementation

7.2.3.1 Student Readiness and Training

While preparing students for online learning was part of the first and second phases of the implementation process framework, determining student readiness is crucial during Phase III. Meyers, Durlak and Wandersman (2012) propose that a readiness assessment needs to be performed. Multiple stages of assessments should be planned and implemented whether or not students are prepared to use the learning management system (Abuhassna et al., 2020) [also see 7.2.2.7 Operationalise Student Support Plan]. Interestingly, the document analysis did not provide any evidence of attempts to determine student readiness for online learning during the design and development phase, while the interviews indicated the importance of student training and re-training on skills and competence issues. Colleges and regions trained the students on how to navigate around online modules during the implementation phase (P11). The training at the telecentres was also done in collaboration with the regions and the academics along with the administrators of the telecentres who had to become familiar with the online courses and other services, for example, the learning management platform, technology requirements, and the library service (P10; University of South Africa, 2014b) [also see 7.2.2.7 Operationalise Student

Support Plan]. Many interviewees indicated that the lack of student readiness for online learning could explain, in part, the students' decision to de-register from these modules. During the first semester 2013 and the first semester 2014 the Signature Courses cancellation dropped from 19.26% to 3.75% (University of South Africa, 2014a) [see Chapter 5]. If students do not get the required training support, they deregister their modules (P8; P11; P15) [also see 7.2.2.3 Student Training Needs and Orientation].

There were several serious debates on different platforms about the fact that students lacked data and internet access, which certain project members felt prejudiced underprivileged pupils (P10), [also see 7.2.1.11 Developing the Curriculum and Learning Experience and 7.2.1.15 Determine ICT System Development Needs and Plan].

7.2.3.2 Governance and Risk

Part of institutional governance and oversight is to monitor the implementation process of online learning and the achievement of the envisaged goals through institutional governance systems. These integrated governance systems are used to ensure that goals are monitored according to specific stakeholder responsibilities. The literature provides insights regarding different strategies that can be applied to ensure governance. Andrade and Alden-Rivers (2019) explain that shared governance can be implemented through a combination of activities, for example, the selection and application of different advisory teams, scheduling regular meetings, and providing progress reports on, preferably, standardised report templates (also see Chipere, 2017). Several interviewees referred to the role of these activities in providing advice, direction, and feedback on the online learning implementation (P3; P10; P15). The empirical data, therefore, corroborates the literature regarding the benefit of regular meetings with the different functional units to share progress, discuss challenges, resolve challenges, and support each other throughout this period. Sharing and learning from experiences assists other colleagues to improve their areas of responsibility and make certain improvements (Meyers, Durlak & Wandersman, 2012; Mischke 2014a; P2; P5; P6; P10; P13; P14; P15; P14; University of South Africa, 2013c). The interviews corroborate the findings by Andrade and Alden-Rivers (2019) concerning an effective team approach that includes executive management, management, and the functional units, and which implements shared governance (P10; P15). The identified literature did not find much on risks with the exception of Annamalai and Ramayah (2013) who

indicate that management is responsible for identifying and mitigating risks. The interviews indicated that through shared governance the risks and or challenges were identified and resolved on an ongoing basis through the direct involvement of a supportive executive management (P10; P15).

7.2.3.3 Operationalising Contracts

In the Unisa case study, an essential element of the implementation process of online learning was the decision to appoint teaching assistants which meant that all contracts had to be operationalised. The practical ramification was for HR to action the fixed-term contract in line with the fixed monthly payment of the teaching assistants after receiving approval from the academics.

HR needs to ensure that a sufficient number of teaching assistants are available on the system, and to efficiently manage the grouping and pairing of students with teaching assistants (P12). The grouping and allocation of teaching assistants should take place in real time as the students register for the modules, and teaching assistants should be updated daily on their allocated students. To operationalise student support the teaching assistants should have access to the learning management system and be linked or grouped with students (P6; P12). The teaching assistants were instrumental in providing feedback to the academic to improve courseware and or assessments. Teaching assistants should be managed according to established criteria and performance agreements (P8; P12).

7.2.3.4 Review Costs and Return-on-Investment

The literature, document analysis, and interviews indicated that financial support is needed to deliver quality online courses (Andrade & Alden-Rivers, 2019; Daud & Farrah, 2013; University of South Africa, 2011b). Typically, this requires certain expenditures such as the procurement of the infrastructure, the provision of internet and data to staff, maintenance, and software licenses (Awang et al., 2018; Theresiawati et al., 2020; P14; University of South Africa, 2011b). Online learning platforms have cost and sustainability implications and should be utilised effectively (Awang et al., 2018; University of South Africa, 2011b). While some authors (e.g., Vaganova et al., 2018) indicate that online learning profitability can increase as it attracts

unlimited students, other authors, e.g. Andrade and Alden-Rivers (2019) refer to the fact that online learning requires academic-student interaction and that student:instructor ratios have implications for cost, time, and the choice of instructional media. There is also a tension between pedagogical designs that encourage students' self-sufficiency and self-directedness (Global Ecology LLC, 2011) and the cost of appointing teaching assistants at scale. The interviews indicated that online learning may require additional costs, but that other costs will decrease, for example, examination venues (P14). The development of courseware costs is not additional as it is embedded in the permanent staff salaries (P14). The courseware should be developed in such a way that students can save money by using open educational resources instead of textbooks (Global Ecology LCC, 2011).

The literature review reveals that implementation failures should be avoided as these impact negatively on online project cost, goals, and time, and users will not be satisfied (Annamalai & Ramayah, 2013). During the document analysis, it was revealed that effective online learning implementation in South Africa and on the Continent, can provide competitive, cost-effective, high-quality courses (Bajinath, 2015; CIES/IIE, 2010; Global Ecology LLC, 2011a; Ryan, 2011). Successful implementation of online learning, therefore, impacts positively on the return on investment (Govindasamy, 2001).

7.2.3.5 Review the Implementation Process, Student Performance and Feedback

The most important lesson learned from the document analysis and interviews regarding factors that impact on the success of the implementation process of online learning is having efficient systems and an ICT infrastructure to track student performance (Mischke, 2014a; Nkhumeleni, 2014; P2; P15; P16; University of South Africa, 2013c). Such systems measure student performance according to students' assessments, dropouts, and students who failed (P2; P13). The interviews and the document analysis reveal that the student throughput and pass rate were higher than for modules offered through the normal blended mode of delivery (a blend between printed and online materials) at the end of the implementation period, which resulted in other academics becoming more interested in implementing online courses (P12; P13; University of South Africa, 2014c) [see 7.2.2.8 Data-informed Student Progress and Satisfaction Strategy].

7.2.3.6 Impact of Implementation on Staff Motivation and Wellness

The implementation process of online learning cannot be successful without the involvement and motivation of the team members working in an experienced team, assisting the members with the required competence, motivation, and confidence to prepare the online courses (Andrade & Alden-Rivers, 2019; P15). In addition, inviting a selection of guest speakers to address the team or attending research conferences and workshops, and rewarding staff in other ways may motivate staff (Andrade & Alden-Rivers, 2019; Govindasamy, 2001; Moore, Lockee & Burton; 2002). Professional skills development also motivates staff who then share their expertise and skills with their peers (Andrade & Alden-Rivers, 2019; Govindasamy, 2001; Northcote et al., 2019; P6; P12). The implementation of incentive schemes for staff who are involved in online activities enhances motivation. These incentives could be a reduced teaching load for academics, providing staff with the latest educational technologies such as laptops, implementing a formal acknowledgement and certification initiative, research incentives, a credit-hour policy, and financial rewards (Govindasamy, 2001; Ossiannilsson & Landgren 2012; McConnel, 2018; Mischke, 2012a; Mischke, 2012d; P12; P13; P16; Theresiawati et al., 2020). During the pluralistic walkthrough focus group discussion, Group 4 indicated that the implementation of online learning requires a proper change management programme, and Group 3 advised the monitoring of staff motivation and wellness.

Institutions should guard against online learning workload overload (Mischke, 2013a; P8; P10; P12; University of South Africa, 2013d) since this has a psychological and emotional impact on the staff (P6; P8; P10). The interviews revealed that institutions should avoid overly bureaucratic procedures as they complicate online implementation time, and require continuous daily engagements with stakeholders to get the work done (P8).

7.2.3.7 Scan the Environment for New Technological Developments

Scanning the environment for new technologies needs to take into consideration quality assurance policies and guidelines to determine to what extent online learning methods are included in course modules (Santally et al., 2020). Secondly, managing online courses effectively stimulates creative and innovative ideas (Songkram, 2017). For example, cloud services are currently the best environment to gain a competitive advantage in learning environments (Boticario et al., 2012; Mischke, 2012c, 2012d). Owing to the rapid development

of new technologies, there may be better technology choices evolving (Global Ecology LLC, 2011b). The difficulty that higher education institutions experience with innovative technologies relates mostly to the use and integration of these technologies into institutional legacy systems (Global Ecology LLC, 2011c; Santally et al., 2020). The interviews revealed that more team workshops should be conducted to provide staff with space to get used to and accept new ideas (P2). The pluralistic walkthrough focus group discussions added that scanning the environment for new technological developments plays a significant role, and Groups 2, 3 and 4 advised that this should be an ongoing process, citing, for example, ChatGPT¹⁷ which could have an effect on teaching and learning.

7.2.4 Quality Assurance and Marketing (Phases 1, 2 and 3)

Quality assurance needs to take place from phases one to three, but it is not a linear process and needs to be continuously applied to ensure quality. A fully integrated quality management system should be in place when identifying and developing the necessary systems, processes, and procedures, and should be evaluated against institutional standards (Group 4). The evaluation information should be used to adjust and make improvements, and to guide the institution to make informed decisions on implementation of changes/adaptations that are based on sound research (Andrade et al., 2022; Fernandes et al., 2020; Mischke, 2012d; Salama et al., 2015; Santally et al., 2020; Zimmerman et al., 2020). The institution must decide whether to use an already developed quality management system or to develop its own system (Andrade et al., 2022; Santally et al., 2020; Zimmerman et al., 2020). Already developed quality management systems (QMS) are, for example, Quality Matters (Andrade et al., 2022; Mischke, 2012d; Varonis, 2014) and Sloan (Gómez-Rey, et al., 2016; Mischke, 2012c). The document analysis reflects a recommendation to implement a quality management system (QMS). It also suggests that attention be paid to self-assessment which should be done on all online courses to enhance international accreditation (Mischke, 2012b). Executive management is mainly responsible for the evaluation of the effectiveness of online offerings. This includes measuring the goals and enhancing the attainment of those goals (Annamalai & Ramayah, 2013; Salama et al., 2015). Executive management should provide clear direction, resolve project challenges, and allow for mindset changes to ensure that learning and mentoring take place at all levels. The document

¹⁷ ChatGPT is an artificial intelligence software that responds to electronic dialogue

analysis indicated that intense discussions, debates, and feedback on what the online project achieved took place at executive management committee meetings, college tuition committees, and various other college committees (P10; P13; P14).

According to the literature review, the document analysis, and the interviews the academics were involved in the continuous evaluation of the course material which includes materials development, mode of delivery, interaction, and assessment. This was a process that took place from the beginning of the course design and during the development phase (Andrade et al., 2022; Global Ecology LLC, 2011a; Global Ecology LLC, 2011b; Sarder, 2014; Salama et al., 2015; Sudarwati, 2018; Zimmerman et al., 2020). The effected changes, improvements and/or adaptations from the recommendations emanated from the continuous evaluations (Andrade et al., 2022; P10; P13; Stefanovic et al., 2011). During the development phase, strict course evaluation presentations were held to assist academics with improvements to prepare for the implementation phase (P9; P13; P14). Rigorous internal peer review evaluations were done, and during these meetings the attendees looked critically at the content and interactivity, after which the developers had to go back to the drawing board and effect the improvements based on the input from the team (P10; P13). All online courses went through this peer review process. In some cases, the course was condensed, and adjustments were made to keep the online modules as simple as possible (P10; P13; P14). The document analysis revealed that the Digi-bands needed to be quality assured after the content was copied onto the memory stick (Mischke, 2012d).

A standard online module template was developed in Phase 1 (Global Ecology LLC, 2011a; Zimmerman et al., 2020), and this assisted with course design standards and development, and guaranteed that all modules adhered to the same guidelines (Andrade et al., 2022; Sarder, 2014; Salama et al., 2015; Sudarwati, 2018; Zimmerman et al., 2020; Global Ecology LLC, 2011a; Global Ecology LLC, 2011b; Global Ecology LLC, 2011c; Global Ecology LLC, 2011d; Mischke, 2012c, 2012d; University of South Africa, 2011e). The interviews with the participants indicated that these fully online discussions included standardisation of teaching and learning practices. However, any attempt at standardisation carries its own risks and can create a rebellious element when course leaders prefer to go their own way (P10).

All online course modules went through an academic/disciplinary review process during the development stage after which the course was condensed and adjusted to make it as simple as

possible (CIES/IIE, 2010; Global Ecology LLC, 2011b; P10; Ryan, 2013; Zimmerman et al., 2020). Apart from internal reviews, as discussed above, academics should participate in external course peer reviews, and review outcomes should be published (Zimmerman et al., 2020).

According to the document analysis, Global Ecology LLC (2011a) and Global Ecology LLC (2011b) agreed with Andrade et al. (2022) on the value of shared best practices (Mischke, 2012d). In this case-study, best practices were identified and constructed based on lessons learned (Baijnath, 2015).

Part of quality assurance is the development of staff. The Centre for Professional Development at Unisa provides an online programme for teaching assistants with competencies and skills to facilitate learning and assess student work (Mischke, 2014a).

The marketing of the online courses needs to be visible across the three phases (design, development, and implementation) as it not only assists with institutional communication and coordination but also creates an understanding of what online learning entails for staff and students. The institutional image (reputation and credibility) is protected during this marketing process, creating an appropriate institutional branding of the online learning model (Andrade & Alden-Rivers, 2019; P7; Theresiawati et al., 2020; University of South Africa, 2012a).

Group 3 advised adding a monitoring phase at the end of the development phase which would feed back to the design phase, and adding a further monitoring phase after the implementation phase which also feeds back to the design phase. Group 3 indicated that there should be a feedback loop, from the design phase to the development criteria, and thereafter to implementation. See diagram 7.10 Quality assurance/monitoring cycle from Group 3:

7.2.5 Principles of the Online Learning Implementation Process Framework

The following principles have been derived from the framework for online learning across the three phases (Design, Development, and Implementation):

- Executive management buy-in, support, and resource allocation.
- Alignment with institutional character, mandate, vision, and policy environment.

- Alignment with disciplinary context – what works in one course may not work in another.
- Student-centredness – placing the student at the centre of the design, pedagogy, assessment, delivery, and student support phases (student experience and success).
- Roles, responsibilities, and interdependencies need to be defined, agreed upon, and committed to (in a team approach).
- While all functional departments are integral to successful implementation, ICT support (systems, infrastructure, software) is fundamental.
- Professional development and skills development for staff and students.
- Staff motivation, wellness, and support.
- Continuous monitoring, quality assurance, improvement, and evaluation of the implementation process.

A short description of the principles follows:

- 1). Executive management buy-in, support and resource allocation: The success of an online learning implementation process depends on these three elements, and informs all three phases (Design, Development, and Implementation) as discussed in the proposed framework.
- 2). Alignment with institutional character, mandate, vision, and policy environment: Online learning and the implementation processes of online learning have to align with the character of the institution (e.g. residential, dual mode, or distance education), the official mandate of the institution, its vision, and its national and institutional policy environment.
- 3). Alignment with disciplinary context. This principle acknowledges that what works in one disciplinary context may not work in another. The implementation process of online learning has to acknowledge the unique disciplinary epistemologies and pedagogical strategies of modules/courses, e.g., the role of practicals, authentic assessment in a particular disciplinary context, and so on.
- 4). Student-centredness – placing the student at the centre of the design, pedagogy, assessment, delivery, and student support. The student needs to be at the centre of the teaching and learning process. The design needs to ensure that students have access to the courseware specifically designed for online learning as well as all the additional resources. Continuous assessment ensures that the student is constantly

involved in the learning process and allows the student to determine their pace in the learning process. The choice of pedagogy should enhance interactivity and peer participation. The student needs to have the required student support which ranges from technology-enhanced learning, counselling, library, systemic/administrative support, facilitation of learning, and skills and competencies support.

- 5). Roles, responsibilities, and interdependencies need to be defined, agreed upon and committed to. The identification of the key role players in both the academic and administrative sides plays a significant role in the design, development, and implementation. With the identification of the roles and responsibilities, the operationalisation can take place according to the activities of the responsible person/section/department, time frames, and deliverables. The control and monitoring of the working teams take place according to scheduled regular meetings, workshops, and comprehensive feedback reports. Operationalising the roles and responsibilities will assist to identify and clarify the interdependencies and relations amongst the team and units, and/or departments.
- 6). While all functional departments are integral to successful implementation, ICT support (systems, infrastructure, software) is fundamental. Online learning implementation cannot be successful without ICT's support. The systems, infrastructure, and software are needed for both staff and students. ICT needs to provide analytical data to executive management and functional managers to enable them to make effective decisions. The ICT systems should be effective and easy to use to ensure that staff and students are motivated to use the applications. A well-crafted ICT plan needs to be in place to guide the institution on online implementation. Whether adapting existing systems or opting to outsource the systems, both need careful planning and proper testing before implementation to protect the institutional credibility and the brand reputation of the institution. The required infrastructure, networks, hardware, and appropriate software need to be in place, and the required software licenses and the selected cloud system must be secured in order to ensure proper back up and retrieval strategies. Finally, cyber security to protect the data and compliance to privacy regulations need to be in place.
- 7). Professional development and skills development for staff and students
Online learning will not be successful if the staff is not trained for the online environment. This can entail developing certain competencies and skills, among these,

how to develop and design curricula, courseware, and skills; being digitally literate; learning how to apply certain pedagogic strategies; how to enhance student interactivity and participation; choosing and implementing the most appropriate multimedia, which may require social media skills, and listening, writing, and language skills. The students need training as well to assist them to plan their studies. Skills such as time management and digital literacies are essential.

Both staff and students will require some technical skills in how to download files, mark online assessments, record videos and podcasts, and interact through blogs and discussion forums with students, etc.

8). Staff motivation, wellness, and support

As indicated, online learning is very work intensive and may increase the workload on the academic depending on which student support systems are implemented. If the teaching assistant model is implemented the academic is relieved from interaction with students as well as marking assessments. However, this can load the academic with administrative or management tasks depending on how many teaching assistants are appointed. Managing the teaching assistants' activities can be a heavy workload and needs careful planning. To keep staff motivated a range of activities can be offered including providing them with resources to ease their work, and providing incentives such as attending workshops, seminars, and conferences. Staff can be acknowledged by initiatives such as special performance certificates. Flexibility in the work environment can be a motivating factor as can relief from other duties and or tasks. Working constantly under pressure can be demotivating and is not viable over a sustained period. Developing staff enhances motivation and can have a direct impact on work performance. Too much bureaucracy should be avoided as it complicates implementation and leads to demotivation.

9). Continuous monitoring, quality assurance, improvement, and evaluation of the implementation process.

Quality assurance means putting measures in place to ensure that the product or service rendered accords with set standards. This entails continuous evaluation and using the evaluation outcomes to ensure that the improvements are taking place. There are different methods that an institution can use to quality assure processes and system procedures, for example, using self-assessments or peer assessments. Another way would be to benchmark best practices and use mentoring to improve quality. It is

important to create a culture of quality in the organisation. There are certain quality tools available that institutions can use to avoid reinventing the wheel. Implementing quality assurance measurements enhances the credibility of either/or the institution or the qualification.

The last part of this research entailed the validation or usability of the proposed framework and its principles, as discussed above. It was important to test the usability of the proposed framework in an authentic multi-stakeholder setting.

The definition, use, and outcomes of the pluralistic walkthrough focus group discussion were discussed in detail in Chapter 4 where the selection of participants as well as the envisaged outcomes of the pluralistic walkthrough focus group discussion were documented.

The next section reports on the unfolding of the pluralistic walkthrough focus group discussion which consists of the Pluralistic Walkthrough Overview and Personal Reflection of the Process.

The diagram below illustrates the pluralistic walkthrough focus group discussion process.

7.2.6 Overview: Pluralistic Walkthrough Focus Group Discussion

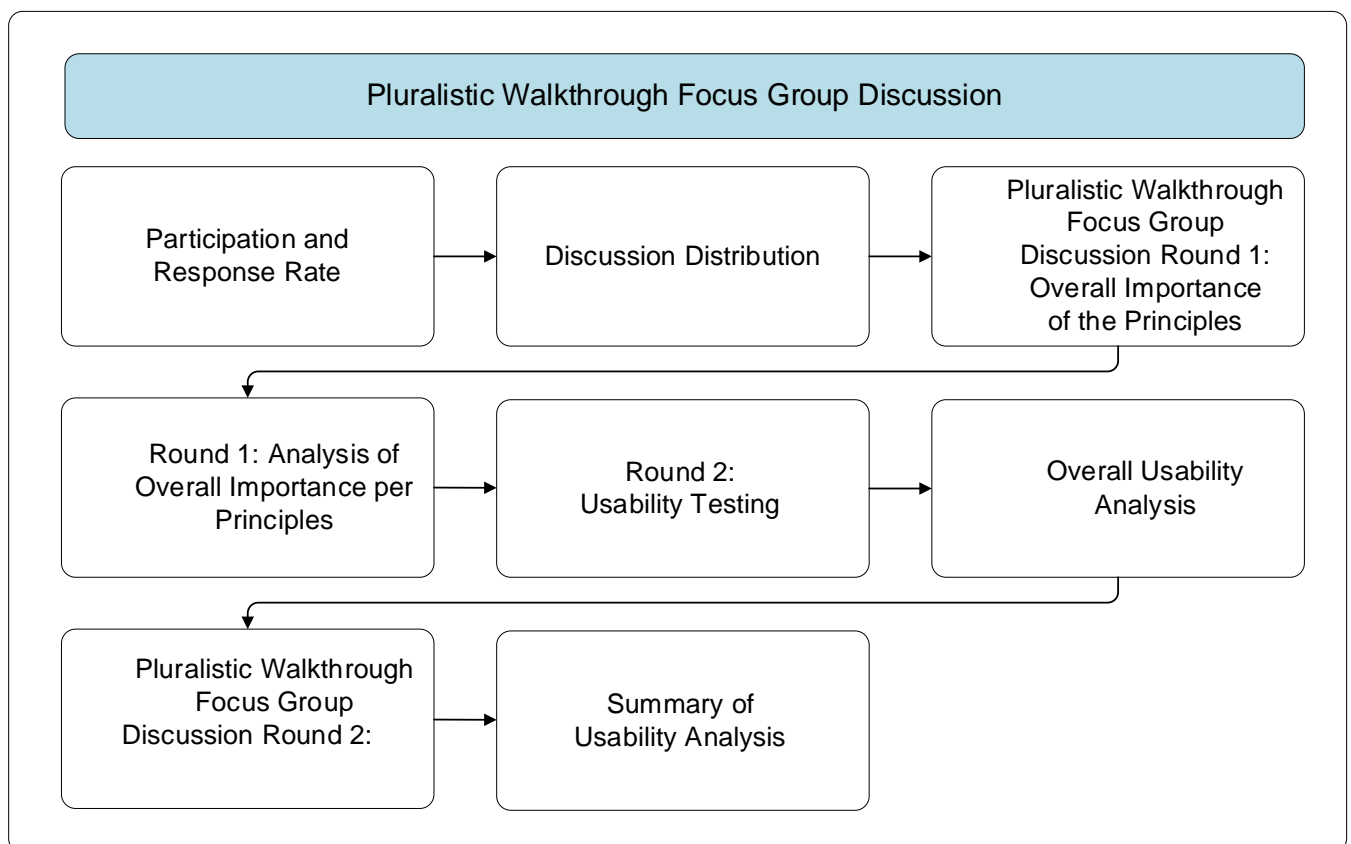


Diagram 7.6: Pluralistic Walkthrough Focus Group Discussion

The researcher welcomed the participants during the pluralistic walkthrough focus group discussion and thereafter the participants introduced themselves to the group. The pluralistic walkthrough focus group discussion was a face-to-face session with 16 participants participating from various departments [see 7.2.6.2 Discussion Distribution]. The researcher explained that a pluralistic walkthrough focus group discussion is where a group of people like themselves are grouped to 'walkthrough' the principles of online learning and the elements of an online framework in order to evaluate the usability of the principles and the framework. The researcher informed the group about the main research question: How did the design and development of the Signature Courses at Unisa influence the implementation process? She also reiterated the remaining research questions which guided the qualitative research study: 1. How did the key design elements of the Signature Courses inform the implementation process? 2. What variables were considered in each of the implementation stages? Question 3. What were the interdependencies between the different functional areas in each of the implementation stages? 4: What were the implementation decisions that shaped the implementation process?

The researcher then presented the four stages of data collection methods, and indicated that ATLAS.ti was used to analyse all the data after each stage in the diagram below.

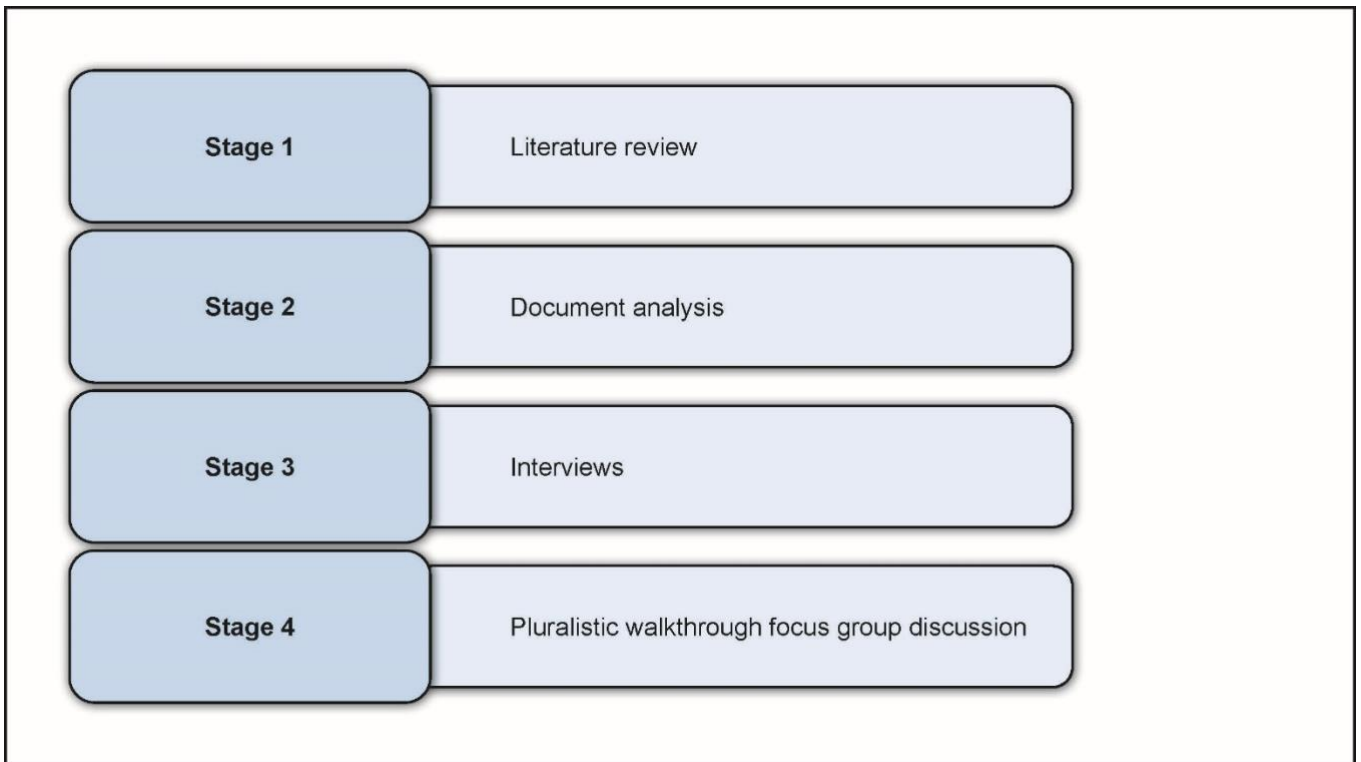


Diagram 7.7: Qualitative Data Collection and Analysis

The researcher discussed the themes that emanated from the thematic data analysis, the three conceptual frameworks that arose from the literature review, the document analysis, and the interviews. The final framework for the implementation process of online learning was introduced to the attendees.

The next section will provide an overview of the participation and response rate, and the distribution of the participants. Thereafter the pluralistic walkthrough focus group discussions were planned to take place in round 1 and will be discussed accordingly.

7.2.6.1 Participation and Response Rate

The table below gives an analysis of the participants per department:

Table 7.1: Participants per department

Department	Attendance total
Academics from various colleges	4

Finance, costing and budgeting	1
Department of Curriculum Development and Transformation (DCDT)	2
Research	1
Department of Student Administration and Assessment (DSSA)	2
Department of Instructional Support and Services (DISS)	1
Region	1
Information and Communication (ICT)	1
Study material and Print Production and Distribution (SMPD)	1
Human Resources	1
Library	1
	16

As indicated, the 16 face-to-face participants were divided into four groups with four participants in each group. The discussion took place in two rounds, and the groups stayed in the same groups for both rounds. The next section will discuss the pluralistic walkthrough focus group discussion distribution per department per group.

7.2.6.2 Discussion Distribution

The pluralistic walkthrough focus group discussion was attended by various departments. The DTFL management, institutional advancement, student retention unit (SRU), and the teaching assistants could not attend. The regions were represented under ICT. The pluralistic walkthrough focus group discussion distribution per department/group was as follows:

Table 7.2: Departmental representation for the pluralistic walkthrough focus group discussion

	Academics	DCDT	CPD	DISS	DSAA	SMPD	HR	ICT	Finance	Library	Research
--	-----------	------	-----	------	------	------	----	-----	---------	---------	----------

Group 1	1	1			1			1			
Group 2	1		1	1		1					
Group 3	2								1	1	
Group 4	0				1		1	1			1
	4	1	1	1	2	1	1	2	1	1	1

The pluralistic walkthrough focus group discussion was organised into two rounds and these will be discussed next:

7.2.6.3 Pluralistic Walkthrough Focus Group Discussion Round 1: Overall Importance of the Principles

After the researcher gave the MS Powerpoint presentation the participants were asked to break into four separate groups.

Round 1: The groups consist of four participants each. The groups were asked to work through all the proposed principles that should guide the implementation process of online learning in distance education [see 7.2.5 Principles of the Online Learning Implementation Process Framework].

The participants were asked the following questions:

- 1) Do you agree with this principle?
- 2) How important do you think is the principle?
- 3) Are there any amendments you would like to propose to the principle?

Each group was asked to respond, as a group, to each of these questions. The following section will discuss the analysis of Round 1.

7.2.6.4 Round 1: Analysis of Overall Importance per Principle

The groups discussed the proposed principles that should guide the implementation process of online learning. The analysis was as follows per principle:

Table 7.3: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 1: Executive management buy-in, support and resource allocation

	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Principle 1:									
Group 1	1						1		1
Group 2	1						1	1	
Group 3	1						1	1	
Group 4	1						1	1	
	4	0	0	0	0	0	4	3	1

As can be seen in Table 7.3, all the groups agreed with Principle 1 and considered it to be very important. The amendments/comments to the principle can be summarised as follows: Group 2 indicated that executive management should be ultimately accountable and supportive, and executive management should allocate resources to the online learning implementation team. Group 3 suggested using the term ‘executive management’, not ‘top management’ (the change was accepted). Group 3 agreed with Group 2 and supported the idea of engaged executive management, also indicating that resources are inclusive of timeous allocation of human resources, technology, finance, and infrastructure.

Table 7.4 The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 2: Alignment with institutional character, mandate, vision, and policy environment

Principle 2	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2	1						1	1	
Group 3	1					1		1	
Group 4	1						1		
	4	0	0	0	0	1	3	2	1

As can be seen in Table 7.4, all the groups agreed with Principle 2 and considered it to be very important. The amendments/comments to the principle from the groups can be summarised as follows: Group 2 indicated the importance of a guiding business model, and the need for staff to accept change and adjust to be receptive to technology. Integrated planning is required to avoid working in silos. Top-down management is required. Group 3 indicated the importance of a mandate to implement online learning, and the need to give attention to organisational culture. Group 3 indicate the importance of a mission and implementation guidelines for strategies.

Table 7.5: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 3: Alignment with disciplinary context-what works in one course may not work in another

Principle 3	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2			1		1			1	
Group 3	1						1		1
Group 4	1						1		
	3	0	1	0	1	0	3	1	2

As can be seen in Table 7.5, all the groups but one agreed with Principle 3, and considered it to be very important. It was difficult to find a reason why the group did not agree with the principle as there was no follow up discussion.

The amendments/comments to the principle can be summarised as follows: Group 3 indicated the importance of course content and the national qualification framework (NQF). Group 4 advised that the disciplinary context and course focus be aligned with the aim to reduce administration and to develop disciplinary standards according to the online learning modes that guide implementation.

Table 7.6: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 4: Student-centredness - placing the student at the centre of the design, pedagogy, assessment, delivery, and support (student experience and success)

Principle 4	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2	1						1	1	
Group 3	1						1	1	
Group 4	1						1	1	
	4	0	0	0	0	0	4	3	1

As can be seen in Table 7.6, all the groups agreed with Principle 4, and considered it to be very important. The amendments/comments to the principle can be summarised as follows: Group 3 recommended including the students as an important stakeholder from the start to ensure greater input and involvement when courseware is designed and developed. Group 4 agreed with Group 3 but indicated that more emphasis should be placed on the students' input and should not rely on available research per se. Group 4 indicated that flexible systems are required.

Table 7.7: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 5: Roles, responsibilities, and interdependencies to be defined, agreed upon and committed to (Team Approach)

Principle 5	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2	1						1		
Group 3	1					1		1	
Group 4	1						1		
	4	0	0	0	0	1	3	1	1

As can be seen in Table 7.7, all the groups agreed with Principle 5, and considered it to be very important. The amendments/comments to the principle can be summarised as follows: Group 1 indicated the importance of a Memorandum of Understanding (MOU) or standard operating procedures which should be documented to indicate roles and responsibilities. Group 3 agreed with the principle and indicated that this principle can enhance integration of functional units and break silos within the institution. Group 4 indicated that the *Framework for the implementation of a team approach to curriculum and learning development at Unisa (FTA)* defined the roles and responsibilities within the courseware development framework. The framework contributes to the improvement of quality assurance processes, as stakeholders, such as the language unit, evaluate the quality of all courseware based on language editing standards.

Table 7.8: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 6: While all functional departments are integral to successful implementation, ICT support (systems, infrastructure, software) is fundamental.

Principle 6	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2	1						1		1
Group 3	1						1	1	
Group 4	1						1		
	4	0	0	0	0	0	4	1	2

As can be seen in Table 7.8, all the groups agreed with Principle 6 and considered it to be very important. The amendments/comments to the principle can be summarised as follows: Group 1 indicated the need for ICT integration across entities. Group 2 indicated that there should be ICT support for staff with software applications that are hidden behind a fire wall architectural¹⁸. Group 3 indicated ICT as key role player and underlined the need for a Service Level Agreement (SLA) to ensure and enhance service delivery, requiring the parties to bind, and make them accountable. The ICT department, therefore, plays a critical role in the success of online learning and needs to be well resourced and equipped to implement online learning.

¹⁸ Firewall architecture is where the ICT department does not allow software on the system that is not approved. This is to prevent untrusted sites and or software applications. A Firewall act as a gateway for securing internal software and networks against insecure ICT software and networks.

Table 7.9: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 7: Professional development and skills development for staff and students

Principle 7	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2	1						1		1
Group 3	1						1	1	
Group 4	1						1	1	
	4	0	0	0	0	0	4	2	2

As can be seen in Table 7.9, all the groups agreed with Principle 7 and considered it to be very important. The amendments/comments to the principle can be summarised as follows: Group 1 recommended that staff be coached in technological/ICT competencies and skills. Group 3 indicated that development is lifelong, and Group 4 indicated the need for criteria in the performance management system.

Table 7.10: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 8: Staff motivation, wellness and support

Principle 8	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2	1						1	1	
Group 3	1						1	1	
Group 4	1						1	1	
	4	0	0	0	0	0	4	3	1

As can be seen in Table 7.10, all the groups agreed with Principle 8 and considered it to be very important. The amendments/comments to the principle can be summarised as follows: Group 2 indicated that this principle is the responsibility of the HR department and should be part of the HR Plan. Group 3 indicated the need for flexibility to be innovative and creative when implementing online learning. Motivation should include providing staff with required resources to implement online learning, for example, administrative and technical support. Group 4 indicated that innovations are to be recognised and integrated into the integrated performance management system (IPMS) which is linked to monetary awards.

Table 7.11: The Pluralistic Walkthrough Focus Group Discussion Analysis: Principle 9: Continuous monitoring, quality assurance, improvement, and evaluation of the implementation process

Principle 9	Question 1: Do you agree with the principle?			Question 2: How important do you think is this principle?				Question 3: Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
Group 1	1						1		1
Group 2	1						1	1	
Group 3	1						1	1	
Group 4	1						1	1	
	4	0	0	0	0	0	4	3	1

As can be seen in Table 7.11, all the groups agreed with Principle 9, and considered it to be very important. The amendments/comments to the principle can be summarised as follows: Group 2 indicated that the only time people are concerned about quality is during the self-evaluation report (SER) from the Higher Education Quality Committee (HEQC), and suggested that a quality assurance programme coordinator is needed. Group 2 further indicated that the correct metrics be used to evaluate the quality and that there should be accountability and/or consequence management. Group 3 indicated the importance of management involvement in the matter of quality assurance, and that a team approach be followed when evaluating quality, for example, peer evaluation should occur during courseware development. Group 4 indicated the importance of reporting on success and special achievements. Overall monitoring is needed by the line manager with systems and tools that interphase, for example, using business intelligence tools that can provide visualised data information and that can generate reports regarding institutional and or functional operations through software applications such as Power BI¹⁹.

¹⁹ Power BI is a business intelligence tool that provides information and reports in visualised format for example, dashboards.

The final summary of the analysis is summarised in the table below:

Table 7.12: The final summary of the analysis of the principles

	Question 1:			Question 2:				Question 3:	
	Do you agree with the principle?			How important do you think is this principle?				Are there any amendments you would like to propose to the principle?	
	Yes	Neutral	No	Not Important	Slightly Important	Important	Very Important	Yes	No
1. Executive management buy-in, support and resource allocation	4	0	0	0	0	0	4	3	1
2. Alignment with institutional character, mandate, vision and policy environment	4	0	0	0	0	1	3	2	1
3. Alignment with disciplinary context – what works in one course may not work in another	3	0	1	0	1	0	3	1	2
4. Student-centredness – placing the student at the centre of the design, pedagogy, assessment, delivery and student support (student experience and success)	4	0	0	0	0	0	4	3	1
5. Roles, responsibilities and interdependencies need to be defined, agreed upon and committed to (Team Approach)	4	0	0	0	0	1	3	1	1

6. While all functional departments are integral to successful implementation, ICT support (systems, infrastructure, software) is fundamental	4	0	0	0	0	0	4	1	2
7. Professional development and skills development for staff and students	4	0	0	0	0	0	4	2	2
8. Staff motivation, wellness and support	4	0	0	0	0	0	4	3	1
9. Continuous monitoring, quality assurance, improvement and evaluation of the implementation process	4	0	0	0	0	0	4	3	1

From the analysis above, all the groups agreed that the principles are important for the online learning implementation process except for one group who did not agree with principle 3: Alignment with disciplinary context – what works in one course may not work in another (see the above discussion). The following section will discuss Round 2: Evaluating the framework for the implementation process of online learning.

7.2.6.5 Round 2: Usability Testing

Participants were requested to imagine that they were the task team mandated to implement online learning at Unisa. They were asked to work through the different phases to determine whether the three phases and their elements provided them with sufficient guidance to think through the process of implementing online learning.

Below is a framework for the implementation process of online learning that was given to all the groups:

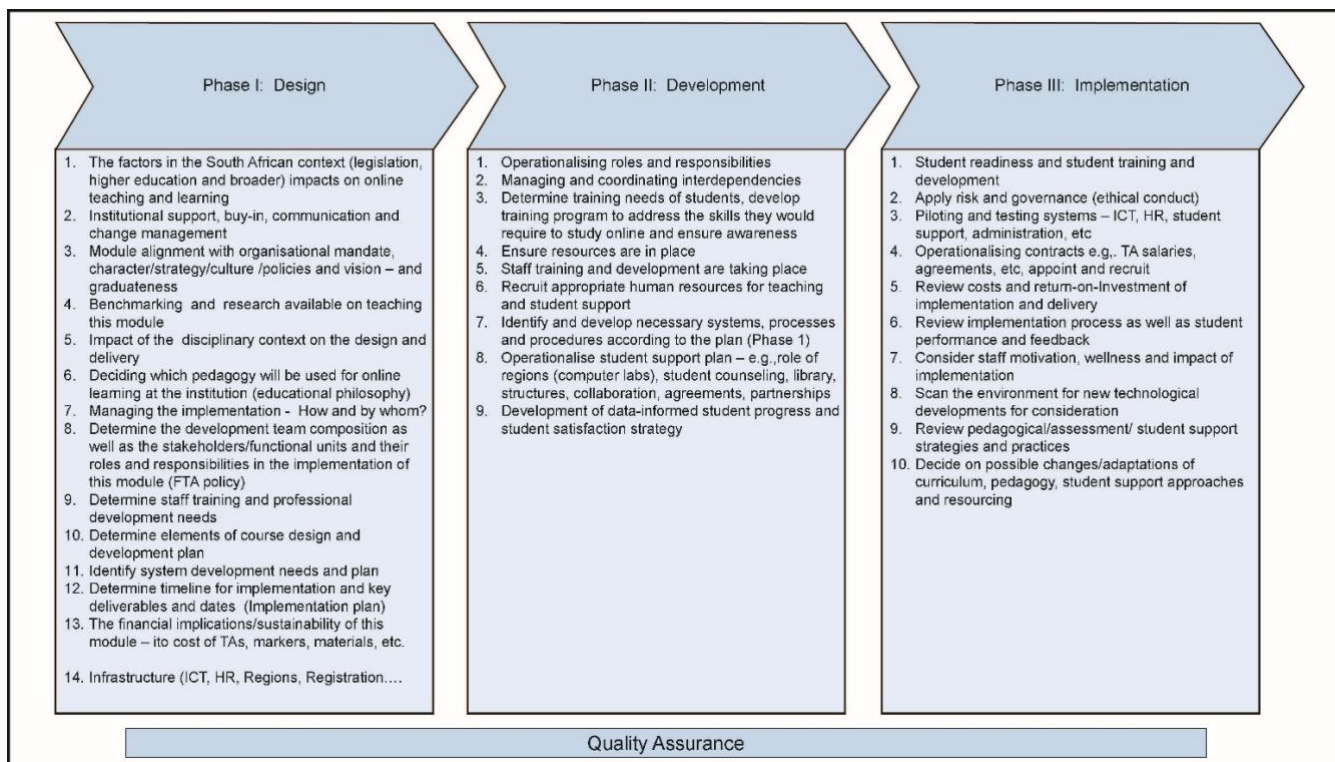


Diagram 7.8: A Framework for the implementation process of online learning

The following section will discuss the analysis of the feedback on the usability of a framework for the implementation process of online learning.

7.2.6.6 Overall Usability Analysis

The researcher transcribed and analysed the feedback immediately after the pluralistic walkthrough focus group discussion. There were some general comments from the groups on Phase III: Implementation. The general comments from groups 1, 2 and 3 were captured (Group 4 had no general comment), and are captured as follows:

- 1) Group 2 indicated that more focus should be placed on student involvement in phases I, II and III.
- 2) Groups 1 and 2 indicated that all the elements across the phases should start with a verb as this will better indicate what action needs to be taken. According to Group 2, there should be terms of reference in place between those who managed the

implementation, the development team, and the functional units and their roles and responsibilities (elements 7,8 and 9).

- 3) Group 3 advised adding a monitoring phase at the end of the implementation phase. The rationale behind the recommendation is to ensure that continuous improvement takes place, for example, after the implementation phase and if any adjustments and or improvement are required, the process will start from the start again, that is, by going back to the design phase. [See diagram 7.9 Quality assurance/monitoring cycle]

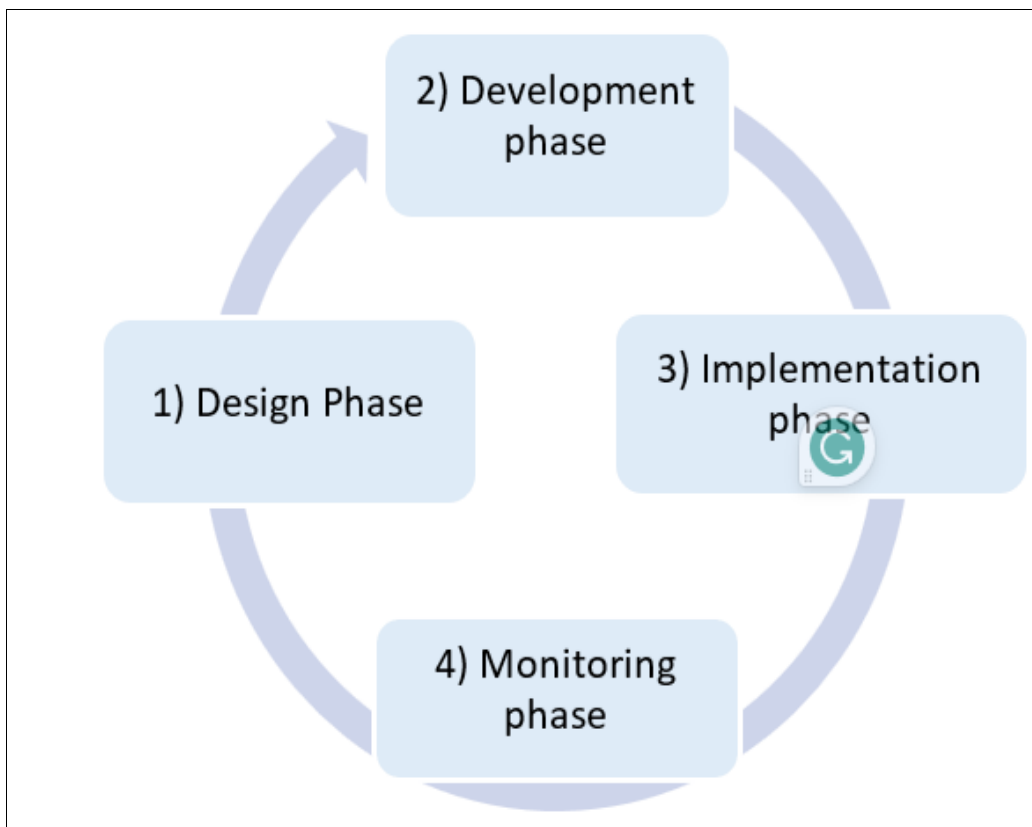


Diagram 7.9: Quality assurance/monitoring cycle
(Source Group 3)

7.2.6.7 Pluralistic Walkthrough Focus Group Discussion Round 2:

During round 2 the usability evaluation of the framework for the implementation process of online learning was analysed. The groups were requested to write general comments on their thoughts

to assist the researcher to improve the framework for the implementation process of online learning. The following presents an overview of the group comments per phase:

PHASE I - DESIGN Analysis of the Online Learning Implementation Framework

The groups discussed the concept of language use, particularly in the South African context, where students use English as their second and third language, so care should be taken during the courseware design and development phase not to use convoluted phrasing and difficult language which would be a barrier to teaching and learning.

Another barrier to learning which applies to infrastructure is the challenge South Africa is currently experiencing with the lack of a steady supply of electricity and the use of 'load-shedding', meaning that for certain periods of time students do not have access to electricity, and this impacts on their learning time and pace (Group 4).

As indicated throughout this study, educational institutions are obliged to provide access to higher education for students, however, factors impacting on the implementation of online learning in the South African context are the capping of student head count enrolments in educational institutions, among others (Group 1; Group 4). Capping student enrolments has an indirect effect on the educational institutions' experience of massification and discrepancies in funding in South Africa. As indicated throughout this study, the importance of change management and buy-in from different stakeholders plays a significant role in online learning implementation, and institutional/political factors may stifle these innovations (Group 2). Group 4 specifically mentioned the resistance to technological change from functional departments, in this case, the human resources department as well as the ICT department when developing certain systems. Group 4 added that in addition to resistance to change staff in all departments experience psychological fears when confronted with innovations in technology. In this study, it has been suggested that training is one strategy to assist with change management.

The groups indicated the need for different training, which is in line with 7.2.1.9: Identify professional development needs. For example, Group 1 suggested that training is required for courseware designers such as story-video/ animation. Group 4 indicated the need for ongoing technical training, especially training on systems and procedures, which is in line with the literature consulted for this study. Group 1 advised that appropriate needs analysis or research on training needs for online learning implementation is required. Groups 3 and 4 indicated that staff training and development need to be integrated into the departmental operational plan.

The significant role of internal benchmarking and research on already available online learning modules (the Signature Courses) in the institution can be used as there are many lessons to learn from online learning implementation. Indeed, the groups recommended that this should be a prerequisite as it is a key factor when designing the content in modules (Group 1 and 2).

Group 4 indicated there is an 'increase in disciplinary cases' in regard to cheating in online assessment. Processes and systems should be implemented to ensure that students do not violate assessment policies, for example, implement Turnitin software to detect plagiarism [see 7.2.1.11: Developing the Curriculum and Learning Experience].

Group 2 indicated that one should first determine who are the stakeholders, for example, the key units who would manage the implementation, and thereafter ensure that the roles of these stakeholders are clearly defined see [7.2.1.2: Institutional Support, Buy-in, Communication, and Change, and 7.2.2.1: Operationalise Roles and Responsibilities]. The implementation should be done by means of a project management approach with specified timelines for implementation and key deliverables. Group 1 indicated the importance of having a reliable effective ICT system in place for online learning. It is important to identify ICT's needs, gaps, and challenges, and to include costing factors when systems are planned and developed (Groups 1 and 4).

PHASE - II DEVELOPMENT Analysis of the Online Learning Implementation Framework

From the group feedback it is clear that managing and coordinating interdependencies plays a significant role in the success of online learning implementation, not only for the functional units and individuals but also when there is an enhancement of systems which impacts on interdependencies. Such an example is Unisa's workflow system which is paperless and ensures that the responsible stakeholders receive the task by tracking all the stakeholders involved in that process. Therefore, identifying responsibilities is crucial for the systems to manage the process on an ongoing basis (Group 4) [also see 7.2.2.2 Manage and Coordinate Interdependencies].

Group 2 advised that items 7.2.2.7 Operationalise student support plan, and 7.2.2.8 Development of data-informed student progress and student satisfaction strategy should be

moved to implementation (Phase III) and that students as stakeholders should be part of elements 8 and 9. However in Phase I, the element - Determine the student support model - was adjusted to 'determine and develop student support model'. Group 4 felt that piloting and testing systems before they are used by the users should be a standard.

Group 2 suggested that it should be compulsory that students be part of testing systems to ensure that they are easy to use. When systems are easy to use the user adopts and accepts changes more readily. If students are part of this initiative this could have a positive impact on the branding of the university as some of the challenges would be addressed before the final product is rolled out to all students [see 7.2.2.9 Piloting and Testing the Various Systems].

PHASE - III IMPLEMENTATION Analysis of the Online Learning Implementation Framework

Group 4 advised that student training should be ongoing, and that consideration should be given to automating the training, citing, for example, training videos on YouTube. Unisa recently implemented a first-year experience MOOC which, according to Group 1, is a good initiative. However, it needs some improvements as it only covers registration, and there are no feedback reports on its success [see 7.2.3.1 Student Readiness and Training].

The feedback from the groups indicated that review costs and return-on-investment (ROI) of implementation and delivery should be standard (Group 4), however, the ROI can only be determined some time after implementation (Group 2) [see 7.2.3.4: Review Costs and Return-on-Investment].

Implementation of online learning requires a proper change management programme (Group 4), and Group 3 advised that staff motivation and wellness be monitored [see 7.2.3.6: Impact of Implementation on Staff Motivation and Wellness].

Scanning the environment for new technological developments plays a significant role and this should be an ongoing process. Groups 2, 3, and 4 cited the ways in which ChatGPT is going to have an impact on higher education. Group 3 indicated the importance of monitoring these new technologies as they may impact on the institution.

Group 1 added a new element to Phase III, namely, Element 8: Information about students with special needs. Students with special needs should be catered for differently, for example, physically impaired students should not be required to travel to examination venues or regions.

7.2.6.8 Summary of Usability Analysis

The participants were asked to evaluate the framework for the implementation process of online learning according to the following categories:

- a) Using the framework was enlightening. Here, Groups 1, 3, and 4 strongly agreed, and Group 2 agreed that it was enlightening but needed some enhancement.
- b) Using this framework will guide the implementation process. Groups 1 and 4 strongly agreed. Group 2 agreed, and Group 3 strongly disagreed that the framework would be sufficiently helpful to guide the implementation process. Group 2 indicated that using this framework would guide the implementation of online learning and would influence its effective development.
- c) How comprehensive is the implementation framework?
Group 2 strongly agreed, Group 4 agreed, and Groups 1 and 3 were neutral on how comprehensive the framework is. The feedback from Group 2 was that the implementation framework needed adjustments, and Group 4 indicated that the implementation framework should be flexible and open to accommodate new ideas and improvements on an ongoing basis.
- d) How easy was it to use the implementation framework considering the experimental setting of this walkthrough?
Group 4 strongly agreed. Group 1 agreed, and Group 2 was neutral on how easy it is to use the framework (one group did not respond to the question).
Group 1 indicated that they needed more time. Group 2 indicated that some elements needed to be moved to other phases.

7.2.7 Personal Reflection of the Process

The participants expressed a positive attitude towards the pluralistic walkthrough focus group discussion. They were glad to be part of the evaluation and contributed with enthusiasm, with some participants holding strong opinions.

The groups were diverse, and their input towards the principles and online learning implementation framework reflected their knowledge, experience, and understanding of online learning. The pluralistic walkthrough focus group discussion steps were concise so that the participants could easily follow the process. The participants, however, did not have the background and context of the online implementation framework, and this explains some concerns. The useful recommendations from the groups were implemented where deemed appropriate, as were the modifications to the framework for the online learning implementation process.

7.2.8 Chapter Summary

The pluralistic walkthrough focus group discussion was a new concept for the participants. The input provided was taken into consideration, and the researcher made a few adjustments, for example, including verbs in the elements, moving some of the elements to previous phases, and taking out the numbering to ensure that the elements do not create the sense that the process is sequential.

The participants indicated that the phases should show that they can be recurrent, and to improve the easy-to-use criteria, the researcher should include a recurring arrow in and between the three stages.

The updated final Online learning framework follows:

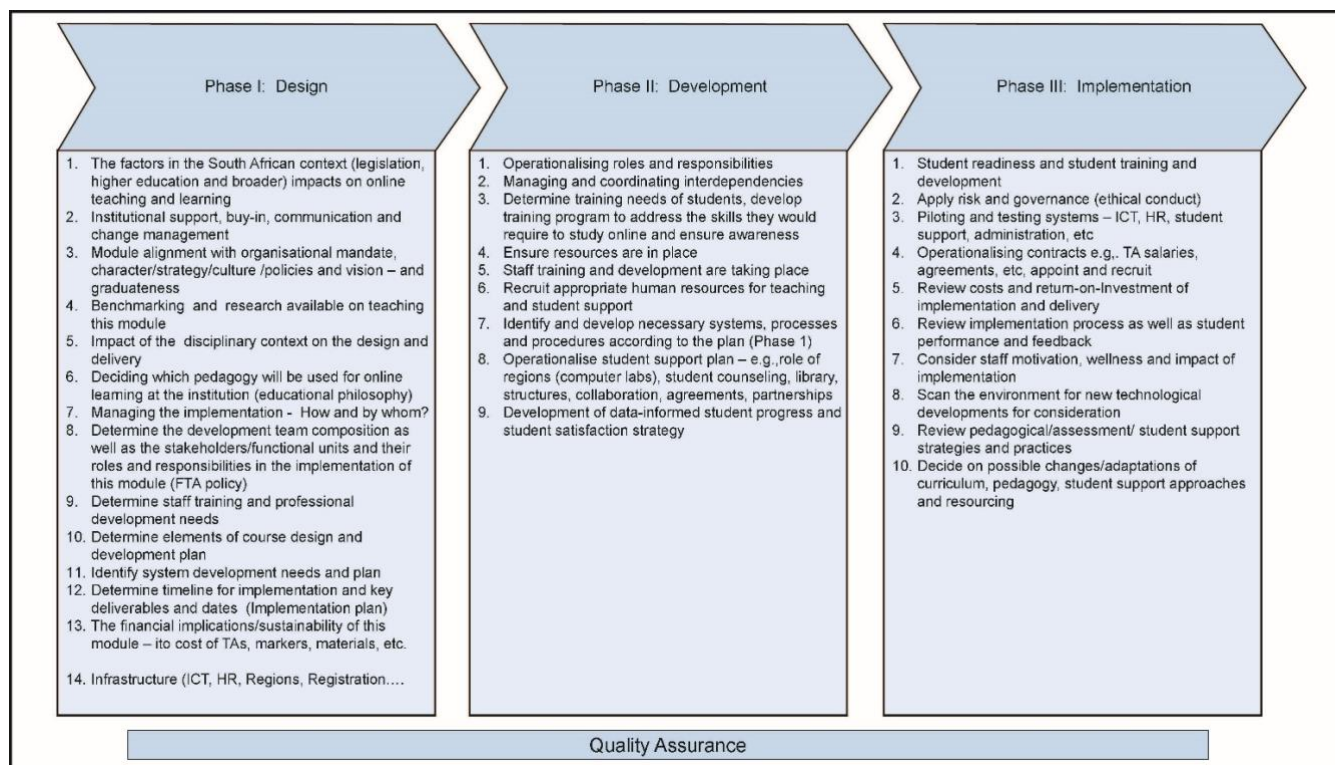


Diagram 7.8: A Framework for the implementation process of online learning

CHAPTER 8

FINDINGS, LESSONS LEARNT, AND CONCLUSION

8.1 INTRODUCTION

This is the final chapter of this study focuses on mapping the implementation process of the Signature Courses at Unisa as a case study with which to develop a tentative framework to guide online learning implementation processes in distance education institutions in the global south. As stated previously, a case study research design does not allow one to generalise (Yin, 2009), and as such, the use and appropriateness of the developed framework will be decided by prospective users.

As I started this study before Covid-19 - when online learning was still frowned upon and considered second best - going online in an institution such as Unisa still meant a huge shift in perceptions, practices, and processes. By the time Covid hit the world in 2019 the Signature Courses were in the seventh (2013-2019) year of being offered and were already institutionalised as part of Unisa's offerings. Needless to say, the Signature Courses were not as affected by Covid-19 as the other Unisa courses.

As already mentioned in Chapter 1, [see 1.1 Introduction] the Covid-19 pandemic 'forced' digital transformation globally, as higher education institutions were compelled to rethink how they teach, adjust their study material and their mode of instruction, and train their academic and administrative staff on online teaching and learning to be able to effectively support students (Chan, Bista & Allen, 2021; Neuwirth, Jović and Mukherji, 2021). Though the Covid pandemic affected everyone, it did not affect everyone equally. Historically disadvantaged students and staff often lacked the resources and the skills to study online (Chan et al., 2021). While Covid-19 provided many glimpses of the affordances of online learning, it pushed Unisa to institutionalise online formative and summative assessment and opened the way for Unisa's strategy to move increasingly to an online learning delivery model by 2030 (University of South Africa, 2021) [see Chapter 1, 1.1 Introduction].

At the present time there is an opportunity to rethink the implementation of online teaching and learning and to think specifically about what elements would influence the implementation process of online learning in distance education institutions, with specific reference to the global south.

This final chapter will briefly recap the research journey starting with the research problem, before revisiting the research questions and objectives of the study. This will be followed by revisiting the research design and methodologies for data collection and analysis, a summary of the research processes followed in this study, and a summary of the scoping literature review and empirical findings of this study. As acknowledged, while we cannot generalise from a case study, we are in a position to consider some of the lessons that other distance education institutions in the global south *may* learn from this case study. The researcher will then briefly engage with a selection of newly published research from 25 March 2021 onwards as well as the limitations of this study, and recommendations for further research. The study concludes with final remarks, the significance of this study, and a conclusion. See illustration in Diagram 8.1: Findings, Lessons Learnt, and Conclusion below:

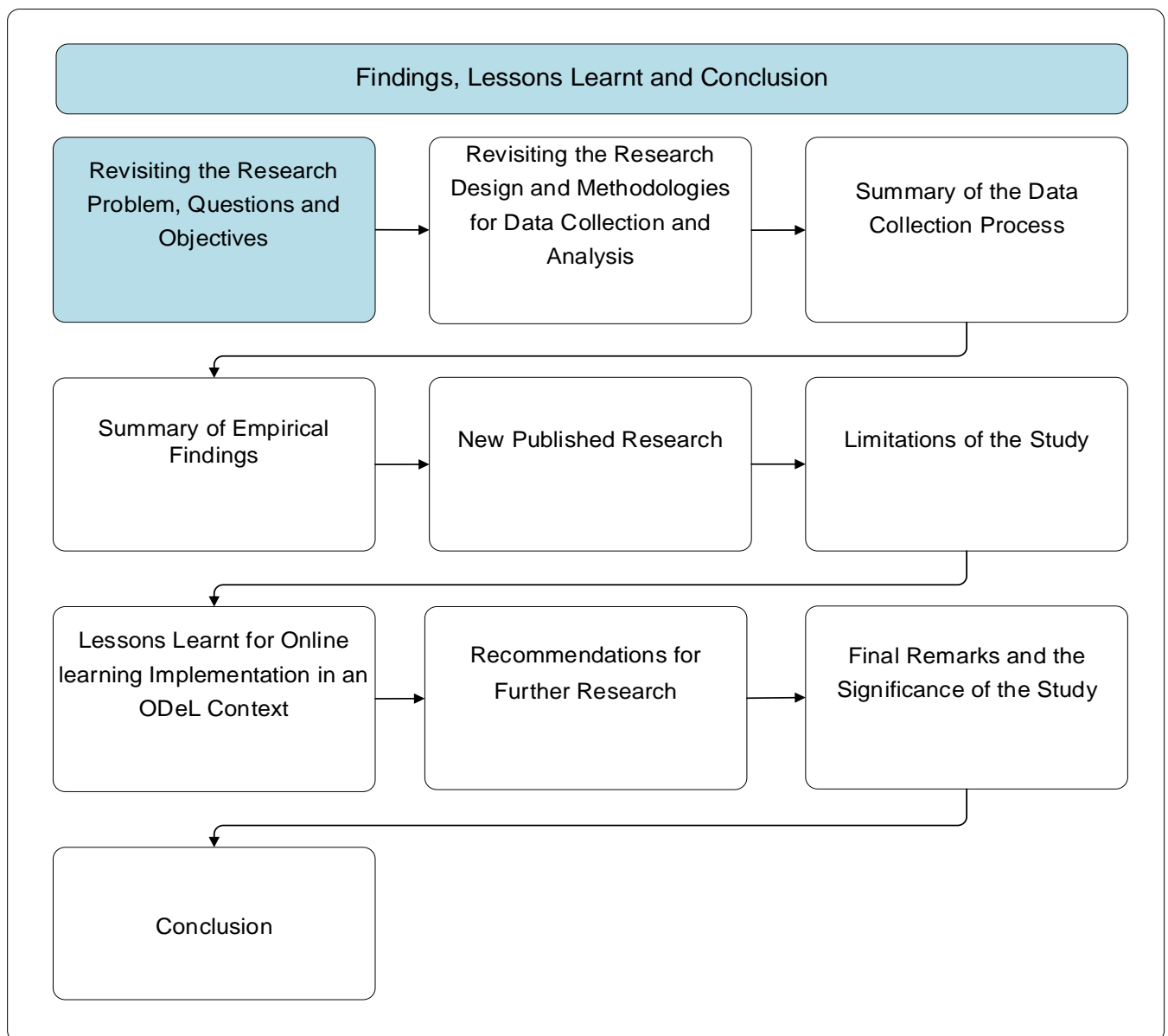


Diagram 8.1: Findings, Lessons Learnt and Conclusion

8.2 REVISITING THE RESEARCH PROBLEM, QUESTIONS AND OBJECTIVES

The literature review (as discussed in Chapter 3) showed that the researcher could not find a framework for the implementation process of online learning in open distance learning contexts. The literature review furthermore identified three possible gaps in the literature namely a theoretical, practical-knowledge, and knowledge gap in response to the problem statement and research questions (Müller-Bloch & Kranz, 2015; Miles, 2017; Yin, 2018) [see Chapter 1, 1.10 Problem Statement]. The researcher agrees with Peters et al. (2014) who state that implementation research helps to understand various perspectives and processes, common

features, and different outcomes. The implementation of the Signature Courses laid bare the complexities and interdependencies in implementation processes, procedures, systems, and practices. As such, it was clear that there was not only a gap in the literature but that the case of the implementation process of online learning in open distance learning contexts was a problem worthy of further study (e.g., Levac, Colquhoun & O'Brien, 2010). Following this, an alignment between the research questions, research objectives, and the identified gaps in the literature review was required.

The main research question in this study was: How did the design and development of the Signature Courses at Unisa influence the implementation process? To answer the main question, the researcher developed four sub-questions:

Question 1: How did the key design elements of the Signature Courses inform the implementation process?

Question 2: What variables were considered in each of the implementation stages?

Question 3: What were the interdependencies between the different functional areas in each of the implementation stages?

Question 4: What were the implementation decisions that shaped the implementation process?

The research question and sub-questions also informed the main research objective: To determine how the design and development of the Signature Courses at Unisa influenced the implementation process.

Other objectives were:

Objective 1: Explore the key design elements of the Signature Course implementation process.

Objective 2: Identify the variables that played a role in each of the implementation stages.

Objective 3: Identify the interdependencies between the different functional areas in the implementation stages.

Objective 4: Document the different implementation decisions that shaped the implementation process.

8.3 REVISITING THE RESEARCH DESIGN AND METHODOLOGIES FOR DATA COLLECTION AND ANALYSIS

The researcher opted for pragmatism as a paradigm for this qualitative study as it supports the epistemological value to obtain specific knowledge using the Signature Courses as single case study to map, in practical terms, the online learning implementation process (e.g., Goldkuhl, 2012; Kelly and Cordeiro, 2020; Saunders, Lewis and Thornhill, 2019; Yin, 2018). As indicated in Chapter 4, pragmatists adopt a wide range of research strategies to address a research problem, specifically to get answers for the practical research questions (Saunders et al., 2019). The pragmatism paradigm, therefore, supported the researcher to use the Signature Courses as a case study applying multiple research data collection and analysis methods [see Chapter 4: Diagram 4.4 Qualitative Data Collection and Analysis]. Different lived experiences and views were collected from participants who were directly involved in the Signature Courses and who shared experiences and reflections that served as a basis to develop a practical framework for online learning implementation (e.g., Creswell & Creswell, 2018; Goldkuhl, 2012; Padgett, 2017).

This research as qualitative inquiry adopted a sequential, exploratory, descriptive single case-study approach as the researcher explored and mapped the case of the online learning implementation processes. The researcher adopted non-probability, purposive sampling for the document analysis as well as for the selection of participants, and used semi-structured interviews as well as a pluralistic walkthrough focus group discussion to test the usability of the developed framework. The document analysis and semi-structured interviews were inductively and deductively coded on ATLAS.ti version 22 and were thematically analysed to get a sense of the relations, variables, interdependencies, and design decisions that informed the implementation process.

A draft implementation framework and principles were developed after the document analysis and semi-structured interviews. Cross correlations between the literature review and the analyses of the documents and interviews assisted in:

- 1) Identifying the overlaps between what was already known, similarities from the literature, and what was new and not mentioned in the literature.
- 2) Identifying pointers to develop a framework that can be used for online course implementations in open distance learning contexts, and

- 3) Identifying the key design elements and variables that played a role during implementation, the interdependencies between functional units, the decisions, and the impact of the decisions on online course implementation.

The draft implementation framework was tested for usability and input in a participatory walk-through focus group, adapted and presented as the final outcome of this study.

8.4 SUMMARY OF THE DATA COLLECTION PROCESS

8.4.1 The Scoping Literature Review Process

The researcher followed a scoping review process to identify the published electronic resources consisting of articles and conference papers. The scoping review process provided a clear and transparent literature review process that allowed the researcher to use different search parameters associated with the study (Tricco et al., 2018). The researcher used elements of the research topic as well as elements of the research question in the search string (Levac, Colquhoun & O'Brien, 2010; Torres-Carrion et al., 2018). The scoping review process took place in 2021 using the declared search parameters, and looked for published evidence from 2012 to 2021 [see Chapter 3, Table 3.3 Prisma Flowchart of the screening process]. A final corpus of 49 articles was identified to be used in this study. The researcher followed a transparent reporting of the methodology and used the PRISMA flowchart to logically illustrate the screening process and search strategy results (Munn et al., 2018).

The scoping review allowed the researcher to develop a conceptual map to inform and guide the document analysis and interview schedule (see Chapter 3).

8.4.2 The Document Analysis Process

The researcher had access to Unisa documents that were developed mostly from the steering committee and the functional units. Because of the formal international partnership with Global Ecology LLC, the Principal as well as the USA stakeholders in this partnership wrote reports and did presentations on the progress of the implementation of the Signature Courses. The inductive and deductive process resulted in six themes and elements [details of the inductive and

deductive process have been provided in Chapter 4, Research Design and Methodology and also see Table 1.4: Themes for Literature review (Stage 1), Document analysis (Stage 2) and Interviews (Stage 3)]. The in-depth document analysis provided the researcher with information related to the key design elements, key decisions, information regarding the functional departments, the key staff involved in and between functional units, and how the implementation process was rolled out from the inception of the Signature Courses to 2015. Cross correlation was done to identify the key design elements; the variables/elements that played a role during implementations roles and responsibilities and interdependencies between functional units; and the decisions and the impact of these decisions on the Signature Course implementation.

8.4.3 The Semi-Structured Interviews Process

The semi-structured interviews for the steering committee and the functional units were conducted using MS Teams in adherence to the Unisa Covid-19 Guidelines [see attached Annexure 4.9 which refers to the Covid-19 guidelines]. The interviewees were able to provide first-hand information and experience on the design of the Signature Courses, the decisions that impacted on the implementation, as well as the implementation variables and interdependencies. The researcher needed in-depth information on the implementation process to be able to map the process, so this information was apposite. A total of 16 participants from the steering committee and functional units joined the semi-structured interviews. After the interview transcriptions were completed, the researcher coded the participants' qualitative responses using descriptive, process, and in vivo coding strategies. The inductive and deductive process resulted in six themes and elements [details of the inductive and deductive process have been provided in Chapter 4: Research Design and Methodology, and see Chapter 1: Table 1.4: Themes for Literature review (Stage 1), Document analysis (Stage 2) and Interviews (Stage 3)].

8.4.4 The Pluralistic Walkthrough Focus Group Discussion

On the day of the discussion, the researcher presented a 30-minute MS PowerPoint presentation which consisted of the different data collection phases, the themes and frameworks that were developed after the literature review, document analysis, and the interviews as well as the online learning principles for the final framework. Thereafter, the pluralistic walkthrough focus group discussion was divided into four break-away discussion groups giving them time to discuss and

provide input into the principles. The participants were requested to comment on the appropriateness of the principles, how important the principles were, and whether any amendments were required. After the groups provided input on the principles that guided the implementation process of online learning, the participants were asked to use the framework to implement online learning at Unisa. The implementation framework was evaluated according to completeness, ease of use, and usefulness. The feedback from the groups was analysed and interpreted, and final adjustments were made to the principles and the framework. For more detail on the pluralistic walkthrough focus group discussion process see Chapter 7.

The final implementation process framework and principles were introduced at the end of Chapter 7.

8.5 SUMMARY OF EMPIRICAL FINDINGS

This section will indicate the findings according to the four research questions.

8.5.1 Question 1: How did the Key Design Elements of the Signature Courses inform the Implementation Process?

This section will discuss the design elements that informed the implementation process.

8.5.1.1 Transforming the Institution from ODL to ODeL

The most important strategic design decision that shaped the implementation was when Unisa, as a ODL institution, decided to shift towards fully online learning in the selected six (later seven) Signature Course modules. This was also in alignment with the transformation agenda and objectives of the institution. The university's vision and mission informed the management decision that Unisa should migrate from ODL to ODeL alongside a commitment to remove barriers to access, provide a flexible learning environment, develop learning programmes that are student-centred and provide cognitive (reasoning), affective (emotional) and administrative support to students (e.g., Department: Higher Education and Training, 2014b; Tait, 2000; University of South Africa, 2018). The Signature course design was in line with the institution's strategic mandate from the HE department and Unisa's unique identity as the only public

dedicated distance education institution in South Africa. The mandate of distance education is to provide access to students who, for whatever reason, cannot study at traditional residential institutions. Cognisant of the end goal which was to ensure that successful graduates would be equipped with the desired knowledge, skills and values characterising 'graduateness' and 'Africanness', these concepts were embedded in the learning outcomes. (Global Ecology LLC, 2011a). The multidisciplinary online learning modules were pitched at entry level NQF5 and favoured modules with large student enrolments (P10; P13).

8.5.1.2 International Partnership

Another key design decision was to ensure that the requisite knowledge, skills, and experience were in place to assist the team in the form of an international partnership with experts in the field of online learning. Therefore, a Memorandum of Agreement (MOA) and the due diligence for the international partnership were finalised. According to Ryan (2011), the formal international partnership with Global Ecology LLC in the USA assisted the institution to realise its focused goals for curricular and pedagogical innovation. Mischke (2014e) also pointed to the congruence between the expertise of the international partner, Global Ecology LLC, and Unisa's need to transform to fully online learning as a key factor in the project's success. Consequently, the training and assistance provided by the curriculum specialists to the academics aided in the creation and development of online curriculum and courseware (Mischke, 2014a).

8.5.1.3 Involving all Stakeholders from the Start

The Signature Course project's initial planning and benchmarking were conducted by the steering committee (Pro Vice-Chancellor, the Executive Director to the Pro Vice-Chancellor and Project Manager) and some functional units. These functional units were mostly representative of directors, whereas the benchmarking delegates included college academics, an instructional design specialist, study material and print production director, ICT manager, and an assessment director. From the outset, the buy-in and participation of all stakeholders were essential, since they would have been involved in key decisions that could have prevented certain glitches before implementation (see P1; P6; P11; P12).

8.5.1.4 Follow a Team Approach

The design decision that the course design should take place in a team approach with experts, for example, academics, instructional designers, technology specialists, graphical designers, and language experts, was another key decision that shaped the implementation. The purpose was to assemble a highly competent, well-balanced team of specialists with extensive expertise and knowledge of best practices for the design and implementation of online courses (Andrade & Alden-Rivers, 2019, Annamalai & Ramayah 2013, Global Ecology LLC, 2011a; P10; P15). The team approach resulted in some unexpected benefits, such as camaraderie, caring, transparency, honesty, openness and trust, in a safe working space. Team members share common goals and worked together in achieving those goals (Mischke 2014e; Ryan, 2013).

8.5.1.5 Benchmarking Good Practice

Benchmarking is in line with best practices, and designing the Signature Courses allowed the team to analyse and learn from best practices. Because of the decision to benchmark against international institutions, the team was able to develop a document that provided recommendations for the implementation of online learning at Unisa. The benchmarking's main purpose as part of the MOA was to gain more insight into online learning models which specifically focused on courseware design, continuous professional development, assessment/administration, teaching assistants, research, rewards and incentives, quality matters, and study material production and distribution. Understanding what online learning courses include and what has to be in place was achieved through benchmarking with six international universities in the USA. Case-study evidence demonstrates that benchmarking with other HE institutions and the influence of professional development aided staff in accepting online learning approaches (AIRN, 2020; P11; P15; University of South Africa, 2011d). Learning from mistakes and design errors during the implementation process is essential for effective implementation and adapting to change (Meyers, Durlak & Wandersman, 2012; P6).

8.5.1.6 Choosing Heutagogy as Pedagogy

The design decision to adopt and implement high-quality online courses at the universities requires an appropriate pedagogical approach (Global Ecology LLC, 2011a; Ossiannilsson and

Landgren, 2012; Daud and Farrah, 2013; McConnell, 2018; Zimmerman et al., 2020; P16). A highly interactive, heutagogical pedagogy was chosen as it supported student-centredness while taking into consideration that Unisa's student population is slightly older than the student profile at conventional universities. Heutagogy supports and relies on interaction between students and the academic as well as student interactions amongst themselves and with the course material. As the analysis has shown, the choice of heutagogy as pedagogy had implications for the capacity and design features of the myUnisa learning management system. The heutagogical pedagogy also affected the implementation of continuous assessment and the appointment of teaching assistants.

8.5.1.7 Continuous Assessment

The decision to implement continuous online assessment along with the stipulation that all assessments, formative and summative, would be fully online, resulted from the benchmarking exercise and proved to be highly significant (P16). No paper-based assessments were accepted, and the final summative assessment was changed from a face-to-face venue-based examination to an e-portfolio (Mischke, 2012d; P15; P16). More frequent and shorter assignments were implemented to improve student learning success. This was in line with best practices whereby students received regular and timely feedback (Mischke, 2012a; Northcote et al., 2019; P4; P8; P10; P13; University of South Africa, 2012b). Continuous online assessment also promoted a culture of autonomous, independent, and self-directed students, as assessments were 'front-loaded' (immediately available) and this encouraged students to take control of their own learning and determine their own pace (Andrade & Alden-Rivers, 2019; Global Ecology LLC, 2011b; P6). 'Front-loaded' assessments provided students with flexibility and the opportunity to submit their assignments way before due dates.

8.5.1.8 Designing an Appropriate Student Support Approach

The academics profited from the choice to adopt a student support model in the form of teaching assistants, as they supported the academics and the pedagogical concepts of the Signature Courses (P12; P16). This also meant that a new student support model needed to be designed, developed, and implemented as there were no systems in place to support this model. This brought about an online recruitment and appointment process in which roles and responsibilities

for teaching assistants had to be clarified, and the criteria and remuneration of teaching assistants had to be determined.

8.5.1.9 Providing Access to Technology and the Internet

Having a completely online course with all resources available may impede teaching and learning activities for those students without a constant internet connection. This was unquestionably a difficulty for Unisa, as a significant number of students resided in rural places with internet and bandwidth limitations. The team decided to implement the Digi-band initiative which was one of the best practices at the USA institutions as explained in Chapter 5 (document analysis). The Digi-bands assisted students to work offline and upload and download their progress when they were able to access the internet. Because the myUnisa platform was imaged on this Digi-band students were not confused by having to cope with different software. The registration system was adjusted to allow students to indicate whether they would access their study material online or whether they wanted a Digi-band supplied to them (see Mischke, 2012c; Mischke, 2012d; Nkhumeleni, 2014; University of South Africa, 2013c; University of South Africa, 2013d). Other initiatives that provide internet access and support to students are the regional computer laboratories and collaboration with Telecentres [see 8.5.1.13 The role of ICT].

8.5.1.10 Course Design Approach

The instructional designers' expertise played a critical role in the development of the Signature Courses, ensuring that curriculum and courseware design formed an integral component of the transition to fully interactive online delivery. Some key design concepts were that the curriculum was designed to integrate with the South African context as its core to give a unique brand identity to the course content (Global Ecology LLC, 2011b; P7; P10; P13). Another key concept integral to designing online learning is that student support should intentionally be designed and embedded in the courseware for students to be successful (Andrade & Alden-Rivers, 2019; McConnell, 2018; Salama et al., 2015; P12). Lastly, part of the courseware design was to use OERs where feasible to save the student some expenses on, for example, textbooks (Global Ecology LLC, 2011a; P6).

To avoid different levels of quality and to ensure consistency in course design, course standards were used as a blueprint for designing and enhancing all online courses and programmes (Srinivasa 2012). An important goal for the Signature Course team was to develop a standardised online course standard module template to guide course development and instructional strategies (Global Ecology LLC, 2011b; Santally et al., 2020). The Signature Course curriculum champions and their US partners used this template during the design phase to assist with course design and development, and to guarantee that all modules adhered to the same guidelines. This ensured that students would be thoroughly engaged in the learning process (Global Ecology LLC, 2011c; Global Ecology LLC, 2011d).

The courseware was designed to be visually appealing, interactive and user-friendly, and assisted students to reflect and articulate their own experiences and learning on the subject matter through different learning strategies, for example, group work, discussion forums, announcements, tutorials, assignments/quizzes, videos, podcasts, and links to other resources, for example, frequently asked questions for reflection (Abuhassna et al., 2020; Andrade et al., 2022; Boticario et al., 2012; D'Agustino, 2012; Daud & Farrah, 2013; Global Ecology LLC, 2011b; McGuinness & Fulton, 2019; P6; P9; P11; P13; Sarder, 2014; Sun & Chen, 2016; Theresiawati et al., 2020; University of South Africa, 2013a; University of South Africa, 2012b).

To enhance student participation, course design and delivery allowed academics to apply synchronous (real-time) and/or asynchronous or a combination of synchronous and asynchronous activities (Chaeruman, Wibawa and Syahrial, 2020; Neuwirth, Jović and Mukherji, 2021; Chan, Bista and Allen, 2021).

8.5.1.11 Staff Awareness, Professional Development, and Motivation

A key design decision was that online learning concepts and context should be well understood. In this regard, online learning training programmes were developed for the staff and the teaching assistants (P1; P2; P5; P6; P10; P8; P12; P13; P15; P16). Academics were trained on online learning pedagogies that could assist them when they developed the curriculum, course content, and materials. The training provided certainty and confidence when academics and support staff needed to implement online learning. Staff and students were also trained in other skills such as digital training.

The online learning implementation process could not have been successful without the participation and motivation of team members (Andrade & Alden-Rivers, 2019; P15). There were several ways to get staff ready for online learning, for example, inviting experienced and knowledgeable guest speakers, attending and/or presenting at research conferences and workshops (Andrade & Alden-Rivers, 2019; Govindasamy, 2001; Moore, Lockee & Burton; 2002), and peers sharing their expertise and skills with one another (Andrade & Alden-Rivers, 2019; Govindasamy, 2001; Northcote et al., 2019; P6; P12). Other initiatives mentioned in the literature or emerging from the analysis of documents and interviews included the implementation of incentive schemes, for example, reducing the teaching load of academics, or providing staff with the latest educational technologies such as laptops, or implementing a formal acknowledgement and certification initiative, research incentives, a credit-hour policy, and financial rewards (Govindasamy, 2001; Ossiannilsson & Landgren 2012; McConnel, 2018; Mischke, 2012a; Mischke, 2012c; P12; P13; P16; Theresiawati et al., 2020).

8.5.1.12 Budgeting and Resource Allocation

The Signature Course project had a dedicated approved special project budget during 2011 to fund corporate communication & marketing, materials/ consumables, outside services, and travelling and subsistence. The largest part of the project budget was spent on outside services which included design, developing online learning courseware and resources, conducting training workshops, benchmarking costs for the international institutions visited, monitoring progress, and providing feedback (University of South Africa, 2011b). The salaries of the teaching assistants, and infrastructure cost, such as ICT hardware and/or software was budgeted by the Colleges and ICT. As indicated in Chapter 5, ICT did not have the capacity to develop and enhance some of the systems internally so the functions were outsourced which contributed to costing factors (Mischke, 2012b). The budget allocated to the Signature Course project was managed by top-tier management in the form of the Pro Vice-Chancellor (P5; P15), which was a key element to the success of the implementation.

8.5.1.13 The Role of ICT

Though not a design decision, the role of ICT in ensuring the success of the implementation of online learning is evident from the analysis of literature, as well as the documents and interviews.

ICT was responsible for ensuring that the systems were in place and for adjusting the ICT plan in alignment with the institutional strategy (Andrade & Alden-Rivers, 2019; P9; P15; P16).

The five major focus points from ICT were to ensure that firstly the student support system was in place for the teaching assistants including the recruitment, selection, and payment process, as well as the grouping of teaching assistants to the modules and students. A management system was developed to track and trace the teaching assistant activities to ensure that academics could quality assure the teaching assistant activities.

The second major focus was to ensure that the assessment system was adjusted to accept only online assignments. Because different assessment strategies were used, ICT had to ensure that the systems were in place as well as the marking software and application to support the different strategies in order to calculate the assessment mark accordingly.

The third major focus was to create the necessary adjustments on the online learning management system (LMS) after deciding to use the existing LMS. A learning management system (LMS) contains all the teaching and learning resources for staff and students (Awang et al., 2018) and needs to support interactivity and different assessment strategies, for example, discussion forums, rubrics, essays, e-portfolios, multiple choice, group work, etc. Effective and appropriate online interactivity tools were developed to ensure interactivity between student and academic, student and student, and student and course content on the LMS (CIES/IIE, 2010; Global Ecology LLC, 2011b; University of South Africa, 2011c; University of South Africa, 2011d; P2).

Lastly, ICT did not have the capacity to produce the Digi-bands so the service was outsourced. Their distribution, however, was facilitated by Unisa, so the systems needed to be in place. ICT had to make sure that the institution was equipped with proper hardware and software to support teaching and learning, and to equip regions with computer laboratories and bandwidth [also see section 8.5.1.9 Providing Access to Technology and the Internet].

8.5.2 Question 2: What variables were considered in each of the implementation stages?

The final online learning implementation framework summarises the most important variables that emerged from the analyses. It is important to keep in mind that, firstly, the three phases, while distinct, were also overlapping, and, second, though the three different phases present a sequential unfolding of the implementation process, some of the elements in a particular phase were found in other phases as well, albeit with a different scope and purpose. Some of the key design decisions have been discussed in the preceding section [see 8.4.1 The Scoping Literature Review Process]. This discussion will provide an overview of the remaining variables as found in the different phases of the implementation process.

8.5.2.1 The Impact of Discipline-Specific Context

Very early in the design phase, and in subsequent phases, the team realised that academic programmes have distinct disciplinary epistemologies and pedagogical strategies, and that, owing to these differences, there is no 'one size fits all' model which can be applied in all contexts and to all programmes (Leahy et al., 2009; Mabert et al., 2003). The study revealed that there were disciplinary differences between the different Signature Courses that often necessitated the use of different online teaching and learning tools and software. For example, in one specific module additional software was required to support the students with a practical environment to simulate MS Office software, such as MS Word.

8.5.2.2 Institutional Buy-in, Communication, and Change Management

Institutional buy-in: The buy-in for online learning implementation needed to be obtained primarily from the institution which includes all stakeholders (Kordnaeij, 2016; Moir, 2018; Tawse & Tabesh, 2020). Without institutional and multi-stakeholder buy-in, the design of the implementation would be flawed (Meyers, Durlak & Wandersman, 2012; Ryan, 2011; Varonis, 2014). In the case of the implementation process of the Signature Courses at Unisa, this study found that the buy-in and support by executive management was foundational to the successful implementation, which is corroborated by other scholars (Burke, 2013; Global Ecology LLC, 2011a; Global Ecology LLC, 2011d; Meyers, Durlak & Wandersman, 2012; Ryan 2011; University of South Africa, 2011a). The buy-in was, however, a constant issue as various stakeholders may have disengaged, for whatever reason, from the development and/or implementation phases.

Communicating the ODeL integrated aligned strategy and vision to all institutional stakeholders and students by sharing online teaching and learning goals and plans was crucial for buy-in and understanding (Andrade & Alden-Rivers, 2019; Annamalai & Ramayah, 2013; Mabert et al., 2003; Moore, Lockee & Burton, 2002; University of South Africa, 2012a, 2012b). Through campaigns, presentations to College Deans, and functional units, such as workshops, internal and external media campaigns; newspaper, radio, and social media, the institution utilised a variety of communication strategies and platforms (Twitter and Facebook) to create awareness. Other communication platforms such as emails, websites, brochures, flyers, and online bulletin boards were used to create awareness among staff and students. (Andrade & Alden-Rivers, 2019; P7; P3; P7; University of South Africa, 2012b). Important to the success of the implementation process were weekly meetings and weekly reporting to all stakeholders.

Change management: Executive management needed to ensure that institutional change management processes were in place across the institution so that all stakeholders adopted online learning (Andrade & Alden-Rivers, 2019; Ossiannilsson & Landgren, 2012). The resistance of stakeholders to adapt to change influences the implementation process of online learning which may result in project implementation failures (Annamalai & Ramayah, 2013). Those who have become comfortable with more traditional ways of teaching are reluctant to change, as they may not accept the need to switch towards a fully online learning concept (e.g., P15). Benchmarking with other HE institutions, however, had a positive impact on the acceptance of online learning concepts and professional development (AIRN, 2020; P11; P15; University of South Africa, 2011d). Another strategy in adapting to change is through learning from mistakes and addressing design errors in the implementation process (Meyers, Durlak & Wandersman, 2012; P6) [also see section 8.5.1.5 Benchmarking Good Practice].

Policy environment: Policies, rules, and reporting assist to support change management (Andrade & Alden-Rivers, 2019). National policies, for example, the Policy for the Provision of Distance Education in South African Universities (Department: Higher Education and Training, 2014) in the context of an integrated post-school system guided the design of the Signature Courses. The transformation to implementing fully online courses was challenging. The university was forced to comprehensively review online teaching and learning policies during the initial stages of the project (CIES/IIE, 2010; Global Ecology LLC, 2011b; P2). Implementing fully online courses, therefore, resulted in reconsidering the alignment with the policy environment

(Andrade & Alden-Rivers, 2019; D'Agustino, 2012; Global Ecology LLC, 2011b; Clearinghouse for Labor, 2014; Leahy et al., 2009; Ogden et al., 2012; Peters et al., 2014; Santally et al., 2020; Salama et al., 2015; Sudarwati, 2018; Sun & Chen, 2016), and in the case of Unisa, with a range of policies such as the tuition policy (University of South Africa, 2013a), the curriculum policy, which needed to be adjusted to embed context, relevance, graduateness, and student engagement (Global Ecology LLC, 2011b), a framework for the implementation of a team approach to curriculum and learning development at Unisa (University of South Africa, 2013a), the OER policy, and guidelines at Unisa to assist with textbook and course material (University of South Africa, 2011e). The assessment policies resulted in system changes as the business rules were not the same (Mischke, 2012c; P2).

In the case of Unisa, the university also prepared and finalised human resource policies that govern the HR processes to implement a recruitment strategy to advertise for permanent or part-time candidates (Global Ecology LLC, 2011b; P12).

8.5.2.3 Existing and required ICT Infrastructure

Central in the design of online learning experiences and the implementation process of online learning is to ensure that an effective and appropriate institutional ICT infrastructure is in place for online learning. Effective online learning relies on a well-resourced, consistent, and reliable technical infrastructure; however, institutional and local infrastructure is often either not accessible or is unstable and/or not well maintained (McConnel 2018; Mischke, 2012d; Theresiawati et al., 2020). An infrastructure which includes all related systems needs to be in place to support the online model. Online platforms and resources in support of online learning should be accessible anytime and anywhere (Chaeruman, Wibawa & Syahrial, 2020) and additional social networking components can assist with the sharing thereof (Abuhassna et al., 2020).

It is therefore important to scan the environment on an ongoing basis for new technologies (Global Ecology LLC, 2011b; Santally et al., 2020; Groups 2, 3 and 4) such as cloud services to gain a competitive advantage in learning environments (Boticario, 2012; Mischke, 2012d). During the pluralistic walkthrough focus group discussion a new technology, ChatGPT, was

mentioned by Groups 2, 3 and 4 and there was an awareness of the ways in which new technologies may impact on the implementation of online learning.

Best practices and lessons learned from international universities indicated that computer laboratories with well-equipped computers, resources, internet and sufficient bandwidth with a support person to assist with enquiries should be accessible to students (Mischke, 2012c). In the context of Unisa, the demand for computer resources increased when online learning was implemented through regional computer laboratories community-based partnerships with telecentres (also known as multi-purpose community centres, and through the Toasters (P6; University of South Africa, 2013d). Students needed access to computers and the internet and one of the main access points for many students were the regional offices and the regional computer labs which were furnished with computers, internet access, printers, photocopiers, and scanners (University of South Africa, 2013d, P6; P7; P8; P16).

8.4.2.4 Student Readiness and Training

Accessing student online learning needs and readiness during multiple stages is crucial (Meyers, Durlak & Wandersman, 2012). For example, an important stage or point in the implementation process of online learning is to ensure that students know how to operate the learning management system before they start (Abuhassna et al., 2020). To fully address the various skill sets, the institution must know when students enter online environments what skill sets they possess. For example, students need to know how to navigate around online modules during the implementation phase (P11). In the context of Unisa, regions and telecentres were specifically trained to be able to orientate the students with regard to, for example, learning concepts, the online learning management platform, technology requirements, and library services (University of South Africa, 2014e; P10) [also see 7.2.2.7 Operationalise Student Support Plan].

This study has revealed that students' lack of readiness for online learning, or understanding what online learning entails, was fundamental in students' decision to *de-register* from these modules. If students do not get the required training support, they deregister their modules (P8; P11; P15), [also see 7.2.2.3 Student Training Needs and Orientation]. Accessing students' needs and training should be ongoing (Group 4) and training should be automated by, for

example, using videos on YouTube. During the pluralistic walkthrough focus group discussions, Group 1 indicated the importance of student orientation through a first-year experience MOOC. This MOOC needs to cover both academic and administrative elements and is a very good initiative that Unisa implemented recently to assist students (Group1).

8.5.2.4 Finding and Appointing Teaching Assistants

Another important variable was the finding and appointment of teaching assistants. After the primary academics and HR developed the job descriptions (JDs) for the teaching assistants according to the requirements of the particular module (Global Ecology LLC, 2011b) the JDs were evaluated by HR. The job evaluation was done to determine the remuneration considering the complexity of the work and level of skills required to perform the teaching assistants' job and the position was graded accordingly (University of South Africa, 2012b). Thereafter the positions were advertised online which enabled prospective teaching assistants to apply from anywhere in the world, which enabled HR to proactively attract a suitable pool of candidates (Ecology LLC, 2011b). Apart from evaluating and grading the JD the following elements needed to be in place for the successful appointment, 1) advertisements specifying the criteria and responsibilities; 2) contracts; 3) remuneration structures; 4) recruitment processes; 5) application processes; 6) selection processes; 7) appointment and re-appointment processes of teaching assistants; 8) linking the teaching assistants to the learning platform, myUnisa, 9) 'activation' of the Teaching Assistants (TAs) accounts to have access to the learning platform; and, lastly, 10) grouping of students and linking them to specific TAs (P6; P12).

8.5.2.5 Student Access to the Internet

An important variable that has to be considered is the fact that online learning requires students to have access to technology resources such as computers, the internet, and appropriate bandwidth, as well as technological support if they have access to computers. Certain project members felt that implementing online learning was prejudicial towards underprivileged students (P10) because not all students had sufficient data and internet access [also see Chapter 7, section 7.2.3.1 Student Readiness and Training]. To bridge this gap the regional computer laboratories provided access to the internet and support for students. These computers were frequently updated with all software as per student requirements, for example MyItLab or MS-Office (Mischke, 2015; University of South Africa, 2013d) [also see Chapter 7, section 7.2.1.11

Developing the Curriculum and Learning Experience and section 7.2.1.15 Determine ICT System Development Needs and Plan]. Inadequate and slow technology or frequent technical issues deter students from an effective online learning experience (Stefanovic et al., 2011). There are however strategies to assist students who do not have constant internet access, for example the Digi-bands as discussed [see Question 1: section 8.5.1.9 Providing Access to Technology and Internet]. In the context of the implementation process of the Signature Courses, the regions played an important role as they provided access to computers and the internet. Regions also orientated students on online learning, myUnisa, assisted with the activation of the MyLife email account, and assisted with technical support to those students who had their personal laptops (University of South Africa, 2013d) [see Question 1, section 8.5.1.13 The Role of ICT].

8.5.2.6 Cost of Design, Development and Delivery

An important variable, also mentioned in the literature, is the issue of the costing of online learning (Bates, 2005; Daniel, Kanwar & Uvalić-Trumbić, 2009; Hülsmann & Shabalala, 2016).

According to Daniel, Kanwar & Uvalić-Trumbić (2009) distance education has always been regarded as more affordable than residential institutions, and Hülsmann and Shabalala (2016), and Vaganova (2018) refer to the offset of the cost of course design, development, production, and delivery against the principle of 'economies of scale': once courses have been designed and developed, the cost per unit decreases as the students numbers increase.

While the document analysis did not find much evidence of discussions of the costing of the implementation of the Signature Courses (see Chapter 5 section 5.7 Theme 4: budgeting and costing), the issue of cost in the implementation of online learning emerged in the interviews.

The Department of Budgeting and Cost Management introduced Activity Based Costing, and important financial reports with analysis were provided to the project management. These did not only look at the numbers (the actual costs) but at the value-adding activities behind the project (P14). The transition from traditional distance learning to online learning implied that certain costs would be added and/or replaced by other costs (P14). When the courseware was designed the university did not pay additional development costs as these were embedded in the fixed staff salaries and there is not much of a cost difference when comparing online to face-to-face

or paper-based instruction (Global Ecology LLC, 2011a; P14). Savings on other expenditures such as the delivery or distribution of materials, printing, courier and postage costs, and examination costs, for example, venues and invigilators were realised. There was, however, the need for increased investment in the ICT environment which added to the budget and adjusted the cost structures (Awang et al., 2018; P14; Theresiawati et al., 2020). There were also considerable cost increases in hiring and managing the teacher assistants, which is the most significant difference between print based and interactive DE. Andrade and Alden-Rivers (2019) advise choosing resources and media that are cost effective, as interaction is costly.

8.5.2.7 Visibility and Marketing

Online courses need to be visible across the three phases (design, development and implementation) not only to assist with institutional communication and coordination but also to create an awareness and an understanding of what online learning entails for staff and students. The institutional image (reputation and credibility) is protected during this marketing process, for example, the appropriate institutional branding of the online learning model (Andrade & Alden-Rivers, 2019; P7; Theresiawati et al., 2020; University of South Africa, 2012a).

8.5.2.8 Quality Assurance Management

Though quality assurance needs to take place throughout the different phases of the implementation process, it is not a linear process, but needs to be continuously applied to ensure quality. The document analysis states a recommendation to implement a quality management system (QMS), and to apply quality assurance, for example self-assessment, to all online courses to enhance international accreditation (Mischke, 2012b). In the case of Unisa, rigorous internal peer review evaluations occurred, and, during these meetings, the attendees looked critically at the content and interactivity after which the developers had to go back to the drawing board and make adjustments based on input from the team (P10; P13). All online courses went through this peer review process. As a consequence, the course was condensed, adjustments were made to keep the online modules as simple as possible, and feedback was provided (P10; P13; P14). Quality management aims to ensure that resources, processes, procedures, and systems are evaluated against institutional standards. During the development phase, strict course evaluation presentations were held to assist academics with continuous improvements to

prepare for the implementation phase (P9; P13; P14). Group 3 advised adding a monitoring phase at the end of the development phase which would feed back to the design phase, and also to add a monitoring phase after the implementation phase which would also feed back to the design phase.

8.5.3 Question 3: What were the Interdependencies between the different Functional Areas in each of the Implementation Stages?

The roles and responsibilities of the functional departments and the interdependencies created during the implementation process need to be acknowledged as they have a direct impact on resources, training and development, systems, policies, procedures, and institutional support for new initiatives and/or ideas (see Brevis, 2008; Global Ecology LLC, 2011b; Kordnaeij, 2016; Tawse & Tabesh, 2020; Verweire, 2018). The roles and responsibilities of executive management and the different functional units at the three stages (design, development, and implementation) are described in Chapters 5 and 6. The interdependencies also impact on productivity, cost-effectiveness, and the quality of the product and or service, and they are supported by the institution's strategic planning documents (see Chapter 5). The allocation of resources not only allows for the roles and responsibilities to be operationalised, it also serves as a lever for achieving the institution's strategic objectives. Most strategy failure takes place, not during the strategy formulation phase, but rather through poor implementation (Taryn Moir, 2018; University of South Africa, 2004).

The success of the implementation process depends on the institutional and multi-stakeholder support, buy-in and commitment from different stakeholders (Andrade & Alden-Rivers, 2019; Burke, 2013; Holmberg, 2005, Meyers, Durlak & Wandersman, 2012; Ryan, 2011; Varonis, 2014), especially from executive management (Burke, 2013; Global Ecology LLC, 2011a; Global Ecology LLC, 2011d; Meyers, Durlak & Wandersman, 2012; Kordnaeij, 2016; Mabert et al., 2003; Micks & Steiker, no date, Tawse & Tabesh, 2020; P12; Ryan 2011; University of South Africa, 2011a). Institutional support and buy-in by executive management ensures an enabling and supportive ICT infrastructure and environment for both academics and students.

Unisa is a complex mega-institution, so to implement a radical transformational change such as the Signature Course project is challenging partly because the functional units tend to operate in

silos and also because bureaucratic procedures tend to offset the speed of progress (Andrade & Alden-Rivers, 2019; P8; P10; Group 2; Group 3). This study has repeatedly emphasised how important to the project are the capacity and involvement of ICT, but it has also revealed that there were some executive management challenges in ICT which also had a somewhat negative impact on the project.

After the implementation plan was developed the different stakeholders could identify the interdependencies as each of these departments or functional units had specific roles and responsibilities in terms of their operational mandates. Some of these functional units could not perform effectively if they lacked the timeous support from other units (P8; P14). In the case of the Signature Course project ICT, human resources management, and assessment were the most critical areas in ensuring effective implementation, and were paramount to learner success (Global Ecology LLC, 2011b). Therefore, the proper alignment of these three crucial departments was critical for the Signature Courses to reach their full potential (Global Ecology LLC, 2011b, CIES/IIE, 2010). The diagram below provides the functional interdependencies with short descriptions referring to the roles of all the functional units during the online learning implementation reporting to executive management, and involving the US stakeholders.

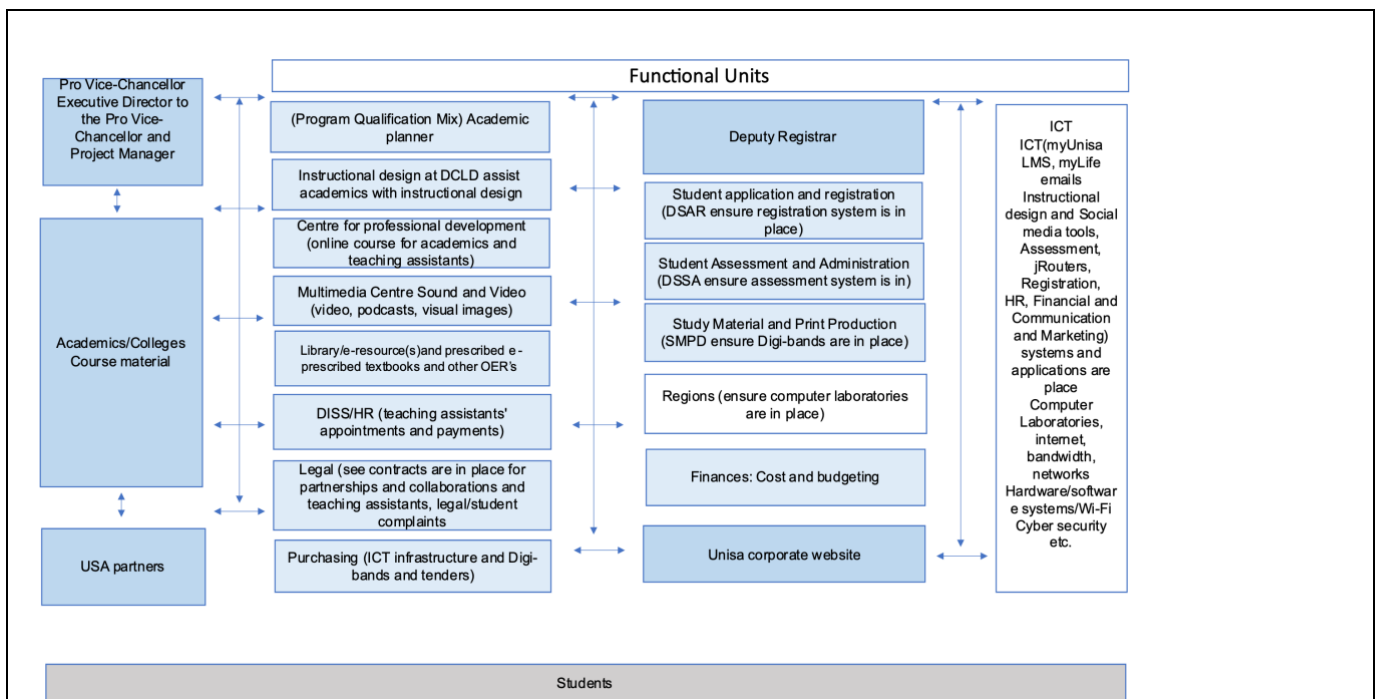


Diagram 8.2: Interdependencies

Despite singling out three interdependencies, it is unrealistic to single out the contribution of one functional department over another as the implementation process relies on every part of the system to fulfil its obligation.

Managing and coordinating interdependencies plays a significant role in the success of online learning implementation, and this is not only applicable to functional units and individuals. According to Group 1 of the pluralistic walkthrough focus group discussion, the enhancement of systems also impacts on interdependencies. For example, Unisa's workflow system is paperless and ensures that the responsible stakeholders receive a task which can be tracked by all stakeholders involved in that process. Identifying responsibilities is therefore crucial for systems to manage the process continuously (Group 4).

8.5.4 Question 4: What were the Implementation *Process* Decisions that shaped Implementation?

Earlier, we dealt with the major *design* decisions and how they informed the implementation process. There is a link between the design decisions (as discussed in response to Research question 1) and the *implementation* decisions. It is clear that the decisions about the design of the Signature Courses influenced the implementation process and *steered and monitored* the implementation *process*. Having said this, distinguishing between design and implementation process decisions is not easy and there often are overlaps between design and implementation decisions. Rather, elements of each appear in both forms of decision. While the design decisions were documented and traceable in the document analysis and the interviews, the decisions that were made during the implementation process are more difficult to trace.

In the rest of the section, a number of decisions that shaped the implementation process will be discussed.

8.5.4.1 Not to Pilot but to go for a Big-bang Implementation Approach

The timeframes were very tight for the design, development, and implementation of the online courses at Unisa. The idea was conceptualised in 2009, and the actual work started at the beginning of 2011 for the first implementation in January 2013. The online courses were never

implemented as a *pilot* project but in a 'big bang' approach (Active Implementation Research Network, 2020; Burke, 2013). Taking into consideration that this was a new concept in the context of Unisa, system development was a major challenge and there was not sufficient time to test on a parallel ICT platform before the modules were implemented. As a consequence, serious challenges arose where the system could not function properly on the volume of transactions and was either down or intermittent. This obviously had an adverse effect for students and staff when the modules were first launched and underlines the fact that integrated systems and structures are important building blocks for sustainable online learning models (Andrade & Alden-Rivers, 2019).

8.5.4.2 The Signature Courses Pitched at NQF5

Another key implementation *process* decision was to determine at which NQF level the Signature Courses would be offered, how many modules there would be, which modules would represent each College's signature, and how to determine the modules and module leaders (P15; P16). It was decided that one Signature course would be implemented per College, pitched at entry level (NQF5). The buy-in and approval was obtained from role players such as executive deans of the Colleges, and executive management identified the College curriculum champions who would lead the project in the respective Colleges (Ryan, 2011). Pitching the Signature Courses on NQF5 level meant that students who were new to higher education, distance education, and, in all probability, online learning were faced with a totally new experience – necessitating more communication, more support, and the application of different approaches than would have been the case if these modules were offered to students who had already been part of the Unisa system.

The process involved not only designing the Signature courses using the *team approach* (adding complexity and time constraints, but also increasing the quality), but also renegotiating the annual performance agreements with staff with implication for their traditional roles and responsibilities.

8.5.4.3 Operationalising the Teaching Assistants: Preparation, and Student and Teaching Assistant Ratios

Choose a highly interactive, heutagogical pedagogy [see Question 1, section 8.5.1.6 Choosing Heutagogy as Pedagogy] had implications for the appointment of the TAs, the current LMS [see section 8.5.4.4 Choosing the Learning Management System], and continuous assessment [see section 8.5.4.5 The Process of Continuous Assessment]. An important design decision to make use of teaching assistants was key to the online learning model's success in the case of Unisa (Lola et al., 2021; P1; P10; P12; P13) (see above). Their roles and appointment processes were mapped during the *design* phase. This decision also had several implications for the implementation *process* as the notion of the teaching assistant, as designed in the Signature Course project, impacted on a range of functional departments such as ICT, HR, examinations, and others. This was new territory for Unisa, and informed a range of decisions pertaining to the implementation process.

There was no online recruitment, appointment, and management system for teaching assistants, so this had to be developed. The teaching assistants were part-time employees and received a yearly independent contract which created an administrative challenge. A decision was thus taken that the teaching assistants would receive a three-year contract, but the contract activation would only take place if the enrolment number of the students warranted a teaching assistant. Another decision which contributed to lessening the administration was that the teaching assistants would receive a fixed standardised remuneration, meaning that the administrative claiming process was easier to implement and manage. Administrators did not have to count hours worked, and less paperwork was required (see P12; Mischke, 2012b).

Unisa was advised by their US partners to allocate 30 students to a teaching assistant. However, with the large student population of Unisa it was not possible to appoint sufficient teaching assistants (Mischke, 2012b; P10; University of South Africa, 2012b) and the Signature Course team decided on 50 students per group (Setlhako, 2015; University of South Africa, 2013c).

Furthermore, for teaching assistants to be effective the decision was taken to develop an online training course which teaching assistants needed to complete before they could commence with their duties. It was crucial for teaching assistants to know the LMS and to have access to the Unisa intranet system and the myUnisa system (Mischke, 2012c; P12).

8.5.4.4 Choosing the Learning Management System

One of the decisions the Signature Course team had to take was to continue using the myUnisa learning management system. The myUnisa system was already implemented in the institution and the decision was taken to continue with such. However, numerous tools had to be added to improve the learning experience, for example, discussion forums, glossary blogs, rubrics etc. (Awang et al., 2018; Myburgh, 2012; Sarder, 2014; Stefanovic et al., 2011; University of South Africa, 2012b). Though choosing another learning management system such as Moodle was considered at that stage, the urgency of the project did not allow a major change in learning management systems. The Signature Course team realised that they could not implement heutagogy using the current myUnisa platform. A key decision therefore was to transform the myUnisa platform to include the additional tools and adding more to make the courses more interactive (P9; P16). This decision had a direct impact on student satisfaction in terms of using online learning systems that were reliable and responsive (Theresiawati et al., 2020).

8.5.4.5 The Process of Continuous Assessment

The assessment system needed to be adjusted to accommodate the new processes and concepts. The design of the Signature Courses introduced several new elements in delivering quality teaching and learning at Unisa such as structured and increased compulsory engagement, changes in assessment, changes in roles and responsibilities of faculty and teaching assistants, and so on. Both formative and summative assessment were implemented to continuously evaluate student learning according to content, learning objectives, and skills through different strategies (D'Agustino, 2012).

The implementation of continuous assessment involved 8-13 assignments per semester, and the systems had to make provision for students to participate frequently in focused formative assessment activities which would constitute 80% of the final mark, with summative assessment contributing 20% (University of South Africa, 2012b). These systems therefore catered for activities such as groups working together on a variety of learning tasks including assignments, individualised student writing tasks, reading assigned materials, posing questions, facilitating discussions, responding to questions and commenting on the responses of others, locating and presenting external resources, and working together on case studies and research projects. All

these helps to achieve interactivity and continuous feedback to students (Global Ecology LLC, 2011b; University of South Africa, 2012b). To this end, the development of threaded discussions, blogs, and digital e-portfolios and rubrics needed to be developed (McConnel 2018; Mischke, 2012c; Northcote et al., 2019; Ossiannilsson & Landgren, 2012; P6; University of South Africa, 2012b).

Another system needed to be developed to ensure that students always had access to their current grades on all graded assignments on myUnisa. The assignment grades needed to be entered directly into the Gradebook function when rubrics were used so that students could view their performance against each criterion on the rubric (Global Ecology LLC, 2011b). The system needed to be adjusted for the TAs to capture the marks automatically from the onscreen marking system.

Student progress reporting systems were put in place as the academics needed to monitor and control the information regarding student progress, for example, the number of students who submitted their assignments, students passes/fail, and which students contributed to post and blogging activities etc. (Global Ecology LLC, 2011b).

Lastly, to ensure that students' achievements and capabilities are fairly assessed (D'Agustino, 2012; Theresiawati et al., 2020) plagiarism structures like Turnitin (Ossiannilsson & Landgren, 2012) were implemented to ensure that students did not plagiarise [see 7.2.1.10 Determine the Course Design Elements].

8.5.4.6 Dynamic and Responsive Business Processes

The interdependencies between the functional units, and also between the different phases of the design process, illustrate the need for dynamic and responsive business processes. For example, the importance of quality assurance in online learning and in the implementation of online learning as a continuous and iterative process is well documented (Andrade et al., 2022; Santally et al., 2020; Zimmerman et al., 2020). Institutional policies are furthermore used to guide effective quality online learning implementation (Andrade & Alden-Rivers, 2019; D'Agustino, 2012; Sun & Chen, 2016; Santally et al., 2020; Salama et al., 2015; P2; P5 Sudarwati, 2018).

A critical success factor for the design of online learning is re-engineering business processes, meaning that organisational requirements and business processes need to be compatible and aligned, restructured, and re-engineered using constructive alignment methodologies (Annamalai & Ramayah, 2013; Ossiannilsson & Landgren, 2012; Theresiawati et al., 2020). At Unisa, some realignment and restructuring took place within the Colleges, and staff were allocated directly to the Signature Courses to ensure that administrative processes were covered. The restructuring meant that new reporting lines and processes needed to be established and adopted in order to ensure greater accountability and make everybody aware of the changes across the institution (Andrade & Alden-Rivers, 2019). Although the Executive Director of the Department of Tuition Support and Facilitation of Learning was responsible for driving the tutor model, the Signature Course project adopted a different approach, with the HR representative reporting directly to the Pro Vice-Chancellor concerning the appointment of the teaching assistants (P10).

Another design *a/-process* decision in the literature on the implementation of online learning is the establishment of a research unit to specifically support online research (see Andrade & Alden-Rivers, 2019; Fernandes, 2020; Santally et al., 2020). The researcher could not find evidence of such with the Unisa project. Research on implementation could have assisted with guidelines and protocols for decision making and might have supported quality management and improvements. There was also evidence from the interviews that though academics wanted to do research on the implementation of the Signature Courses, owing to the workload and pressures related to the online courses, this research did not occur (P16).

During the benchmarking visits, as well as in the literature, providing students and staff with responsive and effective support is crucial in the success of the implementation of online learning (Andrade et al. 2022, Northcote et al., 2019; Ossiannilsson & Landgren, 2012; Mischke, 2012b). It was a design decision *not* to establish a 24/7 help-desk as recommended in the benchmarking exercise and literature (Mischke, 2012b). This had a number of implications on decisions guiding the implementation *process* including the fact that staff and students often did not know where and how to report glitches with software, how to keep track of the online submission of assignments, solve problems of teaching assistants not having access to the learning management system, and so on.

Other implementation process decisions are those informing strategy, course design, systems, reengineering and restructuring, stakeholders, partnerships, collaboration, institutional policies, shared governance, risk management, digital infrastructure, resource allocation, institutional quality assurance, and evaluation monitoring (see, Andrade & Alden-Rivers, 2019; Santally et al., 2020; Ossiannilsson & Landgren, 2012; Zawacki-Richter & Jung, 2023).

8.6 NEW PUBLISHED RESEARCH

Since the initial scoping review and the completion of the collection and analysis of the data, it is important to recognise that there has been new research published pertaining not only to online learning but more specifically on the implementation of online learning.

The researcher followed a rigorous search to determine what new research had been published since the initial scoping review process in Chapter 3. The same research strings that were used in that chapter were used find new published research [See Annexure 8.1]. Firstly, the researcher removed all the duplicates and thereafter screened the articles by reading the abstracts, removing the articles not relevant to this study. The criteria used articles that contain information pertaining to key design elements, implementation variables, decisions, and interdependencies. The researcher removed the articles that were not accessible in full [see Annexure 8.2: Prisma Flowchart of the screening process]. The full articles were read, and 30 articles that were applicable to this study can be viewed in Annexure 8.3: List of all new published research articles used relevant to this study].

With the exception of three articles (Andrade et al., 2022; Mystakidis et al., 2018; Urankar & Jamšek, 2022) all the other articles refer to the adoption of online learning in residential education and in various forms of blended/hybrid learning (e.g., Assaraira et al., 2022; del Gobbo et al., 2022; Roy & Abdin, 2023; Ruiz-Grao et al., 2022; Yusuf, Subiyakto & Khawa, 2022). The publications provide evidence of how institutions have aligned their teaching and learning models with blended learning models to ensure continuity in the event of political unrest, strikes, and natural or emergency disasters such as pandemics (Iter et al., 2023; Roy & Abdin, 2023). Evident from this literature is how the Covid 19 pandemic resulted in new forms of inequalities according to Tan et al. (2022) owing to the closure of schools and universities. It is clear that Covid-19 had

a major impact not only on delivery modes, but also on the acceptance of online learning (Al Breiki & Al-Abri, 2022; Yusuf, Subiyakto & Khawa, 2022).

Many of the publications focus on student/teacher perceptions and the factors impacting on the individual adoption and/or use of technology (Cohen, Soffer & Henderson, 2022; del Gobbo et al., 2022; Elalouf et al., 2022; Fitrawati et al., 2023; Roy & Abdin, 2023). Several articles mention the increased use of machine learning, artificial intelligence, and predictive modelling in online learning (Rahman et al., 2023; Santosa & Rianto, 2022; Kakish & Al-Eisawi, 2023).

It is clear that changes in assessment (Heil & Ifenthaler, 2023; Mottiar et al., 2022; Zhong et al., 2023) and various other changes in pedagogy, staff performance, student support, and forms of delivery, to mention a few, are a major issue post-Covid (Aguinaldo, Cobar & Dimarucot, 2022; (Brown, 2022; Janahi et al., 2023; Dimitropoulos, Mystakidis & Fragkaki, 2022; Roy & Al-Absy, 2022).

Though there was little evidence pertaining to implementation processes of online learning in distance education context, the following articles and their findings can be linked to the developed framework and/or the principles.

Setiawan et al. (2023) developed a Higher Education E-Learning Pricing Model Policy and indicated that the factors impacting on online learning cost are 1) manpower (number of workers/salary of workers); 2) cost of content development and/or acquisition; 3) cost of the technology and the infrastructure (for example, hardware such as computers/servers/webcams, connectivity and internet cost, instructional media, for example, videos); 4) operational costs, for example maintenance, fewer venues and buildings; and 5) student supporting the form of the availability of counsellors for example. The economy of scale applies as the more students who are enrolled in the course, the more these numbers impact on cost-effectiveness and the use of part-time tutors, as the need for administrative support adds to the cost.

This research is in alignment with the online learning implementation process framework [see Chapter 7, section 7.2.1.14 Budgeting, Resource Allocation and Financial Sustainability] as well as the design elements and process decisions as discussed in this chapter. The study by (Norkulov et al., 2020) indicates that the cost per hour for an academic course in distance

education is normally lower than for traditional face-to-face models. However, the cost can escalate if technical challenges are experienced when the time paid can escalate up to 40%. These authors further indicate that the advantage of online teaching and learning is that students in remote areas can benefit from online qualified tutors, as tutors can operate from anywhere. The study by Roy and Al-Absy (2022) discusses the 'Impact of Critical Factors on the Effectiveness of Online Learning', providing evidence that an astounding 71% of the respondents in the study indicated they would prefer to continue with online learning even after the Covid 19 pandemic. The researchers ascribe this to the flexibility that the online learning model provides, saving time and cost as students do not need to travel and manage work obligations.

Alsharidah and Newbury (2022) explain that online learning enhances managerial outcomes, for example, cost and efficiency, apart from providing access to a diverse range of students (backgrounds, knowledge, and skills). The research by Heil and Ifenthaler (2023) defines online assessment as 'a systematic method of gathering information about a learner and learning processes to draw inferences about the learner's dispositions '(2023:187). The four main categories of online assessment modes consist of peer, academic, computerised, and self-assessment. Implementing formative and summative assessment requires instructional support including 'clear-defined assessment criteria '(Heil & Ifenthaler, 2023:187). The quality of the assessment process and how it has been affected by Covid-19 is discussed by Albuquerque, Martinho and Dos Santos (2022) and Yang and Xu (2023). There is also evidence that continuous assessment with timeous personalised feedback to learners relates 'to learning analytics in increasing students 'overall performance '(Hegde, Pai and Shastry, 2022: 655).

In Chapter 7, the online learning implementation process framework correlates with the above-mentioned assessment modes/strategies, as well as the decision to implement continuous assessment [see Chapter 7, section 7.2.2.6 Develop the Necessary Systems, Processes and Procedures].

Factors impacting on performance in online learning are staff and student readiness for online learning especially where staff training and/or professional development and orientation in online learning are required (Andrade et al., 2022; Eltahir et al., 2023; Salas-Pilco, Yang & Zhang, 2022). According to Qazi, Sharif and Akhlaq (2022), apart from a lack of training, a lack of resources and infrastructure, and insufficient and or inadequate policies may stifle online learning

implementation. Professional development plays a significant role in the online learning process framework [see Chapter 7, section 7.2.2.5 Professional Development].

The importance of a supportive policy environment is another element frequently mentioned in the research. An essential part of successful online learning implementation is the adoption and adjusting of online learning policies such as quality assurance and assessment policies, according to Iter et al. (2023), and Barrot and Acomular (2022) indicate that teaching and learning policies are also important (also see Salman & Soliman, 2023; Qazi, Sharif & Akhlaq, 2022).

Research by Setiawan et al. (2023) points to the fact that the technology infrastructure needs to be costed and in place for both staff and students (also see Dewanti et al., 2022; Qazi, Sharif, & Akhlaq, 2022; Roy & Al-Absy, 2022; Salman & Soliman, 2023; Yang & Xu, 2023). Forming strategic partnerships to provide uninterrupted network coverage and ensure resources, internet infrastructure, and the provision of internet providers is becoming more important in the acceptance of online learning amongst staff, students, and even the general public (Albuquerque, Martinho, & Dos Santos, 2022; Koswatte, Fernando and Jayawardena, 2023; Salas-Pilco, Yang & Zhang, 2022; Setiawan et al., 2023).

It is therefore important to mitigate technical challenges through proper IT support (Alsharidah, Abbas and Alfayly, 2022). Accepting new technology was identified as an important variable in the online learning implementation process framework [see Chapter 7, 7.2.3.7 Scan the Environment for New Technological Developments].

The identification and implementation of an appropriate learning management system (LMS) by decision makers is an essential element in online learning implementation (Alsahou, Abbas & Alfayly, 2022; Andrade et al., 2022). The study by Sulaiman (2023) among universities in Arab Gulf countries points to a range of factors influencing the choice of an appropriate learning management system, including inter alia, perceived ease of use, expectations of effort. In Chapter 7 [see section 7.2.1.15 Determine ICT System Development Needs and Plan of the online learning implementation process framework], Theresiawati et al. (2020) is cited as indicated the importance of choosing a LMS that is easy to use. The results from Al Breiki and Al-Abri (2022) and Abdallah and Abdallah (2022) confirm that perceived ease of use and

usefulness strongly contribute to accepting and adopting technology, and leads to positive attitudes towards technology and online learning.

The study by Andrade et al. (2022) confirms that designing online learning necessitates that the academic is primarily responsible for the development of online courseware and that a team approach is followed with the support of an instructional designer. However, a significant finding from Andrade et al. (2022) is that when instructional designers are part of the team approach in developing courseware, students have much better and more successful learning experience. It is worth noting that faculty may perceive a loss of academic freedom and/or sense of autonomy when others are involved in the course design process. This is in line with the framework (Andrade & Alden-Rivers, 2019, Annamalai & Ramayah 2013, Global Ecology LLC, 2011a; P10; P15) [see 8.5.1.4 Follow a Team Approach and Chapter 7: see 7.2.1.8 The Team Selection and Composition for Online Course Development].

The last significant element found in this additional literature review is the notion of synchronous and asynchronous online teaching and learning whether through MS Teams (Dewanti, Candiasa, Tegeh & Sudatha, 2022) or Zoom (Ismail, Khelifi & Harous, 2022). According to the study by Doğan (2022), students prefer the asynchronous mode of learning as opposed to the synchronous mode. However, irrespective of which mode was used there is no:

significant difference in terms of learner self-regulation and academic achievement; thus, it is suggested that instead of imposing students to follow a specific learning mode, it could be more efficient to provide learners with an array of learning materials supported by various learning modalities.

(Doğan, 2022: 29)

8.7 LIMITATIONS OF THE STUDY

The researcher experienced some limitations to the study especially during the semi-structured interviews as some of the participants indicated that the implementation took place a long time back and that some information had been forgotten. Mouton (2002) alerts researchers to the characteristics of participants and the impact of memory loss during data collection which often occurs despite omniscience syndrome and interview saturation.

Though implementation phases or stages are well-documented in implementation studies (Active Implementation Research Network, 2020; Burke, 2013; Fixsen, Blase, & Van Dyke, 2018; Saldana et al., 2014) the researcher could not find literature that explains the *phases* or *stages* of the implementation process from the scoping review. During the semi-structured interviews, the participants could often not distinguish between stages and phases, while it was easier to get a sense of different phases or stages during the document analysis, as discussed in Chapter 4.

The research design is a case study and reflects the operations of Unisa as an ODeL institution. No generalisation of findings can be made to the other distance education institutions, or to other higher education institutions. Though this study may have contributed to theory development regarding the understanding of the implementation process of online learning, some specific elements of the case study, e.g., the appointment of teaching assistants, or choice of a learning management system, are case specific.

The following section contains lessons learnt for ODeL institutions and future study based on the findings of this study.

8.8 LESSONS LEARNT FOR ONLINE LEARNING IMPLEMENTATION IN AN ODEL CONTEXT

Although the design of the Signature Courses was solid (as per participant P10), there were challenges related to implementation which needed immediate action to ensure that the Signature Courses could run smoothly. The following lessons were learnt during the online learning implementation process. Not all stakeholders were on board from the beginning of the process, and units did not understand the purpose and functions of the online learning process with the result that they were not sufficiently equipped with resources and therefore not well prepared (Setlhako, 2015; University of South Africa, 2013c).

The student to teaching assistant ratio was and is still 50 students per group which is manageable. However, four groups to one teaching assistant is not ideal when taking into account that there are 8-13 assessments per semester (Setlhako, 2015; University of South

Africa, 2013c). As the grouping and linking of students to teaching assistants created many challenges, students could not be mentored, and a serious delay in student learning occurred. In this regard, the study also points to the academic and teaching assistants' complaints about the workload. Participants also provided descriptions of feeling overwhelmed by some of the red tape and bureaucracy that accompanied the implementation process – these did not only have an impact on workload and time, but also on the emotional wellbeing of faculty and other staff (Department: Higher Education and Training, 2014b; Karataş & Tuncer, 2020; P2; P6; P8; P10; Sun & Chen, 2016; Tait, 2000).

Going online with the existing ICT infrastructure and staff also posed some serious challenges (P16). Although the ICT team applied the skills at their disposal, the unit was under resourced and lacked certain capabilities (P2; P8; P9; P15). The lessons learned from the ICT support perspective during the online implementation of the Signature Courses were very insightful as Unisa was not fully prepared for fully online delivery and suffered a degree of damage to its reputation because the system could not cope with large student enrolments (Mischke, 2014a; Nkhumeleni, 2014; University of South Africa, 2013c). The main lesson here is to ensure that the institution has highly efficient systems and procedures, and an adequate and well-functioning ICT infrastructure to ensure student success.

During the initial implementation stages up to August 2013, the capacity and performance of ICT systems at Unisa were inadequate resulting in slow networks or downtimes, especially during critically busy periods (College of Economic and Management Sciences, 2013; College of Law, 2013; Nkhumeleni, 2014; University of South Africa, 2013c; University of South Africa, 2013d). These downtimes or slow networks had a direct impact on numerous online tasks, for example, effective teaching and learning, as well as training, through the virtual learning environment (VLE), platforms (University of South Africa, 2013c). The inaccessibility (downtime) and inadequate tools of myUnisa have been the subject of numerous student complaints (Myburgh, 2012; University of South Africa, 2013c). The myUnisa website was extremely slow, making use from off-campus nearly impossible, resulting in frustrations for the teaching assistants when marking assessments. Numerous issues also occurred with the routing of assignments via jRouter.

It is, furthermore, important to ensure that the software is user-friendly. For example, the statistics tool on the different group sites to track teaching assistants was cumbersome and not easy to use (Nkhumeleni, 2014). Integration and compatibility of systems was another lesson learnt since the Sakai Gradebook tool on myUnisa and the Unisa student information system were not properly integrated, which impacted negatively on interactive student communication and collaboration within their groups (Myburgh, 2012; Nkhumeleni, 2014; University of South Africa, 2013c). During 2013, ICT experienced challenges with myUnisa and internet browser compatibility (Myburgh, 2015).

The demand for infrastructure, for example, computer resources at the university or in the regions, increased with Unisa's move toward fully online teaching and learning. It was at times impossible to ensure that communication to the regions was in place as well as the support (P11). Regional staff could only access the content in the LMS through a student login which made it difficult to assist the students and orientate themselves on the LMS system. This had a serious impact, as regions could not properly strategise, and could offer only a limited ability to assist students.

During the interviews with the participants and the document analysis, it was clear that the application of quality assurance and management should receive more attention. Another area of concern was that there was insufficient research done during the time of the implementation to provide guidelines on the progress and improvement of the implementation.

Another lesson learnt was the importance of professional development for staff and student by means of orientation and training in the concepts of ODeL (Blewitt et al., 2020; Sun & Chen; 2016; Mischke, 2012d; P5; P8; P11; P15; Zimmerman et al., 2020).

Dealing with 340 000 students at that time made Unisa the largest university the US counterparts had ever dealt with, so the US partners had no concept of the kind of conditions Unisa's students found themselves facing (P15). Although the US counterparts carried out quality control, their orientation (both ideologically and epistemologically) was not fully aligned with the reality in South Africa, so Unisa's department of quality assurance and strategic planning worked with the Higher Education Quality Council in South Africa to examine the Signature Courses (P16). Unisa would have improved both the design and implementation of the Signature Courses if wider

benchmarking and research on more online models from, for example, Australia had been done (P2).

8.9 RECOMMENDATIONS FOR FURTHER RESEARCH

Based on this case study, more research can be conducted in a variety of areas. Since only participants from Unisa (an ODeL institution) participated in this study, future research could include online learning implementation in other distance education institutions in the global south.

As this study experienced challenges in sourcing sufficient literature on the impact of interdependencies, it would be advantageous to do more research on this aspect. The researcher found sufficient literature on team approaches from scholars such as Annamalai and Ramayah (2013), Boticario (2012), and Sun and Chen, 2016 who discuss the need for balanced composition of online learning implementation teams and collaboration across functional units during the scoping review and the data analysis. The Andrade and Alden-Rivers study (2019), 'Developing a framework for sustainable growth of flexible learning opportunities', touched scantily on interdependencies.

Research evidence on the impact of teaching assistants as they were employed in this case study, seems to question the positive effect of these assistants on student success, and concerns about cost (Hülsmann, 2016; Hülsmann & Shabalala, 2016). As there was little evidence on the exact nature and cost of the implementation of the Signature Courses, more research can be done on business models for offering online learning by distance education institutions in the global south, including budgets and costs, as well as online learning expenditure and sustainability.

8.10 FINAL REMARKS AND THE SIGNIFICANCE OF THIS STUDY

Despite the study's aforementioned limitations, it may be concluded that the findings of the study offer original contributions to knowledge on online learning implementation in a global south ODeL environment.

The aim of this study was to use the ODeL Signature Course at Unisa as a case study to document and evaluate the online learning implementation process from conceptualisation up to three years in operation, and to collate sufficient and credible evidence to chart the complete implementation process. A further aim of this study was to gain more knowledge and a deep understanding of the online learning implementation process and provide information for decision making to other institutions that may wish to implement online learning. The outcome of the study mapped the implementation process according to key design elements, implementation decisions, variables, and interdependencies between the different functional areas.

As an outcome of this study, an implementation process framework was developed based on a single case study research, and although findings from case study research cannot be used to generalise to other contexts and populations, the developed implementation process framework may offer insights to countries in the global south with the implementation of online learning.

The study presents an original theoretical contribution to the implementation of online learning in the higher education sector, with specific reference to an ODeL institution. On a general theoretical level, readers of the study, particularly those with an interest in open-distance learning, will gain a better understanding of how the key design elements of the Signature Courses informed the implementation process, the variables, and interdependencies in the different implementation stages, and how the various decisions impacted on the implementation of the project. The developed implementation process framework provides practical insight to elements that need to be part of the online implementation and can be utilised in ODL or ODeL environments. This framework can assist executive management and functional management, for example, academics, instructional designers, professional developers, administrative units including assessment departments, corporate communication and marketing, human resources, quality assurance departments, risk management units, regions and other partners, language departments, and study material and print production departments to make informed decisions about online learning implementation.

The study offers a useful contribution from an empirical perspective from the experience, opinions, skills, and knowledge of people who participated in this study. The lived experiences and insights of participants in this research provided ample evidence of their roles not only as

only as employees of an institution but as responsible stakeholders with various roles and responsibilities in the implementation of the university's flagship Signature Course project.

8.11 CONCLUSION

Chapter 8 has reflected on what this study aimed to accomplish by revisiting the research questions and objectives. It has included a summary of the process that was followed and a summary of the empirical findings.

The researcher also provided newly published evidence that may advance this study. The research limitations are stated and discussed, and the research contribution is highlighted. The chapter concludes with recommendations for the ODeL institution and future research.

It is my sincere wish that this study will contribute positively to the implementation of online learning at higher education and distance learning institutions, particularly in the global south. In this study, insights were gained into how the implementation process and its phases evolved from the design, development, and implementation of the Signature Courses at Unisa. As acknowledged in the limitations section, though the research into the implementation process of the Signature Courses provides many insights, it must be emphasised that other online implementation processes may face different issues owing to different pedagogical and assessment strategies. Despite these differences, the developed framework, as presented and discussed in the previous chapter, does provide a possible outline or blueprint that other distance education institutions may benefit from in the global south.

This concludes the study.

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Annexure 1.1: Signature course modules

College	Module	Module code	Formative assessment Assignments
College of Agriculture and Environmental Sciences(CAES)	Environmental Awareness and Responsibility	GGH3708	11
College of Economic and Management Sciences (CEMS)	Sustainability and Greed	SUS1501	8
College of Education (CEDU)	Being a Professional Teacher	BPT1501	6
College of Human Sciences (CHS)	Language Through an African Lens	AFL1501	8
College of Law (CLAW)	Social Dimensions of Justice	SJD1501	6
College of Science Engineering and Technology (CSET)	Ethical Information and Communication Technologies for Development Solutions	EUP1501	9

College of Accounting Sciences (CAS)	Perspectives on Accountancy	CAS1501	9
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Annexure 1.2: Ethics Review Committee



UNISA ETHICS REVIEW COMMITTEE

4 November 2021

NHREC Registration # : N/A
ERC Reference # 2021_CEMS_BM_124
Name : Ms EM Naude
Student #37696866
Staff # N/A

Dear Ms EM Naude

**Decision: Ethics Approval from
29 September 2021 to 28
September 2026**

Researcher(s): Name: Ms EM Naude
E-mail address: 37696866@mylife.unisa.ac.za
Telephone # 012 441 5733

Supervisor(s): Name: Prof P Prinsloo
E-mail address # prinsp@unisa.ac.za
Telephone # 012 429 4719

Working title of research:

**An evaluative framework for online learning implementation: Case study from the
Global South**

Qualification: PhD

Thank you for the application for research ethics clearance by the Unisa Ethics Review Committee for the above-mentioned research. Ethics approval is granted for 5 years.

The low risk application was reviewed by a Sub-committee (Department of Business Management Ethics Review Committee) of URECR on 28 September 2021 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment. The decision was approved on 28 September 2021.
The proposed research may now commence with the provisions that:



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**UNISA COLLEGE OF ECONOMIC AND MANAGEMENT SCIENCES RESEARCH ETHICS
REVIEW COMMITTEE**

28 September 2021 (**Date of issue**)

08 December 2023 (**Date of amendment**)

Ref #: 2021_CEMS_BM_124

Name: Ms EM Naude

Staff/Student Number #: 37696866

Dear Ms EM Naude

Decision: Ethics Amendment Approval and Approval Extended to September 2026

"A Framework for online learning implementation in Distance Education: A Case study from the Global South"

Researcher(s): Ms EM Naude, 37696866@mylife.unisa.ac.za; 012 441 5733

College of Economics and Management Sciences
Department of Business Management
University of South Africa

Supervisor(s): Prof P Prinsloo, prinsloop@unisa.ac.za; 012 429 4719

College of Economic and Management Sciences
Department of Business Management
University of South Africa

Qualification: PhD

Thank you for the application requesting **amendments** to the original research ethics certificate issued by the Unisa Department of Business Management Research Ethics Review Committee for the above-mentioned research on the 28 of September 2021. The approval of the requested amendment is granted.

Annexure 3.1: List of final corpus used in the Literature review

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Annexure 3.2: Inductive and deductive report from ATLAS.ti

 [Chapter 3 5 and 6 codes, groups and supergroups](#)

Annexure 4.1: Research-, Steering committee-, and Functional Units Interview Questions

Research questions chapter one	Steering committee questions	Functional unit questions
	Question1: We will explore the implementation of the Signature Courses in detail but as a start, tell me about the Signature Courses. For example, what was the idea behind the Signature Courses, what were taken into consideration in the process, who was involved, anything that comes to mind. (same question for steering committee and functional units)	
	Question 2: What was your own role in the implementation of the Signature Courses? (same question for steering committee and functional units)	
		Question 3: Which other functional/operational units at Unisa were involved in the implementation of the Signature Courses?

<p>Question 1: How did the key design elements of the Signature Courses inform the implementation process?</p>	<p>Question 3: According to you, what were the main design considerations in the implementation of the Signature Courses? Or what were the key elements that were taken into consideration in the design of the Signature Courses?</p>	<p>Question 4: According to you, what were the key design elements that were taken into consideration with the Signature Courses? And how did it impact on your department's involvement?</p>
	<p>Question 4: What were the main phases in the implementation of the Signature Courses?</p>	<p>Question 5: According to you, what were the main implementation phases and what was your involvement during these implementation phases of the Signature Courses?</p>
<p>Question 2: What variables were considered in each of the implementation stages?</p>	<p>Question 5: In your opinion, what were the main factors or variables that impacted on these different phases in the implementation of the Signature Courses?</p>	<p>Question 6: In your opinion, what variables/factors/aspects impacted on your department's role in the implementation of the Signature Courses?</p>

	Question 6: Which functional units at Unisa were involved in the implementation of the Signature Courses?	
Question 3: What were the interdependencies between the different functional areas in each of the implementation stages?	Question 7: What were the interdependencies between these functional units and how did it impact on the implementation of the Signature Courses?	Question 7: Can you identify any interdependencies between different functional/operational units which had a direct impact on your own unit during the implementation of the Signature Courses?
Question 4: What were the implementation decisions that shaped the implementation process?	Question 8: Thinking back to the first two years of the implementation of the Signature Courses, what were the key decisions that influenced the implementation process of the Signature Courses?	Question 8: Thinking back to the first two years of the implementation of the Signature Courses, what were the key management decisions and how did these influence in the implementation process of the Signature Courses?

		Questions 9: According to you, what were the successes and challenges, and did you manage to resolve the challenges?
	Question 9: Looking back, what could have been done differently in the design and implementation of the Signature Courses?	Question 10: Looking back, what could have been done differently in the design and implementation of the Signature Courses?

Annexure 4.2: Interview Schedule for steering committee and functional units

The distribution of the interviews for group 1 and 2 are displayed in the schedule below and included the population as well as the interview dates. A total of 16 interviews took place from 12 July 2022 – 4 August 2022.

Steering committee	Participant 1	12-Jul 2022
Steering Committee	Participant 2	13-Jul 2022
DSAR/DSAA	Participant 3	19-Jul 2022
Lecturer	Participant 4	19-Jul 2022
Directorate: Curriculum and Learning Development	Participant 5	19-Jul 2022
Regional HUB	Participant 6	19-Jul 2022

DISS which consist of the (Centre for Professional Development (CPD)	Participant 7	20-Jul 2022
Lecturer	Participant 8	21-Jul 2022
Department of Institutional Advancement	Participant 9	25-Jul 2022
Information Communications Technology Department (ICT)	Participant 10	25-Jul 2022
School of computing	Participant 11	26-Jul 2022
Department Study Material Print Production and Delivery:	Participant 12	26-Jul 2022
College project leader/teaching assistant (TA)	Participant 13	28-Jul 2022
Human Resources Department (HRD)	Participant 14	01-Aug 2022
Finance Department	Participant 15	02-Aug 2022
Teaching assistant (TA)	Participant 16	04-Aug 2022

Annexure 4.3: Participation letter to the steering committee

PARTICIPANT INFORMATION LETTER

Ethics Review Committee (ERC), Reference: **2021_CEMS_BM_124_EM Naude**

Research Permission Sub-Committee reference number (if applicable):

Ref: 2021_RPSC_080

7 July 2022

Dear Prospective Participant

My name is Erin Naude and I am doing research towards a Doctor in Philosophy in Business Management under supervision of Prof Paul Prinsloo, Research Professor in Open Distance Learning (ODL) in the Department of Business Management at the College of Economic and Management Science (Unisa). I am inviting you to participate in a study entitled An Evaluative Framework for Online Learning Implementation: Case Study from the Global South.

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect valuable information that could assist the researcher to map the implementation of the Signature Courses at Unisa and develop an implementation framework for online learning. This study will focus on the Signature Course (SC) design, implementation variables and interdependencies across functional areas and specific decisions that were taken. Since the initial implementation of the SCs, the implementation has never been formally mapped and evaluated. The result of this study may assist other distance education universities in the global South to implement online courses.

WHY AM I BEING INVITED TO PARTICIPATE?

You have been identified to be part of the study since you played a significant role in the implementation of the Signature Courses. All members of the SC Steering Committee are

purposively selected members from a range of functional units (e.g., HR, ICT, Finance, etc.) were invited to form part of the study. You are invited to participate in a semi-structured interview that will not last longer than sixty (60) minutes.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

Your role in this study is to provide the researcher with information related to the implementation process of the SCs through reflecting on your own experiences during and participation in the implementation process, in whatever capacity. Different individuals and departments were involved in the implementation of the SCs and the purpose of the interview is to provide a space for you to share your insights and reflections on different aspects that may have influenced the implementation of the SCs. Important to note is that the research will not focus on whether the SCs are of high quality, or serve their original purpose, but on how the implementation process unfolded, the key individuals and decisions that steered, the implementation, the interdependencies between departments, and so forth. Please be assured that there are no right or wrong answers and the main questions to be answered for this study are:

Question 1: We will explore the implementation of the Signature Courses in detail but as a start, tell me about the Signature Courses. For example, what was the idea behind the SCs, what were taken into consideration in the process, who was involved, anything that comes to mind.

Question 2: What was your own role in the implementation of the Signature Courses?

Question 3: According to you, what were the **main design considerations** in the implementation of the Signature Courses? Or what were **the key elements** that were taken into consideration in the design of the Signature Courses?

Question 4: What were the main phases in the implementation of the Signature Courses?

Question 5: In your opinion, what were **the main factors or variables** that impacted on these different phases in the implementation of the Signature Courses?

Question 6: Which **functional units** at Unisa were involved in the implementation of the Signature Courses?

Question 7: What were the interdependencies between these functional units and how did it impact on the implementation of the Signature Courses?

Question 8: Thinking back to the first two years of the implementation of the Signature Courses, what were the **key decisions** that influenced the implementation process of the Signature Courses?

Question 9: Looking back, what could have been done differently in the design and implementation of the Signature Courses?

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

The value or potential benefit for the research participants is that they will be required to reflect and share their experiences, successes and challenges in and during the SCs implementation process with the researcher, with the main purpose to address the research objective and questions. As such, the interviews may result in deeper insights and understanding regarding their own role or the role of other role-players in the implementation of the SCs. The final output of this research will be an evaluative framework that may assist other institutions in the Global South with online course implementations.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

According to my knowledge, there are no negative consequences for you to participate in this study. The dates and times for the interviews will be negotiated with identified individuals to minimise the risk of interference or discomfort. Unforeseen risks arising from the interviews will immediately be communicated to the supervisor and the ethics committee in writing.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

The researcher will not need any personal information of staff members (participants) however it can be that personal information is reflected in recordings and transcriptions. Documents for example transcripts and recordings will be anonymised. Documents will be saved under pseudonyms. All stakeholders dealing with research information and data, for example, the transcriber will sign a written consent form to ensure confidentiality. Once the interviews have been transcribed, the transcription will be shared with you to delete any information that can be sensitive or compromising in nature. Once you have provided the go-ahead, will the transcriptions be analysed. When the analysis and findings are presented in the thesis or papers/articles that may flow from the research, your identity (and position at the time of the implementation) will not be revealed. The interview will be recorded.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Electronic information will be stored on the cloud and the computer is password protected. Electronic information will be permanently deleted from the cloud and/or hard drive of the computer using a relevant software program after a period of five (5) years as required by the Protection of Personal Information Act 4 of 2013 (POPIA). Future use of the stored data will be subject to further Research Ethics Review and approval if applicable.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

No payments and/or rewards will be offered by the researcher. You will need to have access to internet and use Wi-Fi data to participate in the research and will be done through MSTeams. The participation is however voluntary and therefor the data cost will be incurred by the participant.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee (ERC), Reference: [2021_CEMS_BM_124_EM Naude], Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Ms. EM Naude on 083 635 2221 or erinnaude@gmail.com.

Should you have concerns about the way in which the research has been conducted, you may contact Prof. Paul Prinsloo, at 012 433 4719 or Prinsp@unisa.ac.za or contact the research ethics chairperson of the Permission Research Committee, Dr. Angelo Fynn Chairperson at 0124298211 or fynna@unisa.ac.za or the University Ethics Committee, Dr. Retha Visagie, at visagrg@unisa.ac.za.

Thank you for taking time to read this participant information letter and for participating in this study.

Erin Marie Naude

PARTICIPANT INFORMATION LETTER

Ethics Review Committee (ERC), Reference: **2021_CEMS_BM_124_EM Naude**

Research Permission Sub-Committee reference number (if applicable):

Ref: 2021_RPSC_080

14 July 2022

Dear Prospective Participant

My name is Erin Naude and I am doing research towards a Doctor in Philosophy in Business Management under supervision of Prof Paul Prinsloo, Research Professor in Open Distance Learning (ODL) in the Department of Business Management at the College of Economic and Management Science (Unisa). I am inviting you to participate in a study entitled An Evaluative Framework for Online Learning Implementation: Case Study from the Global South.

WHAT IS THE PURPOSE OF THE STUDY?

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WHY AM I BEING INVITED TO PARTICIPATE?

You have been identified to be part of the study since you played a significant role in the implementation of the Signature Courses. All members of the SC Steering Committee are

purposively selected members from a range of functional units (e.g., HR, ICT, Finance, etc.) were invited to form part of the study. You are invited to participate in a semi-structured interview that will not last longer than sixty (60) minutes.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

Your role in this study is to provide the researcher with information related to the implementation process of the SCs through reflecting on your own experiences during and participation in the implementation process, in whatever capacity. Different individuals and departments were involved in the implementation of the SCs and the purpose of the interview is to provide a space for you to share your insights and reflections on different aspects that may have influenced the implementation of the SCs. Important to note is that the research will not focus on whether the SCs are of high quality, or serve their original purpose, but on how the implementation process unfolded, the key individuals and decisions that steered, the implementation, the interdependencies between departments, and so forth. Please be assured that there are no right or wrong answers and the main questions to be answered for this study are:

Question 1: We will explore the implementation of the Signature Courses in more detail later, but as a start, tell me about the Signature Courses. For example, what was the idea behind the SCs, what were taken into consideration in the process, who was involved, anything that comes to mind.

Question 2: What was your own role in the implementation of the Signature Courses?

Question 3: Which other functional/operational units at Unisa were involved in the implementation of the Signature Courses?

Question 4: According to you, what were the key design elements that were taken into consideration with the Signature Courses? And how did it impact on your department's involvement?

Question 5: According to you, what were the main implementation phases and what was your involvement during these implementation phases of the Signature Courses?

Question 6: In your opinion, what variables/factors/aspects impacted on your department's role in the implementation of the Signature Courses?

Question 7: Can you identify any interdependencies between different functional/operational units which had a direct impact on your own unit during the implementation of the Signature Courses?

Question 8: Thinking back to the first two years of the implementation of the Signature Courses, what were the key management decisions and how did these influence in the implementation process of the Signature Courses?

Questions 9: According to you, what were the successes and challenges, and did you manage to resolve the challenges?

Question 10: Looking back, what could have been done differently in the design and implementation of the Signature Courses?

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

The value or potential benefit for the research participants is that they will be required to reflect and share their experiences, successes and challenges in and during the SCs implementation process with the researcher, with the main purpose to address the research objective and questions. As such, the interviews may result in deeper insights and understanding regarding their own role or the role of other role-players in the implementation of the SCs. The final output of this research will be an evaluative framework that may assist other institutions in the Global South with online course implementations.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

According to my knowledge, there are no negative consequences for you to participate in this study. The dates and times for the interviews will be negotiated with identified individuals to minimise the risk of interference or discomfort. Unforeseen risks arising from the interviews will immediately be communicated to the supervisor and the ethics committee in writing.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

The researcher will not need any personal information of staff members (participants) however it can be that personal information is reflected in recordings and transcriptions. Documents for example transcripts and recordings will be anonymised. Documents will be saved under pseudonyms. All stakeholders dealing with research information and data, for example, the transcriber will sign a written consent form to ensure confidentiality. Once the interviews have been transcribed, the transcription will be shared with you to delete any information that can be sensitive or compromising in nature. Once you have provided the go-ahead, will the transcriptions be analysed. When the analysis and findings are presented in the thesis or papers/articles that may flow from the research, your identity (and position at the time of the implementation) will not be revealed. The interview will be recorded.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Electronic information will be stored on the cloud and the computer is password protected. Electronic information will be permanently deleted from the cloud and/or hard drive of the computer using a relevant software program after a period of five (5) years as required by the Protection of Personal Information Act 4 of 2013 (POPIA). Future use of the stored data will be subject to further Research Ethics Review and approval if applicable.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

No payments and/or rewards will be offered by the researcher. You will need to have access to internet and use Wi-Fi data to participate in the research and will be done through MSTeams. The participation is however voluntary and therefor the data cost will be incurred by the participant.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the Research Ethics Review Committee (ERC), Reference: [2021_CEMS_BM_124_EM Naude], Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Ms. EM Naude on 083 635 2221 or erinnaude@gmail.com.

Should you have concerns about the way in which the research has been conducted, you may contact Prof. Paul Prinsloo, at 012 433 4719 or Prinsp@unisa.ac.za or contact the research ethics chairperson of the Permission Research Committee, Dr. Angelo Fynn Chairperson at 0124298211 or fynna@unisa.ac.za or the University Ethics Committee, Dr. Retha Visagie, at visagrg@unisa.ac.za.

Thank you for taking time to read this participant information letter and for participating in this study.

Erin Marie Naude

Annexure 4.5: Consent form steering committee and the functional units

The consent form to the semi-structured interview participants was the same for the steering committee and the functional units.



INFORMED CONSENT AGREEMENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits, and anticipated inconvenience of participation.

YES	NO
-----	----

I have read (or had explained to me) and understood the study as explained in the participant information letter. (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I have had sufficient opportunity to ask questions and I am prepared to participate in the study. (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified. (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I agree to the recording of the interview. (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I have received a signed copy of the informed consent agreement. (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

Participant Name & Surname:

Participant Signature..... Date.....

Researcher's Name & Surname: EM Naude

Researcher's signature..... Date... 14 July 2022



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Annexure 4.6: Letter to the pluralistic walkthrough focus group discussion



PARTICIPANT INFORMATION LETTER

Ethics Review Committee (ERC), Reference: **2021_CEMS_BM_124_EM Naude**

Research Permission Sub-Committee reference number (if applicable):

Ref: 2021_RPSC_080

28 March 2023

Dear Prospective Participant

My name is Erin Naude and I am doing research with Prof Paul Prinsloo, a Research Professor in Open Distance Learning (ODL) in the Department of Business Management at the College of Economic and Management Science towards a Doctor in Philosophy in Business Management, at the University of South Africa. We are inviting you to participate in a study entitled Title: An Evaluative Framework for Online Learning Implementation: Case study from the Global South.

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect valuable information that could assist the researcher to map the implementation process and develop an implementation framework for the Signature Courses at Unisa. This study will focus on the Signature Course design, implementation variables and interdependencies across functional areas and specific decisions that were taken. Since the initial implementation of the SCs, the implementation has never been formally mapped and evaluated. The result of this study may assist other universities in the global South to implement online courses.

WHY AM I BEING INVITED TO PARTICIPATE?

You have been identified to be part of the study as you play a significant role in the implementation of the Signature Courses. Your email address was provided to me by Prof Prinsloo my supervisor after you expressed interest and willingness to form part of the research.



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0101
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Fax: +27 (0) 51 001 001
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CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits, and anticipated inconvenience of participation.

YES	NO
-----	----

I have read (or had explained to me) and understood the study as explained in the information letter. (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I have had sufficient opportunity to ask questions and I am prepared to participate in the study. (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable). (Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.
(Please tick the applicable box)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

Participant Name & Surname:

Participant Signature..... Date.....28 March 2023

Researcher's Name & Surname: EM Naude

Researcher's signature.....Date...28 March 2023

Annexure 4.8: Pluralistic walkthrough focus group discussion, Unisa Research Ethics confidentiality agreement (focus group participant)



**UNISA RESEARCH ETHICS Confidentiality Agreement
(Focus group participant)**

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

After completing the required fields, please sign the form. After this form has been signed by the participant, it should be given to the principal researcher for submission to the relevant UNISA Research Ethics Committee.

The participant should keep a copy of the *Confidentiality Agreement* for their records.

B. CONFIDENTIALITY OF A RESEARCH STUDY

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the informed consent documentation) without permission. Confidential information relating to human participants in a research study may include, but is not limited to the personal information listed below:

- a) information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, color, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person;
- b) information relating to the education or the medical, financial, criminal or employment history of the person;
- c) any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other assignment to the person;
- d) the biometric information of the person;
- e) the personal opinions, views or preferences of the person;
- f) correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence;
- g) the views or opinions of another individual about the person; and
- h) the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB. retrieved from

CORONAVIRUS SARS-CoV-2 (COVID-19) GUIDELINES

Background

The Coronavirus SARS-CoV-2 (COVID-19) outbreak, with its origin in China, has infected millions of people worldwide and has spread across all countries globally. The World Health Organization (WHO) has declared this outbreak a Public Health Emergency of International Concern (PHEIC), although consideration is given to announce pandemic status for the Covid19 outbreak. While the first wave may have passed, concerns about a second wave have not disappeared.

The health, safety and wellbeing of our employees, students, suppliers, contractors, and all those connected with our operations is a top priority. Our responsibility towards the university community and business continuity has required a strategic approach towards decision-making throughout the Covid-19 outbreak.

Purpose

This Unisa Covid-19 guidelines document includes the measures the university is actively taking to mitigate the spread of the Coronavirus. All employees, students and visitors are expected to follow all the rules diligently, to sustain a healthy and safe workplace in this unique environment. It's important that we all respond responsibly and transparently to these health precautions. The university endeavours to treat private health matters and personal data with high confidentiality and sensitivity.

This Unisa Covid-19 guidelines document is subject to changes with the introduction of additional governmental guidelines. If so, updates will be provided as soon as possible by email and via the e-notice.

Scope

The guidelines contained herein apply to all employees, students, visitors, and contractors on campus.

1. Sick leave arrangements

- Employees showing cold symptoms, such as a headache, sore throat, body pain, coughing, sneezing, nausea, vomiting, stomach problems, a loss of sense of smell and taste, and fatigue are requested to apply for sick leave.
- You will only be permitted to return to the office or workplace after your sick leave once you present a medical clearance report.
- Employees that have been in close contact with someone infected by Covid-19 must apply for sick leave unless they can work from home and their work is computer bound. Employees can return to the office once they have received clearance from a medical practitioner.
- If employees need to provide care to a family member infected with Covid-19, they **must apply for** leave. You will only be permitted to return if you have received clearance from a medical practitioner.
- Employees can only return to the office if they are fully asymptomatic.

2. Personal Protective Equipment (PPE):

- The university will issue two face masks to all employees.
- Occupation specific gloves and face shields will be issued to personnel as determined in the risk assessment.
- Hand sanitizer and surface disinfectant will be provided and placed at strategic positions across the university's premises.

3. Screening

- Workplace screening plan has been developed, with temperature control capacity. Screening must be conducted via the Health Check App by every employee, visitor and contractors **daily before entering the university's premises.**
- Thermal cameras or physical screening will be made available at every entrance of all university campuses or learning centres.
- It is everyone's responsibility to be truthful when completing the screening questionnaire on the Health Check App or form provided by the medical officials.

4. Isolation

- The university has developed a protocol for isolation of personnel when required.

5. Traveling/commuting measures

- All work trips and events – both domestic and international – will be permitted with the approval of the line manager.

- In-person meetings are now permissible at the discretion of the line manager, and on condition that social distancing can be maintained.

6. Work from home requests

- Employees with underlying medical conditions can apply formally to work from home if their work is computer bound and arrangements will be made to connect their office phones to their cell-phones to assist students – this is non-negotiable.
- Employees with underlying conditions who are not computer bound will have to undergo additional training to enable them to be in a position to provide service to students.
- Staff with underlying conditions must present an official statement from a medical practitioner to the line managers (on a confidential basis).
- Line managers are required to monitor the performance of their staff by ensuring that clearly articulated deliverables, together with timelines, are agreed to with staff. Where there is no evidence of delivery, appropriate corrective measures with the assistance of the relevant Human Resources Support/Advisors/Practitioners/Coordinators for the function, departments and portfolios should be invoked immediately.

7. General hygiene and safety rules

- It is mandatory to regularly wash or sanitise your hands (follow the 20-second handwashing rule).
- Cough/sneeze into your sleeve, preferably into the elbow. If paper tissue is used, discard of it appropriately and immediately clean/sanitise your hands.
- Open the windows regularly to ensure good ventilation.
- Avoid touching your face, particularly your eyes, nose and mouth with your hands, to prevent infection.
- Should an employee, student or visitor cough or sneeze on a regular basis, extra precautionary measures such as requesting sick leave must apply.
- Managers must ensure that they comply with the 50% capacity threshold. Managers must compile a rotational duty roster so that a maximum of 50% of staff are at the office at any one time.
- No Unisa venue may exceed 50% capacity. Larger venues may have a maximum of 250 people, as long as this does not exceed 50% of the normal capacity.
-

8. Opening of the university to staff and students

- All learning centres are required to open to staff by 28 September 2020.
- All learning centres are required to open to students between 01 October 2020 and 12 October 2020, using the booking platform to facilitate social distancing on campus.



**UNISA RESEARCH ETHICS 3rd Party Confidentiality Agreement
(Transcriber, Co-coder, Statistician and/or Fieldworkers)**

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

After completing the required fields, please sign the form. After this form has been signed by the transcriber, co-coder, statistician or fieldworker, it should be given to the principal researcher for submission to the relevant UNISA Research Ethics Committee.

The transcriber, co-coder, statistician and/or fieldworker should keep a copy of the *Confidentiality Agreement* for their records.

B. CONFIDENTIALITY OF A RESEARCH STUDY

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the informed consent documentation) without permission. Confidential information relating to human participants in a research study may include, but is not limited to the personal information listed below:

- a) information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, color, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person;
- b) information relating to the education or the medical, financial, criminal or employment history of the person;
- c) any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other assignment to the person;
- d) the biometric information of the person;
- e) the personal opinions, views or preferences of the person;
- f) correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence;
- g) the views or opinions of another individual about the person; and
- h) the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from

Annexure 4.11: List of documents used in the document analysis

- Anderson, R. L. (2015) Lessons Learnt from the Signature Courses Project Prescribing a textbook for an online course
- Baijnath, N. (2013) Office of the Pro Vice-Chancellor Report the Unisa Signature Courses initiative 2013 First Semester.
- Baijnath, N. (2015) Lessons learnt from the Signature Courses.
- CIES/IIE (2010) Summary Report and Recommendations of the Planning Conference Transforming Unisa into a Knowledge Centre in the Service of Humanity: Curricular Reform through Distinguished Academic Exchange and Collaboration.
- College of Law (2013) Report: ICT Challenges in the College of Law.
- Eccles, N. (2015) Student Support Lessons from "Sustainability and Greed".
- Eloff, L. (2013) Job Description, Portfolio Academic: Teaching & Learning, Job Title, Academic Support Coordinator for Teaching Assistants.
- Global Ecology LLC (2011) Report of Phase I of the Unisa Signature Curriculum Project: Implementing Unisa 's Academic Identity.
- Global Ecology LLC (2011) Report of Phase II of the Unisa Signature Curriculum Project: Implementing Unisa 's Academic Identity.
- Global Ecology LLC (2011) THE Unisa Signature Curriculum : Implementing Unisa ' S Academic Identity Washington DC Curriculum Workshop, May 22-25, 2011.
- Global Ecology LLC (2011) Unisa Signature Curriculum Workshop: Implementing Unisa's Academic Identity.
- Global Ecology LLC (2012) Report of Phase III of the Unisa Signature Curriculum Project: Implementing Unisa 's Academic Identity.
- Global Ecology LLC (2011) Unisa Signature Curriculum Workshop: Implementing Unisa's Academic Identity 10-14 October 2011.
- Liebenberg, H. (2015) Integrated Report on the Findings Of Research on Students Experience with ICTs - Highlights of key findings - June 2015
- Mischke, G. (2012) Inclusion of Signature Courses in PQM.
- Mischke, G. (2012) Office of the Pro Vice-Chancellor Report: Unisa Signature Courses Payment of Teaching Assistants.
- Mischke, G. (2012) Signature Courses Phase III USA Fact Finding Visit Report.
- Mischke, G. (2012) Unisa Signature Courses Project Plan and Status Report.

Mischke, G. (2013) COL: Excellence in Distance Education Awards (EDEA).

Mischke, G. (2013) Teaching Assistant appointment process for 2014.

Mischke, G. (2014) Statement about the success of the Signature Courses project.

Mischke, G. (2014) Unisa Signature Courses First draft for History of Unisa.

Mischke, G. (2015) Lessons learnt from the Signature Courses.

Mischke, G. (2012) Office of the Pro Vice-Chancellor Report: Unisa Signature Courses Payment of Teaching Assistants.

Muthaphuli, P. (2015) Leveraging talent in an online module.

Myburgh, F. (2012) ICT Response to Signature Courses Requirements.

Myburgh, F. (2015) Lessons Learnt from the Signature Courses: ICT Contribution.

Nkhumeleni, C. (2014) Lessons learnt from the Signature Courses Project.

Prinsloo, P. et al. (2011) There be dragons here - embracing technology-enhanced learning in a developing world higher education context.

Rampe, L. (2014) Gauteng Region: Students Queuing at Regional Computer Laboratories, 3 April 2014.

Ryan, P. (2013) Office of the Pro Vice-Chancellor Management Committee Report: Unisa and Global Ecology, 15 March 2011.

Ryan, P. (2013) Signatures Courses at Unisa: a report on the provenance and conceptualization of the partnership with CIES.

Setlhako, M. A. (2015) Alternative assessment.

Tshabalala, M. (2014) Regional Staff Online Signature Modules Workshop Programme.

University of South Africa (2004) The Unisa 2015 Strategic Plan: An agenda for transformation.

University of South Africa (2011) Addendum.

University of South Africa (2011) Budget for Signature Curriculum.

University of South Africa (2011c) ICT/myUnisa requirements for Signature Courses November 2011.

University of South Africa (2011d) Unisa ICT-Enhanced Teaching and Learning Strategy 2011-2015.

University of South Africa (2011e) 'Unisa Signature Module/Course Development Template'..

University of South Africa (2012a) Communication and marketing project plan template 2012 : E-learning – 6 Signature Courses.

University of South Africa (2012b) Office of The Pro Vice-Chancellor Management Committee Report: Unisa Signature Curriculum Programme Workstreams, 7 August 2012..

University of South Africa (2012c) University of South Africa Oline Independent Contractors Teaching Assistants for Signature Modules (Ref. TA/Contr/ALL Coll/May 2012)'.
University of South Africa (2013) Framework for the Implementation of a Team Approach to Curriculum and Learning Development at Unisa.
Mischke, G. (2014) Statement about the success of the Signature Course project.
University of South Africa (2013) Office of the Pro Vice-Chancellor Management Committee Report: Unisa Signature Curriculum Programme, 21 February 2013.
University of South Africa (2013) Office of the Pro Vice-Chancellor Management Committee Report: Unisa Lessons learnt from the Signature Courses project, 5 September 2013.
University of South Africa (2014) Office of the Pro Vice-Chancellor Management Committee Report: Unisa Signature Courses Examination Result: December 2014'.
University of South Africa (2014) Office of the Pro Vice-Chancellor Management Committee Report: Unisa Signature Courses Mobile App, 20 May 2014.
University of South Africa (2014) Office of the Pro Vice-Chancellor Management Committee Report: Unisa Signature Curriculum Programme, 27 November 2014.
University of South Africa (2014) Office of the Pro Vice-Chancellor Management Committee Report: Signature Courses project, 17 March 2014.
University of South Africa (2014) Office of The Vice-Chancellor Management Committee Report: Unisa Signature Courses and Telecentres, 15 April 2014
Unknown (2012) Pilot courses for Signature Curriculum Project near completion.
Unknown (2014) CAS SIGNATURE COURSES: PROJECT SCHEDULE 2nd DRAFT.
University of South Africa (2014) Office of the Pro Vice-Chancellor Management Committee Report: UNISA Signature Courses and Telecentres, 15 April 2014

Annexure 6.1: Interview questions to the participants

Questions to the steering committee (4 October 2022)

Question 1: We will explore the implementation of the Signature Courses in detail, but as a start, tell me about the Signature Courses. For example, what was the idea behind the Signature Courses, what were taken into consideration in the process, who was involved, anything that comes to mind.

Question 2: What was your own role in the implementation of the Signature Courses?

Question 3: According to you, what were the main design considerations in the implementation of the Signature Courses? Or what were the key elements that were taken into consideration in the design of the Signature Courses?

Question 4: What were the main phases in the implementation of the Signature Courses?

Question 5: In your opinion, what were the main factors or variables that impacted on these different phases in the implementation of the Signature Courses?

Question 6: What functional units at Unisa were involved in the implementation of Signature Courses?

Question 7: What were the interdependencies between these functional units and how did it impact the implementation of the Signature Courses?

Question 8: Reflecting back to the first two years of the implementation of the Signature Courses, what were the key decisions that influenced the implementation process of the Signature Courses?

Question 9: Looking back, what could have been done differently in the design and implementation of the Signature Courses?

Question to the functional groups

Question 1: We will explore the implementation of the Signature Courses in more detail later, but as a start, tell me about the Signature Courses. For example, what was the idea behind the Signature Courses, what were taken into consideration in the process, who was involved, anything that comes to mind.

Question 2: What was your own role in the implementation of the Signature Courses?

Question 3: What other functional/operational units at Unisa were involved in the implementation of the Signature Courses?

Question 4: According to you, what were the key design elements that were taken into account with the Signature Courses? And how did it impact your department's involvement?

Question 5: According to you, what were the main implementation phases and what was your involvement during these implementation phases of the Signature Courses?

Question 6: In your opinion, what variables/factors/aspects impacted on your department's role in the implementation of the Signature Courses?

Question 7: Can you identify any interdependencies between different functional/operational units that had a direct impact on your own unit during the implementation of the Signature Courses?





Question 8: Reflecting back on the first two years of the implementation of the Signature Courses, what were the key management decisions, and how did these influence the implementation process of the Signature Courses?



Questions 9: According to you, what were the successes and challenges and were you able to resolve the challenges?







Question 10: Looking back, what could have been done differently in the design and implementation of the Signature Courses?







Annexure 8.1: List of search strings and the search results

No	Search strings	Delimiters	Search Results
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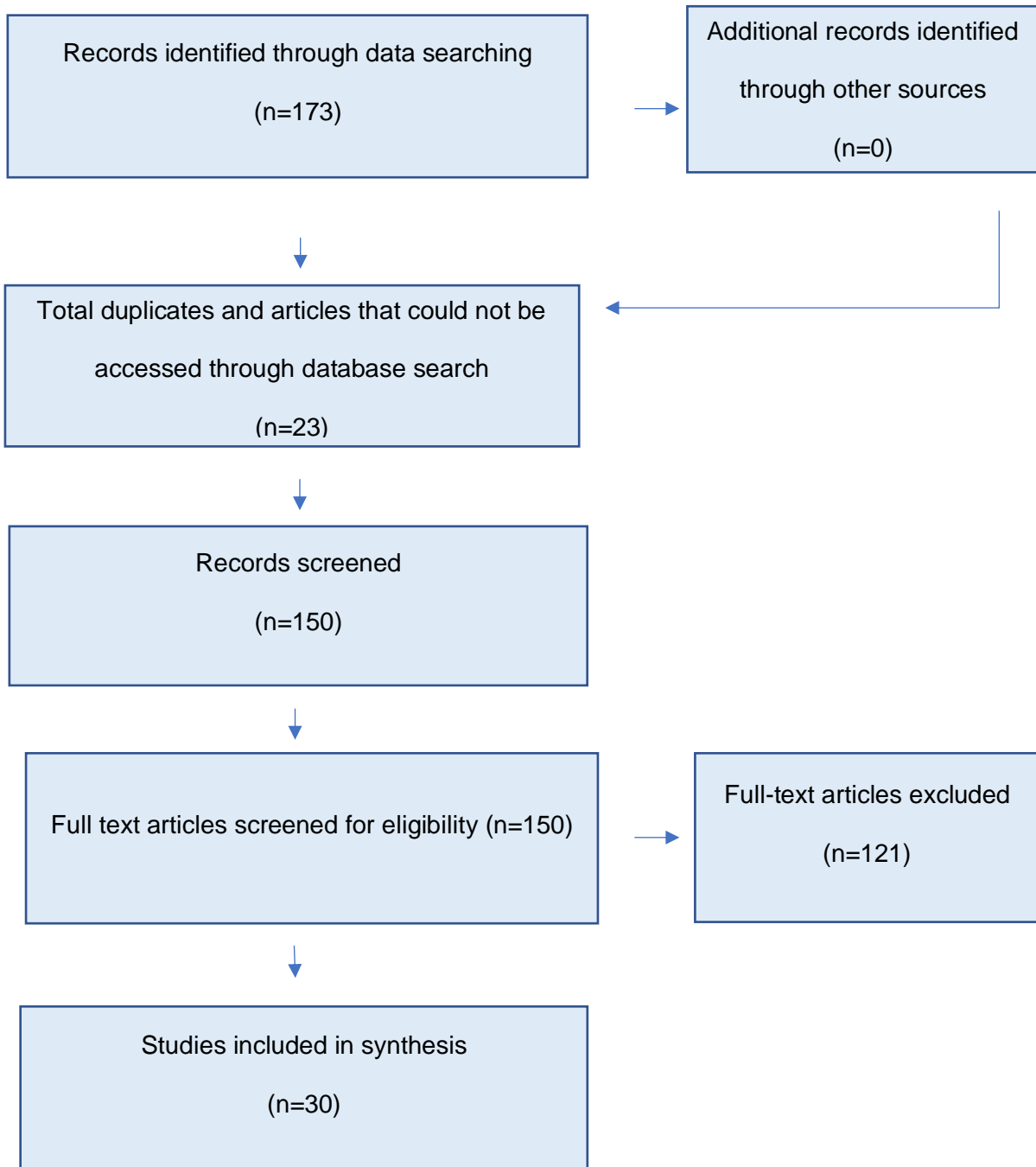
1.5	<p>TITLE (“online course*” and implement* and “Distance education” not “Mooc*”).</p> <p>ABS (("online course*" AND implement* AND "Distance education" not "Mooc*")) AND PUBYEAR > 2021</p>	<p><u>Abstract</u></p> <p>date from 2012 to 25 March 2021</p>	0
2.6	<p>TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and decision* and not “MOOC*”</p>	<p><u>Abstract and the date between 2010 and 25 March 2021.</u></p>	<p>16</p> <p> Results from Scopus.msg</p> <p> Results from Scopus.msg</p>
2.7	<p>TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and variable* and not “MOOC*”</p>	<p><u>Abstract and the date between 2010 and 25 March 2021.</u></p>	<p>22</p> <p> Results from Scopus.msg</p> <p> Results from Scopus.msg</p>

2.10	TITLE (“online learning” or “virtual learning” or “eLearning”) and implement* and “higher education” and design* and not “MOOC*”	<u>Abstract and the date between 2010 and 25 March 2021. A limit to articles and e-learning</u>	22  Results from Scopus.msg  Results from Scopus.msg
2.11	Title (“online learning” or “virtual learning” or “eLearning”) and implement* and not “MOOC*” and "mabert" and design) ABS (("online learning" OR "virtual learning" OR "eLearning") AND implement* AND NOT "MOOC*" AND "mabert" AND design) AND PUBYEAR > 2021 AND (LIMIT-TO (EXACTKEYWORD , "E-learning"))	All documents	563
2.14	Title “Implementation process” and “online learning”	Title, Abstracts and Keywords	40

			 Results from Scopus.msg  Results from Scopus.msg
	Search Strings	Delimiter	Search results
3.5	Title ("online course*" and evaluat* and "distance education" and implement* or process and not "mooc*") and pubyear>2011	Abstract date from 2012 to 18 March 2021	4  Results from Scopus.msg  Results from Scopus.msg
4.6	TITLE ("online learning" or "virtual learning" or "eLearning") and evaluat* and "higher education" and decision* and not "MOOC*"	<u>Abstract and the date between 2012 and 25 March 2021.</u>	16  Results from Scopus.msg  Results from Scopus.msg

4.7	TITLE (“online learning” or “virtual learning” or “eLearning”) and evaluat* and “higher education” and variable* and not “MOOC*”	<u>Abstract and the date between 2012 and 25 March 2021.</u>	15  Results from Scopus 4_7.msg  Results from Scopus 4_7.msg
4.9	TITLE (“online learning” or “virtual learning” or “eLearning”) and evaluate* and “higher education” and design* and not “MOOC*”	Abstract and the date between 2012 and 25 March 2021. <u>A limit to articles and elearning</u>	20  Results from Scopus 4_9.msg  Results from Scopus 4_9.msg
4.10	TITLE (“online learning” or “virtual learning” or “elearning”) and evaluate* and “higher education” and implement* and process and not “mooC*”) and pubyear>2011	Abstract and the date between 2012 and 25 March 2021	18  Results from Scopus 4_10.msg  Results from Scopus 4_10.msg

Annexure 8.2: Prisma Flowchart of the screening process



Annexure 8.3: List of all new published research articles used relevant to this study

Roy, G., Abdin, M.M. Transition to blended learning in a limited resource setting: Administrators' and teachers' perceptions
(2023) Handbook of Research on Revisioning and Reconstructing Higher Education After Global Crises, pp. 122-143. Cited 1 time.
Document Type: Book Chapter Publication Stage: Final Source: Scopus

Sulaiman, T.T.
A systematic review on factors influencing learning management system usage in Arab gulf countries
(2023) Education and Information Technologies, .
Document Type: Article Publication Stage: Article in Press Source: Scopus

Iter, N., Sharabati-Shahin, M., Ramahi, R.J., Shahin, G.O.
Proposed policies in light of procedures adopted by Palestinian universities during emergency
(2023) Cogent Education, 10 (1), art. no. 2186041, .
Document Type: Article Publication Stage: Final Source: Scopus
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